DEVELOPMENT OF A FRAMEWORK TO GUIDE COMMUNITY ENGAGEMENT IN PARAMEDIC EDUCATION AND TRAINING IN THE WESTERN CAPE

by

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ABSTRACT

Emergency Medical Services in South Africa provide healthcare to a vast array of culturally and socio-economically divided communities against the backdrop of slow economic growth, limited resource capacity, and high emergency care caseloads. In such settings, community engagement, as a key function of the higher education mandate, presents an opportunity for strengthening university-community partnerships for reciprocal benefits through undergraduate emergency medical care education.

This study was conducted at five higher education institutions situated in the Western Cape Province, two of which offer emergency medical care qualifications. The objectives of the study were fivefold: (1) to establish the views of community engagement academics at higher education institutions regarding best practices on community engagement within health science education; (2) to ascertain how emergency medical care academics conceptualise community engagement and implement it within the context of teaching, learning and research (3) to explore the views of emergency medical care students about their experiences of community engagement; (4) to investigate the experiences of community engagement partners with regards to how they engage with emergency medical care students and academics from higher education institutions; and (5) to develop a framework to guide community engagement in emergency medical care, as an emerging health profession to effect positive change in its professional response to community engagement.

This study employed an exploratory, descriptive qualitative research methodology. Semi-structured in-depth interviews and focus group interviews were utilised to collect the qualitative data. Study participants comprised academics from health science faculties with experience in community engagement, emergency medical care academics, paramedic students and community partners. The researcher sought to understand how the participants conceptualised community engagement, the values and principles underpinning community engagement, and what processes and activities can be used to advance community engagement at local universities.

Through thematic analysis, six key themes emerged, which, together with supporting literature, served as a basis for developing a community engagement framework for emergency medical care education. The crucial structural elements of the developed

community engagement framework were underpinned by a conceptual understanding of community engagement; the processes that fostered community engagement in health-related projects; the nature of community engagement projects in health sciences; and how the learning experiences of paramedic students could be enhanced.

The framework is intended to serve as a guide for emergency medical care academics to strengthen paramedic education with community engaged practices to ensure the development of socially responsive paramedic graduates while improving healthcare in impoverished communities through mutually beneficial university-community partnerships.

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(Khalil Gibran).[1]

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TABLE OF CONTENTS

DECLARATION II

ABSTRACT III

ACKNOWLEDGEMENTS V

TABLE OF CONTENTS VII

LIST OF TABLES XIII

LIST OF FIGURES XIV

LIST OF ABBREVIATIONS XV

CHAPTER 1: INTRODUCTION TO THE STUDY

1.1 Introduction 1

1.2 Community Engagement 3

1.3 Emergency Medical Care Education 4

1.4 Western Cape Context of Community Engagement 5

1.5 Burden of Disease in the Western Cape 6

1.6 Problem Statement 7

1.7 Rationale and Goal of the Study 9

1.8 Aim 9

1.9 Objectives 9

1.10 Theoretical Framework 10

1.10.1 Boyer's model for community engagement 11

1.10.2 Emphasis on discovery 12

1.10.3 Scholarship of integration 14

1.10.4 Scholarship of application 15

1.10.5 Scholarship of teaching 16

1.11 Overview of the Research Methodology 18

1.12 Study Setting 19
1.13 Outline of Chapters 20
1.14 Conclusion 20

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction 21
2.2 Conceptualisation of Community Engagement 21
2.3 Influential Theories Guiding Community Engagement in Higher Education 26
2.3.1 Dewey's social learning theory 26
2.3.2 Kolb's experiential learning theory 28
2.3.3 Freire's critical pedagogy 31
2.3.4 Mezirow's transformative learning theory 32
2.4 Community Engagement in an International Context 33
2.4.1 International commitment to community engagement 38
2.5 International Frameworks for Community Engagement in Higher Education 39
2.5.1 Ernest Boyer 40
2.5.2 Hazelkorn's framework for community engagement 42
2.6 Knowledge Production Community Engagement in Higher Education 46
2.7 Community Engagement in Higher Education in South Africa 48
2.8 Conceptual Models for Community Engagement in Higher Education in South Africa 52
2.8.1 Silo model 52
2.8.2 Intersection model 53
2.8.3 Infusion model 54
2.9 Strategies or Forms of Community Engagement in Higher Education 56
2.9.1 Student volunteerism 59
2.9.2 Community outreach 60

2.9.3 Internship 62
2.9.4 Cooperative education 63
2.9.5 Service learning 64
2.9.6 Community engagement and work-integrated learning 68
2.9.7 Community-based research 69
2.9.8 Participatory action research 71
2.10 Barriers and Enabling Factors for Community Engagement in Higher Education 74
2.11 Conclusion 83

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction 85
3.2 Research Methodology 86
3.3 Research Design 86
3.3.1 Qualitative research methods 88
3.3.2 Exploratory, descriptive qualitative research design 88
3.3.3 Exploratory aspect of research 90
3.3.4 Descriptive aspect of research 91
3.4 Research Paradigm 91
3.5 Research Site for the Target Population 93
3.6 Target Population 94
3.7 Sampling Strategy 95
3.8 Sampling Selection Criteria 97
3.8.1 Sample 1: Health science academics with experience in community engagement 97
3.8.2 Sample 2: Emergency medical care academics 99
3.8.3 Sample 3: Emergency medical care students 101

3.8.4 Sample 4: Community engagement partners 102
3.8.5 Sample 5: Panel of experts validating the framework for community engagement in emergency medical care education 103
3.9 Data Collection Tools 105
3.9.1 Interview guide 105
3.9.2 Pilot interviews 106
3.9.3 Semi-structured one-on-one interviews 107
3.9.4 Semi-structured focus group interviews 109
3.9.5 Expert committee validation (Sample 5) 110
3.10 Data Collection Process 111
3.10.1 Interviews with academics experienced in community engagement (Sample 1) 112
3.10.2 Interviews with EMC academics (Sample 2) 114
3.10.3 Interviews with EMC students (Sample 3) 116
3.10.4 Interviews with community engagement partners (Sample 4) 117
3.10.5 Panel of experts for group discussion (Sample 5) 119
3.11 Data Analysis 119
3.11.1 Thematic data analysis 120
3.11.2 Process of thematic data analysis 120
3.12 Trustworthiness 122
3.12.1 Credibility 122
3.12.2 Transferability 123
3.12.3 Dependability 124
3.12.4 Conformability 124
3.13 Ethical Considerations 125
3.13.1 Informed consent 125
3.13.2 The right to full disclosure 126

3.13.3 The right to privacy 126

3.14 Conclusion 127

CHAPTER 4: DATA ANALYSIS – THEMES AND SUB-THEMES

4.1 Introduction 128

4.2 Data Analysis 128

4.2.1 Theme 1: Conceptualisation of community engagement 131

4.2.2 Theme 2: Community engagement processes 142

4.2.3 Theme 3: Collaborative practice 164

4.2.4 Theme 4: Teaching and learning 171

4.2.5 Theme 5: Institutionalisation of community engagement 201

4.2.6 Theme 6: Community engagement projects 208

4.3 Summary of Results 225

4.4 Conclusion 231

CHAPTER 5: SUMMARY, LIMITATIONS & RECOMMENDATIONS

5.1 Introduction 232

5.2 Summary of the Study's Chapters 232

5.3 Summary of the Main Findings of the Study 233

5.4 Limitations of the Research 245

5.5 Recommendations for Future Research 246

5.6 Conclusion 247

CHAPTER 6: A FRAMEWORK TO GUIDE COMMUNITY ENGAGEMENT IN EMERGENCY MEDICAL CARE EDUCATION

6.1 Introduction 249

6.2 The Rationale for the Framework 250

6.3 Relational Depiction of the Framework 250

6.3.1 Framework to guide community engagement in EMC education 251

6.3.2 Pillar one: The conceptualisation of community engagement 253

6.3.3 Pillar two: Processes to enable engagement with communities 256

6.3.4 Pillar three: Methodologies that will advance engagement in EMC education 260

6.4 Conclusion ..... **Error! Bookmark not defined.**

BIBLIOGRAPHY 267

ANNEXURES

ANNEXURE A: Request for site access– Higher Education Institutions 304
ANNEXURE B: Information and consent 308
ANNEXURE C: Individual interview guide 329
ANNEXURE D: EMC academics focus group interview guide 331
ANNEXURE E: EMC students focus group interview guide 333
ANNEXURE F: One on one interview guide 335
ANNEXURE G: Request for approval from SAHECEF 337
ANNEXURE H: Request for approval Department of Health 339
ANNEXURE I: Editor's letter 343
ANNEXUREJ: Ethical approval 330

LIST OF TABLES

Table 1. Sample groups codes 129
Table 2. Overview of main themes and sub-themes 130
Table 3. Conceptualisation of community engagement 132
Table 4. Community engagement processes 143
Table 5. Collaborative practice 164
Table 6. Teaching and learning 171
Table 7. Institutionalisation of community engagement 202
Table 8. Community engagement projects 209
Table 9. Framework to guide community engagement in EMC education 252

LIST OF FIGURES

Figure 1. Domains of Boyer's model of scholarship adapted to EMC education 12

Figure 2. Thesis objectives and methodology 19

Figure 3. David Kolb's experiential learning cycle 30

Figure 4. Boyer's model of scholarship of engagement 41

Figure 5. The Silo model 53

Figure 6. The Intersection model 54

Figure 7. The infusion model of community engagement 55

Figure 8. Forms of community engagement 58

Figure 9. The Western Cape Province 93

Figure 10. Relational depiction of the framework 251

LIST OF ABBREVIATIONS

The list contains only those abbreviations considered essential. Throughout the thesis, full terms have been utilised. Additional explanations are provided in the text where necessary.

BEMC	Bachelor of Emergency Medical Care
CAN	Community Action Network
CBR	Community-Based Research
COVID-19	Coronavirus Disease
DEMC	Diploma in Emergency Medical Care
ECA	Emergency Care Assistant
EDQ	Exploratory, Descriptive, Qualitative
EFAR	Emergency First Aid Response
EMC	Emergency Medical Care
EMS	Emergency Medical Services
HEQC	Higher Education Quality Council
HPCSA	Health Professions Council of South Africa
NGO	Non-Governmental Organisation
NPO	Non-Profit Organisation
NQF	National Qualification Framework
SAHECEF	South African Higher Education Community Education Forum
USA	United States of America
WHO	World Health Organization

CHAPTER 1: INTRODUCTION TO THE STUDY

"The problems we face today, violent conflicts, poverty, hunger, and so on, are human-created problems which can be resolved through human effort, understanding and the development of a sense of brotherhood and sisterhood. We need to cultivate a universal responsibility for one another"
(Dalai Lama).[2]

1.1 Introduction

Emergency Medical Services (EMS) in South Africa renders health care to a broad spectrum of culturally and socio-economically divided communities against the backdrop of slow economic growth, limited resources, and high emergency care caseloads. The Constitution of the Republic of South Africa, under Section 27, states that "access to emergency care is guaranteed to all citizens".[3] Despite this guarantee, South Africa continues to face challenges in meeting the growing prehospital health care needs to address the increasing burden of disease. In accordance with the above, the recent coronavirus (COVID-19) pandemic further challenged the already overwhelmed health system to ensure that communities, including the marginalised, had a voice and were part of the response to the global pandemic.[4]

To address the above challenges in low-resource health settings, the rise of community engagement in higher education, as well as the prominent emphasis on community involvement in university learning and research programmes, provides an opportunity to strengthen university-community partnerships for the greater good.[5] Through emergency medical care (EMC) education, these partnerships can be refined through various nuanced processes to address critical health issues within local communities. The demand for advancing community engagement activities in higher education has reignited interest in fostering institutional citizenship and increasing civic responsibility.[6] This reflects a natural synergistic relationship between higher education institutions and communities, which provides fertile ground for the traditional research, innovation, and teaching functions of higher education to expand into community engagement.

From a global health strategy, community engagement is viewed as a process of developing relationships that enable stakeholders to work together to address health-related issues and promote well-being to achieve a positive health impact and outcomes.[7] Furthermore, the National Health Insurance Bill has mandated health departments to encourage community participation in the planning, provision and evaluation of health services to establish a society based on democratic values, social justice and fundamental human rights, as well as the need to improve life expectancy and the quality of life of all citizens.[8] All of these are crucial attributes that EMC graduates need to be empowered with once they have completed their education and training.[9]

In this context, the World Declaration on Higher Education for the Twenty-First Century established a new vision in which societal improvement was identified as the core mission of higher education, along with teaching and research.[10] In addition, the South African White Paper on Higher Education urged institutions to demonstrate social responsibility through community engagement to improve the social and economic landscape of South Africa.[11] Hence the importance of community engagement as the third pillar of South African higher education institutions.[12]

Despite the mandate, the Community Higher Education Service Partnerships research revealed that the majority of South African higher education institutions have not yet integrated community engagement into teaching and learning.[13] Some authors argued that higher education institutions might have a limited understanding of community engagement, which perhaps creates barriers to implementing community engagement that adds any meaningful value to academic programmes.[14,15] Recently, there have been mandates for community engagement to become an integral part of EMC education, which the current study aims to achieve through the development of a framework.

In the Western Cape, the role of the community engagement strategy is detailed in the Healthcare 2030 plan, which advocates for a health system that holds people at its core; grounded in the values of equity, solidarity and social justice.[16] The intention of this plan is to provide a provincial health system that brings healthcare closer to where people live, learn, work and socialise to enable well-being through community engagement.[16,17] Given the current provincial strategic plans, it is vital to explore what

community engagement processes and activities can be fostered within EMC teaching and research to achieve the Healthcare 2030 plan.

1.2 Community Engagement

Aside from being a heavily debated topic, "community engagement" has various definitions, terms, and levels of application, which creates further confusion.[18] Subsequently, the lens through which community engagement is perceived differs across global, national, and local higher education institutions.[18,19]

In higher education, community engagement is generally defined as the University's use of its resources to benefit the community by “enriching scholarship, research, and improving curriculum, teaching, and learning; preparing educated, engaged citizens; strengthening democratic values and civic responsibility; addressing pertinent societal issues, and contributing to the benefit of the public”.[20] Similarly, Benneworth et al.[6] asserted that the European Framework for Community Engagement in Higher Education defined community engagement as a process through which institutions collaborate with community stakeholders to engage in unique and reciprocal activities that are mutually beneficial. Consequently, community engagement refers to the 'third mission' of universities, which therefore recognise that community engagement has become increasingly significant and that universities must place a greater emphasis on their societal mission.[19]

Community engagement comprises of a multitude of activities ranging from cooperative education to service learning, outreach, student volunteer initiatives, and community-based participatory research, amongst others.[21] Out of these activities, service learning is the most common form of engagement due to its focus on work-integrated learning.[22] Based on the diverse viewpoints of scholars, there are many definitions of community engagement in the literature.[6,23] For the purposes of this study, the researcher adopted the Centre on Higher Education Transformation's definition, which defines community engagement as a "systematic relationship between higher education institutions and communities, characterized by mutually beneficial interaction, in a sense that it enriches teaching, learning and research and simultaneously addresses societal problems, issues and challenges". [24(p.4)] The key components from the aforementioned definition served as the foundation for the study.

1.3 Emergency Medical Care Education

In reference to EMC education, the 2030 National Development Plan highlighted critical areas for improvement of prehospital medical education.[25] One such intervention involved a crucial assessment of emergency care education and training and consequent alignment with the provisions of the Higher Education Act, No. 101 of 1997.[26] The alignment resulted in the development of the National Emergency Care Education and Training Policy to facilitate the normalisation and alignment of EMC training with higher education legislation, national training needs and imperatives for EMC graduates to render quality healthcare to the population of South Africa.[26]

As a result, the National Department of Health, in conjunction with the Health Professions Council of South Africa (HPCSA), designed and implemented a three-tier Emergency Care Qualification Framework aligned to the Higher Education Qualifications Sub-Framework.[27] Accordingly, these programmes fall under the banner of higher education, with implications for community engagement as part of social responsiveness, which is one of the critical attributes for EMC graduates.

Following the radical change from short course paramedic training to formalised programmes, undergraduate EMC qualifications are offered and registered on the National Qualification Framework (NQF) as level 5, Emergency Care Assistant (ECA); NQF level 6, Diploma in Emergency Medical Care (DEMC); and the NQF level 8, Bachelor of Emergency Medical Care (BEMC) qualifications. Due to the required competencies, workplace clinical practice forms a significant portion of the curricula for all the EMC programmes. Hence, EMC students engage in various forms of work-integrated learning activities within health communities. However, these activities are primarily focused on the accumulation of clinical skills.[28]

Although service learning is incorporated into the BEMC qualification, it has not yet been implemented into the DEMC curriculum. In the Western Cape, the larger part of EMS workforce comprises of DEMC qualified paramedics. As a result, the DEMC cohort of paramedics lacks formal training related to social responsiveness and social justice.

After graduation, DEMC graduates register as independent advanced life support paramedics with the HPCSA and are employed in EMS to provide health care to diverse communities. These graduates should have multi-disciplinary knowledge to

communicate, demonstrate compassion, respect and treat patients and the communities they serve with humility and be socially responsive. Similarly, a study conducted in the Western revealed that paramedic graduates were not adequately prepared for professional practice.[29] These challenges in EMC education have a significant impact on professional practise and, more importantly, on the provision of holistic patient care.

1.4 Context of Community Engagement in the Western Cape

The Western Cape is home to a large number of communities that are plagued by high rates of unemployment and poverty, limited access to health care, as well as high rates of violence and crime.[11] Over the last few years, Western Cape EMS personnel have experienced an escalation in violent attacks against ambulances.[30]

These attacks further prevent resource mobilisation to critically ill patients in unserved areas, and as a result, staff safety has assumed far greater importance than ever before within the EMS organisation. In an attempt to improve patient outcomes, the Member of the Executive Council of Health for the Western Cape Government encouraged communities to collaborate with EMS providers when delivering patient care.[31] These incidents of violence against EMS providers are symptomatic of deeper societal issues within the underserved communities and, unfortunately, are intermittent and unpredictable, making them resistant to the majority of initiatives.

Although EMS has collaborated with the Department of Community Safety and the South African Police Service, violent attacks continue and further compromise patient response times in high-risk areas. In the Western Cape, there are 258 ambulances allocated to the Western Cape Government EMS, which responds to an emergency case load of 558 723 calls per annum.[32] On average, 14 vehicles cannot be utilised daily due to the prolonged ill health of staff, including Post-Traumatic Stress Disorder. In addition, 13% of priority emergency incidents occur in EMS declared red zones. The latter adds an additional burden on the EMS because ambulances have to wait for a South African Police Service escort to get to patients, and thus the availability of ambulances in other areas is significantly reduced.[30]

Recently, the South African Police Service and EMS implemented a protocol to protect EMS personnel when entering red zones. A red zone denotes an area where EMS personnel are advised not to enter without a police escort.[33] The criteria for

declaring a red zone include vital factors such as repeated attacks in a local community, a single severe attack, lack of community cooperation, and lack of protection from safety and security services.[33] This has placed extreme pressure on EMS to respond adequately to the demands of vulnerable or critically injured patients. Furthermore, the expanding areas of unrest have led to "permanent red zones" in specific communities.[31] As a result, delays in EMS response directly affect patients by aggravating the impact of disease or injury, which can lead to death.

1.5 Burden of Disease in the Western Cape

Aside from HIV, the National Department of Health reported that cardiovascular disease, diabetes, hypertension, strokes and respiratory diseases are the primary sources of the burden of disease in the Western Cape.[30] Violence is a significant concern in the Western Cape, where the injury-related death rate for men is ten times the global norm, and the injury-related mortality rate for women is seven times the global average.[34] Additionally, substance abuse, mainly alcohol and drug addiction, seems to be the primary contributor to crime, violence, and road traffic accidents.[30,35]

Furthermore, according to the National Department of Health data, the Saving Mothers Report, a confidential investigation into maternal mortality, identified that the primary cause of death was due to complications during delivery, hypertension, and obstetric haemorrhage.[36] According to the data, 34% of all maternal fatalities could have been avoided.[36] The findings of the report highlighted the importance for EMC departments and Colleges to collaborate with local communities for health promotion and education.

Another major health concern is child mortality under the age of five. Malnutrition, diarrhoeal diseases and respiratory infections are some of the leading causes of death in paediatrics.[30] Acutely ill children often present with co-morbidity that involves multiple conditions and require emergency care intervention. Some preventative diseases place high demands on EMS. Therefore, exposure to community engagement activities can enhance EMC learning and contextualise paramedic students' social responsiveness.

Whilst higher education institutions do not own these problems; they have a role to play in applying research expertise to develop greater insight into these health and social ills and, through teaching and learning, generate solutions to these problems

through a mutually beneficial community engagement relationship.[23] However, current paramedic education is primarily focused on clinical treatment rather than prevention and collaboration at a community level.

1.6 Problem Statement

The Council on Higher Education advocates the successful integration of university graduates into the world of work and their meaningful contributions to the workplace and community in the context of professional development.[37] Despite this, informal discussions undertaken by the researcher with newly employed paramedic graduates revealed a lack of insight into community engagement due to ineffective community-based activities during their studies. Given the context of the Western Cape, characterised by high levels of poverty, a quadruple burden of disease, coupled with inadequate EMS resources, and a growing population with long distances between healthcare facilities in rural areas, further impacts the delivery of emergency services to vulnerable communities. In addition, increasing gangsterism and establishing red zones further delays access to emergency care.[33,38] In this vein, EMC academics and students have a significant role to contribute in addressing these issues through community engagement.

Work-integrated learning forms a substantial part of the DEMC qualification, which, aside from providing exposure to clinical skills, should foster attributes of social responsibility and social justice as part of the broader concept of community engagement, as advocated and mandated by national policy documents.[11,27] Despite the national drive for community engagement in higher education programmes, no framework exists to date to guide community engagement in EMC education. In addition, there is little empirical research on community engagement within EMC education, except for a single research article on a CE initiative within an EMC programme in South Africa.[39] Therefore, the experiences, meanings and recommendations for community engagement in EMC programmes remain to be explored and described.

Although there is international and national advocacy for community engagement as one of the critical drivers of health, social justice, and economic development as part of the higher education institution's mandate, community engagement has multiple conceptualisations and is poorly implemented at some higher education institutions in South Africa.[19,40–42] Hence, the mandate of community engagement as the third

pillar of higher education institutions, detailed by the Department of Education, remains uncertain within health sciences departments.[43]

Against the growing importance of community engagement within higher education institution programmes, a literature synopsis emphasises the role of community engagement in improving social justice and healthcare.[44,45] In Sub-Saharan Africa, community conversations and interactive dialogue with educational institutions significantly reduced the HIV and AIDS epidemic.[46] Following the Ebola epidemic and the more recent global COVID-19 pandemic, the World Health Organization (WHO) recognised community engagement as a critical aspect of healthcare delivery, health education and health promotion strategy.[4,7]

In terms of formalised community engagement in health science education, empirical research was conducted primarily in the international and national context or other allied health fields. Literature emphasised that community engagement must be contextualised to improve patient care in health sciences programmes.[36–39] Only a few South African studies were conducted within the social sciences, allied health sciences, and nursing, revealing that community engagement needs to be strengthened through formalised frameworks or models in higher education institutions, which grounds the need for an exploratory and descriptive inquiry within EMC education.[42,47,48]

Given the lack of EMC research on community engagement and its impact on teaching and learning, it is imperative that a framework for community engagement in EMC education be developed to ensure mutually beneficial, systematically driven engagements between EMC departments and community partners. Ultimately, the absence of a guiding framework may result in socially decontextualised EMC graduates on the one hand and meaningless community-based activities on the other. Furthermore, EMC academics and students may miss opportunities to explore meaningful community engagement activities, which may also promote social justice and responsiveness in EMC education.

1.7 Rationale for the Study

The rationale of this study was, firstly, to explore and describe how community engagement is understood and operationalised in health science and emergency medical care departments at higher education institutions in the Western Cape, and secondly, to explore and describe the current principles that guide community engagement with stakeholders to develop a community engagement framework for emergency medical care education and training.

1.8 Aim of the study

The aim of the study was to develop a framework to guide community engagement for emergency medical care education in the Western Cape.

1.9 Objectives

The objectives of the study were to:

1) Establish the views of health science academics at higher education institutions regarding best practices on community engagement within health science education.

2) Ascertain how emergency medical care academics conceptualise community engagement and implement it within the context of teaching, learning and research.

3) Explore the views of emergency medical care students about their experiences of community engagement.

4) Investigate the experiences of community engagement partners with regard to how they engage with emergency medical care students and academics from higher education institutions.

5) Develop a framework to guide community engagement in emergency medical care education as an emergent health profession to effect positive change in its professional response to community engagement.

1.10 Theoretical Framework

A theoretical framework is "any empirical or quasi-empirical theory of social or psychological processes that can be applied to understanding a phenomenon".[49] As such, a theoretical framework is the use of theory in a research study that conveys the researcher's deepest values and provides a clear view of how the study processes new knowledge, which includes existing knowledge and research about complex phenomena; it also provides a lens for a logical, systematic approach.[50]

In light of the above, the researcher adopted Boyer's framework for university community engagement in health science education, which suggested that scholars work in four interrelated areas to develop knowledge that addresses communal needs.[15]

Boyer proposed that higher education institutions should commit to searching for solutions to pertinent issues related to society which includes health, civic, economic, and moral problems, through the use of four domains of engagement, viz. scholarship of discovery, scholarship of integration, scholarship of teaching, and scholarship of application, as a form of knowledge exchange between universities and communities.[15,51,52]

In an approach to revamp knowledge exchange through community engagement in health science education, Boyer, in his monograph *Scholarship Reconsidered*, published priorities for the medical professoriate.[53] Some scholars claimed that Boyer's concept of the scholarship of integration was constrained and that a broader perspective was required to adequately capture the complexity and depth of the intellectual work done by university lecturers.[54] Although many authors have criticised Boyer's approach to community engagement, academics consider it a valuable paradigm for incorporating non-traditional kinds of scholarship in health science training.[15,53]

Based on the aim and objectives of this thesis, the researcher justified the use of Boyer's scholarship of engagement framework to set parameters as a backdrop for the study and to gain a deeper understanding of how higher education institutions, academics, students, and communities in the Western Cape implement community engagement in EMC education.

Therefore, the focus of the study explored was to explore pertinent healthcare issues through a multidimensional lens from the perspective of academics experienced in community engagement from higher education institutions, emergency care academics, paramedic students, and community partners who guided the development of a community engagement framework for EMC education.

1.10.1 Boyer's model for community engagement

For this study, Boyer's scholarship of engagement was used as a guide to address social, civic and ethical issues through the scholarship of discovery, integration and application.[55] The aforementioned key elements shaped teaching and learning scholarship, with community service serving as the cornerstone of higher education institutions.[5] Furthermore, Collins and Stockton[50] asserted that the four pillars should not be seen as discreet subsets but as interdependent and interrelated aspects of advancing knowledge and wisdom. In EMC education, the community of scholarship is dynamic, and it is perhaps through that dynamism that real discovery and real change should receive a mutual purpose to improve the health outcomes of society.

Saltmarsh and Zlotowski[55] attested that civic learning amplifies the social responsive dimensions of academic knowledge, specifically the elements that broaden the scope of education to include the acquisition and development of civic virtues. Musil[56] contended that within the scope of Boyer's model lies a civic-minded paradigm that emphasises the need for disciplinary competence, civic consciousness, and purpose.

Boyer's community engagement model emerged in the 1990s as a critique of the conventional, monolithic, confining, and inflexible academic silos of research, teaching, and community participation.[53,57] According to Mtawa et al.[15], Boyer proposed that higher education institutions are responsible for using four aspects of engagement to seek solutions to the most pressing social, civic, economic, and moral challenges. These challenges include broader societal healthcare needs, in which EMC education can play a significant role by integrating health and higher education.[53]

Mtawa et al.[15] emphasised that Boyer's model is arguably a more nuanced framework that provides engagement guidelines, elevating both the institution's crucial functions and the knowledge and resources embedded in communities. On the contrary, Preece[58] highlighted that by applying Boyer's paradigm in diverse situations, students

must recognise contextual realities far beyond the walls of higher education institutions. These contextual realities are critical for EMC education when identifying social ills affecting health that reflect the larger South African community landscape.[5]

In line with the above, Renwick et al.[59] argued that academic collaboration with external communities should enrich the University's core functions while addressing the challenges of external communities. The key domains of scholarship that serve as a basis for Boyer's model[57] are illustrated in the diagram below (Figure 1) and discussed thereafter as individual but interrelated domains.

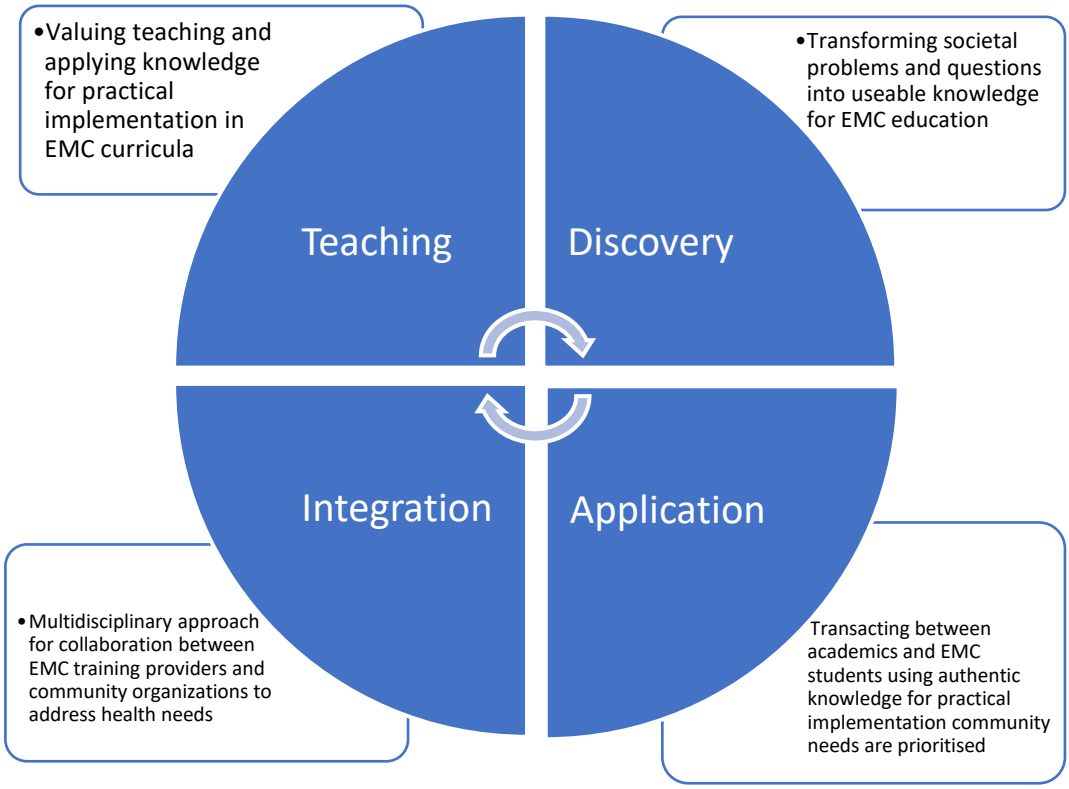

Figure 1. Domains of Boyer's model of scholarship adapted to EMC education

(adapted from Boyer[57])

1.10.2 Emphasis on discovery

Boyer's concept of the 'scholarship of discovery' can be summed up as follows: ". . . universities, through research, simply must continue to push back the frontier of

human knowledge".[57] It is thus described as the root of emerging knowledge production across all fields to increase the pool of existing knowledge in novel ways through traditional research.[60]

Renwick et al.[59] highlighted that the scholarship of discovery contributes to the wealth of human knowledge and the intellectual environment of an educational institution. According to Boyer[61], the scholarship of discovery is a critical substrate of "creativity, wonder, and wisdom" explored through community engagement. Scholarship of discovery is not devoid of these catalysts; however, it lays the foundation and interconnects elements of scholarship by transforming societal problems and questions into useable knowledge using scientific methods.[62] Moreover, discovery develops tools to explore and understand problems to find meaningful solutions by constructing methodological inventions and approaches.[52]

In health science education, scholarship of discovery includes original research that develops clinical reasoning to form new theories.[52] Research publications are often products of the scholarship of discovery, whereby new knowledge is distilled to academics and communities to improve health outcomes.[62] This was evident when contextual research findings were implemented in EMC, primarily through the climate of the COVID-19 pandemic as research progressed.[4] Similarly, medical specialists in the Western Cape advised that during the COVID-19 pandemic, patient treatment extended far beyond the walls of academia and required rewriting medical textbooks as new knowledge emerged from different communities.[63] Subsequently, Higginson et al.[64] acknowledged that this substantially influenced patient treatment procedures performed by paramedics. Traditional modalities of educational training in paramedic practice needed continuous training adjustments to enhance patient outcomes.[65]

Consequently, the emphasis on the scholarship of discovery pushed the agenda for collaborative research between communities and universities in novel ways that elevated research to produce new knowledge for society or academia.[15,53] The scholarship of discovery is closely associated with another significant aspect of Boyer's model, namely 'the scholarship of integration', which is discussed in the following sub-section.

1.10.3 Scholarship of integration

'Scholarship of Integration' is defined as *"giving meaning to isolated facts, putting them in perspective…making connections across the disciplines, placing specialists in a large context, illuminating data in a revealing way, and educating non-specialists".*[57(p.3)] The integration component is critical in an era with a strong emphasis on cross-discipline convergence.[52] An approach to scholarship known as "integrative scholarship" engages and interprets knowledge from various fields, including medical education, allied health science education, and knowledge synthesis or integration.[52] Additionally, Volckmanm[51] highlighted that it allows for clarifying researchable problems using relevant bodies of disciplinary knowledge, including combining methods or theories to find solutions. Interacting across academic divides in paramedic training to cooperatively build approaches to social challenges is a crucial feature of transdisciplinary and interpretative studies. McBride and Kanka[66] provided a recent example of a successful multidisciplinary scholarship that involved the integration of faculty expertise from departments of geography, health education, and epidemiology to conduct community mapping and needs assessment using geospatial technology to improve healthcare.

As mentioned above, transdisciplinary integration allows collective intelligence to approach and solve problems, thereby addressing contextual issues of concern for the scholarship of integration capacity building and creating sustainable systems. [59] In the community engagement context, integration is integral in connecting expertise from different disciplines and conveying various types of knowledge from communities.[15] Within this context, integration provides an understanding of local or indigenous knowledge whilst unpackaging complex issues in a more comprehensible manner for local stakeholders.[67]

The rapid pace of societal change with the increasing burden of disease and a global pandemic has elevated the importance of this form of scholarship. The latter involves members of different faculties with a whole-of-society approach to form integrative collaborations.[4] In medical education, designing innovative instructional materials or developing community engagement programmes are examples of the scholarship of integration.[52,68] As mentioned, community engagement has been defined as collaborative work with groups of people affiliated by geographic proximity, interest, or health issue to address social and health challenges and encompass various

activities and strategies.[69] These strategies include conducting meetings with community members and representatives, working with community advisory boards, or involving community members in designing and implementing research activities.[70] Community engagement also involves a wide range of stakeholders in a dynamic set of social interactions with considerable relational complexity.[69] Integration of EMC students through collaborations with faculties, communities, and stakeholders will ultimately develop a more holistic practitioner.

1.10.4 Scholarship of application

The third element of Boyer's model, the 'scholarship of application', integrates theory with practice and vice versa.[57] Scholarship of application is perhaps the most practical aspect of the four key pillars in that it seeks to explore ways in which knowledge can solve health issues and serve the community and academia.[67] As a consequence, this form of scholarship has gained prominence in recent years since more emphasis has been placed on making valuable knowledge to society.[66]

Mtawa et al.[15] attested that this element of Boyer's framework had received increasing attention in recent years as greater emphasis has been placed on making knowledge useful to society. The application part of Boyer's paradigm is crucial in community engagement because it allows the generation of new knowledge and its implementation in society's daily lives.[71]

Scholars alluded to the application element whereby the faculty contributes to society through service.[72] Likewise, Holland[73] emphasised that higher education institutions must become participants where discovery, learning, and engagement are integrated activities involving many sources of knowledge generated in diverse settings by various contributors.

The context of the scholarship of application, which is familiar to health education and health promotion experts, entails utilising new information acquired in actual circumstances for the betterment of humanity.[74] Additionally, the application of scholarship supports the community by providing applied knowledge workshops, increasing community learning and research capacity, and demonstrating value through well-evaluated programmes.[66]

Furthermore, the application element espouses service activities aligned to a field of knowledge and professional activities.[62] Beneficiaries of these activities include commercial entities, non-profit organisations (NPOs), and professional associations. Community engagement activities lead students to become reflective practitioners by integrating theory with practice in the state of transacting. Gefter et al.[75] advocated that service learning opportunities for medical trainees require students to be immersed in community settings where social determinants of health are highly prevalent. Moreover, Urban [53] emphasised that students should be placed and have lived experiences in communities to enhance in-person interactions whereby they can apply academic knowledge and learn from communities with diverse patient populations.

Despite the importance of application, EMC education is still in its infancy, and therefore, community engagement activities should be contextually relevant to emergency services and the healthcare needs of society. Scholarship of application places emphasis on collaboration to produce competent and socially responsive graduates who are attentive to the changing needs of society to enrich the paramedic profession.

1.10.5 Scholarship of teaching

In the community engagement framework, ‘scholarship of teaching’, the fourth element of Boyer's model, encourages the establishment of contexts where the students, faculty, and society participate equally in the teaching and learning processes.[53] Boyer[61] refers to this as a "community act" since it permits information to be disseminated to many constituencies while keeping the flame of scholarship alive. Hence, teaching in community engagement elevates education from the theoretical to the practical level and encourages all participating in community engagement to be active, fostering critical thinking and lifelong learning.[15]

In line with the above, the emphasis on teaching culminates in a learning community inclusive of community members, students, academics, and service providers.[76] In this phase, academics are assigned to provide value and are involved in activities beyond the classroom walls. According to Le Grange[77], teachers become active learners by critically reflecting on community engagement practices.

Similarly, literature has determined that research, teaching, and outreach mutually inform one another to address complex problems more effectively.[78,79] This suggests that each faculty member should be aware of all three missions and adopt an integrated approach to engaged scholarship by assembling multidisciplinary scholar teams. In the community engagement context, teaching enables the creation of environments within which students, staff and community members equally engage in teaching and learning processes.[66] Teaching in community engagement not only moves teaching from a theoretical to a practical level but also elevates all parties involved in community engagement to be more active, encouraging critical thinking and lifelong learners.[61] Thus, teaching becomes the act and skill of imparting beneficial information to the world, particularly in the context of paramedic EMC education.[64]

The strategy of valuing teaching scholarship invigorates creativity and strengthens the capacity for engaging in creative dialogues about teaching and learning on numerous levels.[80] Wendling[81] asserts that academics should consider the art and science of teaching from various viewpoints, including the efficient delivery of knowledge, modelling ways of being, developing ways of thinking, promoting self-efficacy, and striving for a better society. Additionally, scholars recognised that in order to promote community engagement based on principles of reciprocity and mutual benefit, institutions must seek to equally acknowledge and reward academics who choose to participate in and with the community through their teaching and research.[6,21,81]

Given the importance of reciprocity and mutual benefit, the call for institutions to bridge the gap between academia and the real world and to reprioritise the recognition of engaged work has reignited debate over the fundamental mission of colleges and universities and how to align institutional structures and processes with the public purpose of higher education.[19] Furthermore, if higher education institutions remain relevant in the social, political, and economic contexts of the 21st century, the systems that prioritise, reward, and define academic activity must reform to make engaged teaching and research more inclusive.[81]

In summary, the EMC education possesses unique knowledge and skills that, when applied across all domains of scholarship asserted by Boyer [57], can have a more significant impact on future paramedic graduates through teaching, discovery,

application and integration while addressing societal needs through community engagement. Although Boyer's[57] framework is distinctive, many contextual prehospital emergency care issues must be unpacked to address community engagement within EMC education. This is embedded in the basic argument that academic collaboration with external communities should enrich the higher education institution's core functions whilst addressing the challenges of external communities.[52,75]

1.11 Overview of the Research Methodology

For this study, the researcher used the exploratory-descriptive, qualitative research design to answer the research aim and objectives within a social constructivist paradigm, thus, seeking to explore and richly describe the meanings and experiences assigned by participants to community engagement within the context of emergency medical care education in the Western Cape. A growing body of research in health science education has used exploratory, descriptive qualitative designs as an inquiry of choice in qualitative research.[82–84] Scholars stated that collecting qualitative data through rich interviews follows a systematic thematic approach through coding, generating subthemes and themes to provide answers.[85–87]

Using the exploratory descriptive qualitative research method, the researcher explored the multidimensional views of academics experienced in community engagement, EMC academics, paramedic students and community partners to understand and describe their conceptualisation of community engagement. In addition, the researcher investigated the processes and principles for effective community engagement practices and explored current and potential projects that EMC departments can collaborate with to improve healthcare. The depth and breadth of data assisted with developing a framework to guide community engagement in EMC education for the mutual benefit of higher education institutions and communities that EMC practitioners serve.

Research methods and procedures were guided by the study objectives, as shown in Figure 2. A detailed description of the methods and rationale for the choice of the methods for each objective are provided in Chapter 3. Figure 2 provides an overview of the study's objectives and the associated data collection method. The objectives are listed in a numerical list and independent of each other.

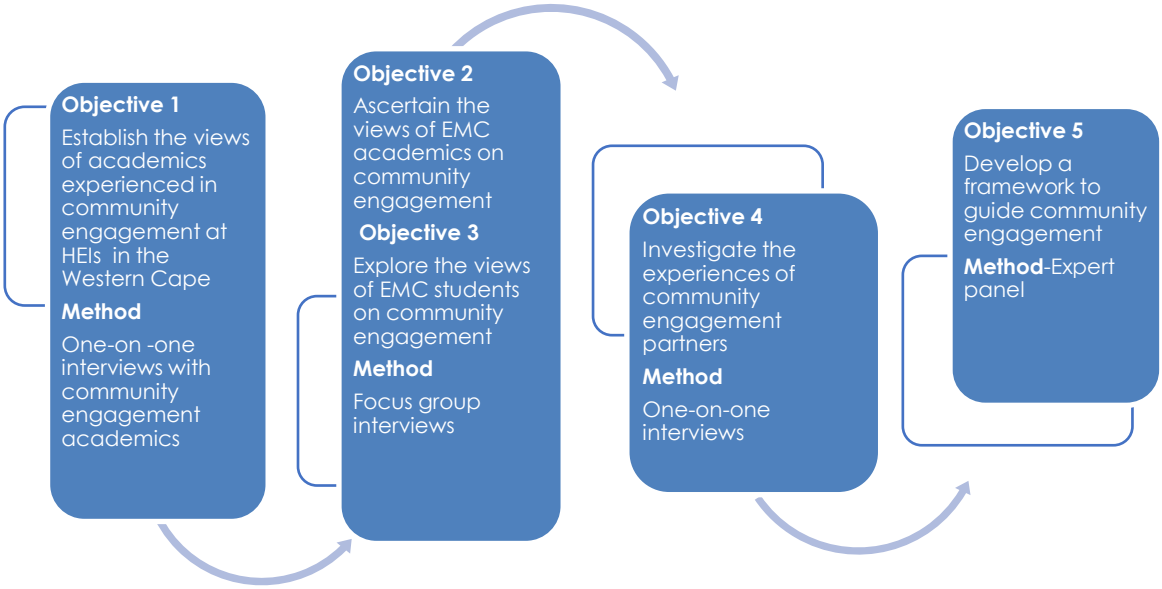

Figure 2. Thesis objectives and methodology

1.12 Study Setting

Due to the qualitative study design and feasibility, the study was confined to the Western Cape Province. In addition, qualitative research does not require a large sample of participants to gather sufficient data.[88] Based on the law of diminishing returns, a large sample in qualitative studies does not necessarily imply more information and deeper understanding. Therefore, in qualitative studies, frequency is unimportant as it focuses on meaning rather than establishing a broad hypothesis and assertions.[89] On a national scale, besides Gauteng Province, the Western Cape is the only other province with more than one higher education institution that offers the DEMC programme, which is the focus of this study.

1.13 Outline of Chapters

Chapter 1 introduced the topic under study and outlined the main elements of the research process.

Chapter 2 presents the literature review along with a detailed discussion of relevant theories of community engagement.

Chapter 3 describes the research design, methodology, and data analysis procedures utilised in the study.

Chapter 4 presents the findings of the study, which are further supported by relevant literature. Verbatim quotes from the participants are included to enable a more in-depth understanding and interpretation of the data.

Chapter 5 provides the conclusions that emanated from the findings, together with recommendations and the limitations of the study.

Chapter 6, the final chapter, consolidates the study by providing a framework to guide community engagement in EMC education.

1.14 Conclusion

This chapter introduced the study, including a description of the context, the rationale, the aim, the research objectives, and the theoretical framework underpinning the study. In addition to the above, the chapter also introduced the methodology used to conduct the research, explained the study setting, and outlined the forthcoming chapters. A brief conclusion brought the chapter to a close. The literature review is presented next in Chapter 2.

CHAPTER 2: LITERATURE REVIEW

"The true measure of any society can be found in how it treats its most vulnerable members".
(Mahatma Gandhi).[90]

2.1 Introduction

The literature review aimed to identify existing knowledge and the limitations within the research field, thereby augmenting the understanding of the present study.[91] In this qualitative study, the literature review situates the research inquiry within a broader body of knowledge to gain a more comprehensive and integrated understanding of community engagement in higher education. According to Hunter et al.[87] the literature review in exploratory and descriptive qualitative research aims to satisfy intellectual curiosity, facilitate a profound understanding of the topic, identify significant knowledge gaps, and formulate suggestions for future research.

This chapter thoroughly explores community engagement, covering its conceptualisations, theories, models, and current issues in South African and international higher education institutions. Through critical analysis and synthesis of community engagement in higher education, this chapter focuses on the different modalities available, assessing their advantages, disadvantages, and applicability to emergency medical care education. Additionally, it investigates the factors that facilitate or impede community engagement. By providing a comprehensive overview of the topic, this chapter highlights the importance of community engagement in higher education and suggests ways to improve it to better serve the needs of emergency medical care students and communities.

For the study, the researcher used the University of Cape Town's journal databases as the primary source for the literature review, which included MEDLINE, Science Direct, Cumulative Index to Nursing and Allied Health Literature, EBSCO host, ProQuest and Google Scholar, amongst others. The following search terms were used: 'community engagement'; 'community engagement at Higher Education institutions'; 'frameworks on community engagement'; 'community engagement and paramedic education'; 'community engagement and health education'; 'scholarship of engagement'; 'paramedic student placements'; 'service learning in higher education';

'community outreach'; 'community partners in emergency medical care'. The section below lays the foundation for understanding the concept of "community engagement" and for the description of its multifaceted interpretations across diverse contexts in higher education.

2.2 Conceptualisation of Community Engagement

As attention to community engagement deepens, it is imperative that academics, students, and community partners understand how it is conceptualised.[23] Despite efforts to reach a consensus and provide clear conceptual frameworks, scholars acknowledge that conceptualising community engagement is a complex and challenging task.[23,92–95] Some scholars attribute the difficulties in standardising community engagement to the various forms, activities, and frameworks. [6,23]

Internationally, the conceptualisation of community engagement has been debated and defined in a variety of contexts, with terms or understanding of community engagement differing significantly among higher education institutions.[14] Weerts and Sandmann[21] assert that in the United States, the variety of interpretations of community engagement is referred to as "definitional anarchy" and is primarily known as "engaged scholarship" and "service learning". On the other hand, in the United Kingdom, community engagement is referred to as "civic engagement", and in Latin America, it is recognised as "Solidaridad".[96–98] Scholars asserted that in South Africa, various terms such as "volunteering", "service learning", and "outreach" are used to conceptualise community engagement and moreover, higher education institutions extend themselves outside their internal community to the external non-university communities for various reasons and in a range of methods. Consequently, several authors have called for greater efforts in the conceptualisation of community engagement at higher education institutions.[94,99–101]

Furthermore, the definitional conundrum poses challenges to conceptualising and interpreting community engagement by academics, as highlighted by the audits carried out by the Council on Higher Education.[102] Recent research on the conceptual understanding of community engagement across multiple institutions in South Africa revealed a continuum of conceptualisations ranging from the university-community dyad to the co-production of knowledge.[23]

Roger and Robinson[103] asserted that community engagement provides "individuals' opportunity, capacity and willingness to work collectively to shape public life". Similarly, Fourie[104] proclaims that community engagement is "collaborations and partnerships between the university and the appropriately constituted communities that it serves, aimed at building and exchanging the knowledge, skills, expertise and resources required to develop in a two-way engagement and sustain a developing society". On the other hand, Bhatnagar et al.[105] proposed the meaning of community engagement as interaction with the community for its development and promotion of social justice. In a broader interpretation, these authors defined community engagement as "improving the lives of communities for the common good through civic engagement".[105]

Furthermore, the recognition of community engagement as a core activity of higher education institutions in a philosophical and theoretical sense resulted in several definitions from the perspective of universities.[106] The Association of Commonwealth Universities described community engagement as "both a core value, and as a thoughtful interaction, with the non-university world in four spheres viz. steering the aims, purposes and priorities of the University, connecting teaching and learning to the wider world; a continual dialogue between researchers and practitioners and assuming wider responsibilities towards neighbours and citizens".[107] This definition thus incorporates the role of a university within its broader social environment.

Similarly, Benneworth et al.[6] conceptualised community engagement as a “process whereby universities engage with community stakeholders to undertake joint activities that can be mutually beneficial even if each side benefits differently". In their view, community engagement involves activities between a university and community partners, leading to mutual benefits.[6]

Regardless of the differences in conceptual definitions and their interpretations, literature revealed that the diversity of definitions stems from characteristic dimensions of community engagement.[6,42,106] Internationally, the dimensions of community engagement determine that an external community is engaged with a university in the production of knowledge. Moreover, these "productive interactions" must benefit all stakeholders.[4]

On the contrary, Odeku and Meyer[108] claimed that universities profit from community-based knowledge enrichment. In this vein, scholars asserted that there must be a

dimension of joint co-determination and decision-making for mutual benefit, in which the community has equal authority to impact the University's decisions significantly.[109] The common motive for the community and higher education institutions is based on "knowledge process logic", whereby the mutual interaction enriches paramedic students' knowledge, even if the initiative does not directly link to financial reward for higher education.[110] Within health education, the WHO conceptualised community engagement as “a process of developing relationships that enable stakeholders to work together to address health-related issues and promote well-being to achieve positive health impact and outcomes”.[7]

Adding to community engagement's conceptual complexity and interpretation, several terms related to community engagement, such as 'civic engagement' or 'engaged university’, are frequently used within community engagement literature.[111–113] More specifically, the term 'scholarship of engagement', introduced by Boyer[57], represents universities' shift towards the community engagement agenda both internationally and locally.[19,23,47,114]

Mtawa et al. asserted that the Centre for Higher Education Transformation offered a more precise definition for community engagement as “a systematic relationship between Higher Education institutions and their ecological communities that is characterised by mutually beneficial interaction in the sense that it enriches learning, teaching and research and simultaneously addresses societal, issues and challenges”.[15(p.126)] In line with this definition, community engagement is therefore characterised by a two-way interaction with mutually beneficial goals that address a need identified by the community through an intellectual activity of significance to enhance community capacity through student learning or research studies.[115]

Furthermore, community engagement is closely linked with social responsibility, defined as “an effort to promote ethical principles among the students and dealing with external stakeholders, partners and communities engaged." [105(p2)] Scholars contend that social responsibility is deeply linked to the empathy and sensitivity of individuals who are concerned about the welfare of other members of the community and react to these concerns, demonstrating behavioural patterns that could be classified as reliable, accountable, and loyal.[116,117]

Social responsibility is further exemplified by partnerships between higher education institutions and communities in the form of programs aimed at engaging students with communities.[118] The complex and dynamic societies require that higher education institutions include community engagement in the curriculum and be more progressive in preparing students to be socially responsible citizens.[48] In addition to equipping graduates with technical and professional skills to contribute to their fields of expertise, higher education institutions should strive to produce socially responsible graduates who are aware of their role in developing South African society.[37] Despite the various forms of community engagement mentioned in the Higher Education Quality Committee national founding documents in South Africa, it is left to the discretion of individual institutions to develop social responsibility amongst students through community engagement experiences.[22,102,119] Such implementation could be challenging, as some scholars have argued that academic staff are often not educated about social and global responsibility throughout their educational practices.[120]

Promoting and supporting social responsibility in students have become a focus in some health science faculties, given the transition from apartheid to democracy in South Africa.[45] A study conducted at a South African university concluded that authentic early community-based experiences, included in the curriculum for medical students, improved their social responsibility.[121] The study demonstrated that community engagement played a crucial role in increasing students' feelings of responsibility and responsiveness and helped them develop a sense of accountability through involvement in the community. Additionally, the study revealed that students' knowledge and understanding of disadvantaged communities and social determinants of health was enhanced, and students were more committed to playing a proactive role in making a difference in local communities.[121] Based on the above literature, social responsibility is deeply entrenched within an understanding of community engagement.

In light of the context above, it was imperative to explore and understand salient theories underpinning community engagement in higher education discussed in the following subsection.

2.3 Influential Theories Guiding Community Engagement in Higher Education

Emergency medical care education is a crucial component of healthcare training that requires clinical proficiency as well as the ability to engage with diverse communities effectively. Learning theories are integral to developing and delivering paramedic education to meet these demands.[106] These theories play a crucial role in understanding the cognitive, emotional, and contextual aspects of knowledge acquisition, processing, and retention among students. By considering these factors and incorporating relevant experiences, learning theories provide a sound foundation for selecting appropriate teaching and learning strategies in the domains of health and social sciences. Moreover, they contribute to the framing of learning objectives and enable the evaluation of strategies that facilitate the comprehension, acquisition, or transformation of worldviews.[122] Building upon this understanding, Peterson[123] highlights that Dewey and Kolb's pragmatic and reflective experiential traditions offer a suitable philosophical and theoretical underpinnings for community engagement. Furthermore, the researcher delved into the exploration of other learning theories, including Freire's critical pedagogy and Mezirow's transformative theory, which both serve to facilitate critical reflection and promote meaningful dialogue among learners.[124] These theories can aid paramedic students in comprehending the significance of community engagement in their profession and equip them with the necessary skills to engage with diverse communities. The following section discusses the aforementioned theories in detail.

2.3.1 Dewey's social learning theory

Dewey posited that the acquisition of knowledge is a dynamic process that involves a cycle of action and reflection, where learners gather information from their environment.[125] This underscores the significance of learning theories and methodologies in fostering personal and professional growth, particularly for paramedics, who need to acquire advanced competencies beyond their clinical responsibilities. Dewey's pragmatic theory is geared towards enhancing societal conditions and stimulating learners' critical reflection and problem-solving abilities, with the ultimate goal of creating socially responsive individuals.[126]

According to Flinders and Thornton[127], Dewey's educational impact highlights the significance of institutions in mirroring social contexts and suggests that learners are most effectively trained in authentic social settings. Saltmarsh[128] argued that Dewey's pedagogical approach is grounded in the pragmatic philosophy that emphasises the importance of education in relation to life and progress. This approach aims to equip students with practical skills that enable them to become responsible members of society.[129] Social learning and reflection are integral components of healthcare education that aid in the development of students into professionals, augmenting their clinical reasoning abilities.[126] Consequently, Dewey's approach highlights the importance of practical knowledge and reflective practice in nurturing a sense of social responsibility and augmenting students' problem-solving skills within the domain of paramedic education.

Similarly, Theobald[130] asserted that the teaching process holds significant importance as it requires educators and learners to restructure their thinking based on experience, reinforcing their belief in their ability to bring about change. Dewey focused on five domains pertinent to the critical pedagogy of community learning: experience, democratic community, social service, reflective inquiry, and education for social transformation.[128] Besides prioritising theoretical and experiential learning, the above strategy promotes interconnected knowledge.[128] Dewey's viewpoint was founded on progressive education, firmly entrenched in methods to reconstruct experience to foster a democratic society and civic responsibility.[128,131]

Building on Vygotsky and Cole's[132] perspective, understanding the impact of cultural forms and meanings on learners is paramount, especially in culturally diverse communities. As highlighted in literature, cultural mediational processes are embedded in social experiences and can aid in transforming basic cognitive skills into more complex cognitive functions.[133] Thus, paramedic educators in South Africa must be cognisant of the cultural factors that influence their students' learning experiences.

Dewey's perspective on social justice, according to Graham[134], focuses on interdependence, positive growth opportunities, social rights and opportunities, and society's well-being. By engaging in community learning contexts that address social problems, students encounter opportunities for engagement in reflective thinking and for considering the consequences of their action, which Dewey referred to as "the forked-road dilemmas".[135] According to Saltmarsh[128] the practice of reflective inquiry

allows students to transcend the boundaries between thought and action, theory and practice, knowledge and authority, as well as ideas and responsibilities. Reflective inquiry allows for creating meaning from associated experiences, which is critical in developing complex cognitive functions.[134,136]

Furthermore, Slaughter[137] noted that technology dominates students' social lives and can be leveraged to foster engagement and learning. However, Shyman[131] pointed out that while Dewey's progressive education tradition emphasises social responsibility and democracy, cultural concerns were underrepresented in his work. Scholars argued that the "multicultural" paradigm, which emphasises the impact of local culture on knowledge of community engagement, was not adequately explored.[131,138,139] In light of these perspectives, it is crucial for paramedic educators in South Africa to not only leverage technology but also to consider cultural factors and engage with the multicultural paradigm to foster inclusive and effective learning experiences.

2.3.2 Kolb's experiential learning theory

To ensure that paramedic students develop the necessary skills and knowledge, educators must adopt effective teaching strategies that cater to the diverse learning needs of students.[140] Another such approach is Kolb's experiential learning theory, which posits that learners construct knowledge and understanding through active engagement with their environment and experiences.[142] This theory emphasises the importance of practical, hands-on experiences in learning and has been widely applied in various educational settings, including healthcare education.[141]

Undergraduate paramedic education teaches students the knowledge, skills, and attributes necessary to deliver competent and compassionate patient care.[140] Ross et al.[141] argued that internationally, current paramedic training is increasingly shifting toward teaching a biopsychosocial approach to patient care that recognises the need to treat patients holistically. Additionally, Kolb's experiential learning theory asserts that students learn and develop attitudes most effectively when they are in touch with reality and gain contextualised experience.[142,147]

According to Kolb's[143] perspective, student learning is perceived as a personal encounter that involves the process of reflection, the reconstruction of acquired knowledge, and the application of newly acquired knowledge to future scenarios.

Some scholars asserted that health science education is based on Kolb's experiential learning theory, which suggests that students' learning progresses through their personal experiences in the learning process.[29,144] As individuals advance in their educational and vocational pursuits, they become accustomed to the notion of assuming the role of a healthcare practitioner. Experiential learning seeks to offer a range of experiences because of the nature of the paramedic profession, which necessitates the capacity to deliver emergency care across multiple healthcare situations and settings. Some scholars assert that the practical exposure of paramedic students to diverse real-world environments offers students more opportunities for reflection and, subsequently, for learning.[29]

Kolb[142] has elucidated four distinct learning styles, visualized through a diagram in Figure 3. The horizontal axis illustrates the process continuum, which extends from Active Experimentation (AE) to Reflective Observation (RO). Meanwhile, the vertical axis represents the perception continuum, with Concrete Experience (CE) embodying an emotive learning approach and Abstract Conceptualisation (AC) reflecting a cognitive orientation. Combining these two axes generates four quadrants correspondingly.

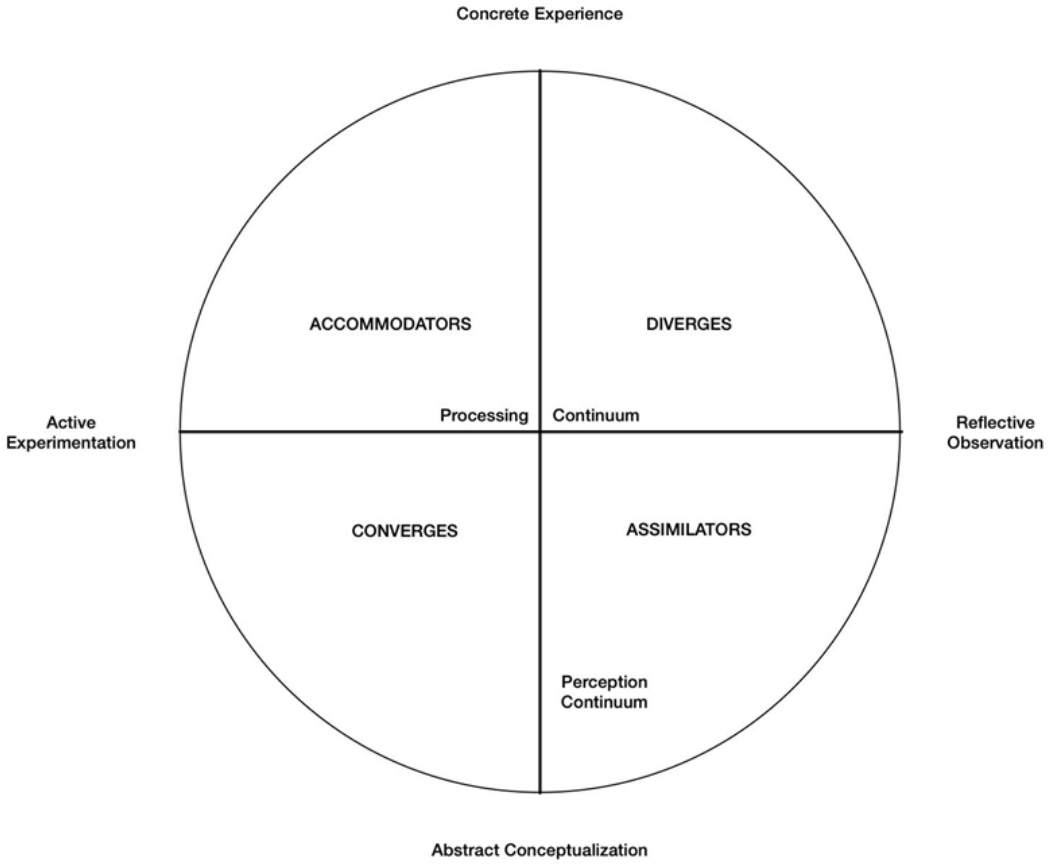

Figure 3. David Kolb's[145] experiential learning cycle

Kolb's[145] experiential learning theory offers a valuable framework for paramedic education, particularly in the realm of community engagement. The theory encompasses four distinct learning styles, namely Diverger, Assimilator, Converger, and Accommodator, which combine Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). Within the process of educating paramedic students, AC represents the cognitive processes involved in theoretical thinking. This leads to the AE phase, where students actively apply their acquired knowledge to formulate strategies for task achievement, commonly referred to as the "doing" phase.[146] The outcome of these tasks, whether positive or negative, constitutes the CE or experiential phase of learning.[147] This learning cycle is continuous and cyclical, with students frequently transitioning between the different phases based on their specific learning requirements. In the context of paramedic education, the extent to which students are willing to engage in concrete experiential learning activities directly influences their level of active experimentation and learning.

Conversely, the level of exposure to guided reflection during the paramedic students critical thinking process determines the extent of RO and AC. It is important to note that the extent of reflective learning is influenced by various external factors, many of which are beyond the control of paramedic students. Therefore, it is crucial for paramedic lecturers to actively facilitate and support students' reflective practice.[147] By applying Kolb's experiential learning theory, paramedic educators can develop effective instructional strategies that promote active engagement, reflective thinking, and meaningful learning experiences in the context of community engagement.[141]

Despite the effectiveness of Kolb's learning dimensions, Jarvis[148] criticised Kolb's learning dimensions for not thoroughly exploring the nature of knowledge and how it relates to learning processes, despite their demonstrated effectiveness. Scholars argued that Kolb's experiential learning theory emphasises the production of knowledge through experiential learning, in contrast to critical pedagogy, which prioritises informed and committed action.[148,150] This difference in priority may be attributed to the fact that Kolb's theory focuses on the cognitive aspects of learning, whereas critical pedagogy emphasises the social and political dimensions of knowledge production. Furthermore, Schneider[151] argued that the success of Kolb's experiential learning theory in real-world learning environments requires collaborative efforts from students, peers, academics, and the community to foster the development of new insights and understandings. Despite the criticism, Williams[125] concluded that, through the cyclic process of reflection, community engagement could foster critical thinking skills and strong relationships, which contribute positively to local communities and society. These findings have important implications for paramedic students in developing higher order thinking skills in student learning.

Given the significant role of community engagement partnerships in facilitating effective learning, the subsequent section of the literature review delves deeper into the analysis of Freire's critical pedagogy and Mezirow's transformational learning theories.

2.3.3 Freire's critical pedagogy

Paramedic education can benefit from applying critical pedagogy, which emphasises the need for students to critically reflect and analyse social issues to promote social change and social justice. Freire's critical pedagogy strategy has been lauded for promoting critical thinking and empowerment among students.[152] Scholars asserted

that central to this approach is contextualising education in students' lived reality through community engagement, as highlighted by the emphasis on praxis, power balance, and conscientisation.[131,153-155] To facilitate these transformative learning processes, Freire advocated for two pedagogical approaches, dialogue and problem-posing.[156-159] The emphasis on community engagement and recognising power imbalances in society are particularly relevant to the paramedic profession, which often involves serving marginalised communities.[160,161]

Some scholars have emphasised the importance of humility and respect as essential attributes in health education.[44,45] Empowering students to think critically and reflect on their own experiences can transform society, resulting in social connection and shared accountability for the learning process.[154] Building on this notion, Freire[157] proposed a problem-solving methodology that consists of three fundamental stages. These stages entail the identification and categorisation of the issue as "problematising," an analysis of its roots, and the pursuit of resolutions. To commence the initial phase, it is imperative to actively involve oneself with communities and acquire knowledge regarding their main challenges and difficulties.[158] In the process of analysing origins, partners evaluate generative themes to understand and analyse the fundamental underpinnings of the issue at hand.[154-156] During the final phase, all the collaborators work together to identify and implement effective approaches for resolving the issue at hand.[162]

Scholars asserted that Freire's approach serves as a strategy for people-centred community-oriented collective action and pedagogical techniques and learning methods.[163,164] On the contrary, some authors caution that the approach to teaching people-centred, participatory community engagement may be fraught with difficulties.[165,166] Therefore, facilitators who adopt Freire's methodology are encouraged to receive training to effectively apply theory in a participatory, experiential learning manner.[167]

On the other hand, Díaz[168] proposed that the applicability of Freire's pedagogical theories may not be easily transferable to other global communities. Similarly, Sanders[169] criticised Freire's view of human nature for ignoring cognitive rationality and emphasising collectivism over individualism. Such a perspective was seen as a limitation, especially in person-centred research that values participants' uniqueness.

Despite these critiques, Freire's approach to community education and practice has influenced scholars worldwide.[170-176]

The incorporation of critical consciousness and reflective practices within the pedagogical framework is imperative for fostering a transformative shift in the outlook of students engaged in community-based learning.[177] This instructional approach encompasses a problem-solving strategy encompassing the identification and delineation of the problem, scrutiny of its underlying roots, and the collaborative pursuit of viable solutions. By integrating these elements, educators can effectively nurture a mindset that encourages critical inquiry and active engagement in addressing societal challenges within the paramedic profession.[177] Therefore, adopting a Freirean approach to dialogue in community engagement can help paramedic lectures and students to build mutual trust and facilitate open communication, leading to a deeper understanding of reality and a willingness to rectify injustices.

2.3.4 Mezirow's transformative learning theory

The theory of transformative learning posits that adult learners undergo a cognitive shift in their frame of reference, resulting in a shift in their thought processes.[178] At the core of this concept is the notion that learners have the ability to reinterpret and derive meaning from their sensory experiences, a fundamental aspect of the transformative learning process.[179] Mezirow[179] further contends that this process involves an orientation that prioritizes the interpretation and reinterpretation of sense experience, which facilitates learning.

Within the above context, scholars concurred that transformative learning transpires when medical students gain novel insights in community-based settings, engage in critical introspection, scrutinise their pre-existing viewpoints, and acknowledge the transformation of their worldview through comprehensive patient care.[180] All of these interpretations of transformative learning are paramount attributes for paramedic education in community engagement.

As part of the core concepts of transformative learning theory, Mezirow[181] posited that transformative learning takes place in one of four dimensions, namely expanding on current frames of reference, learning new frames of reference, shifting points of view, or transforming mental attitudes. As a result, transformational learning requires

changing students' unreliable way of thinking and shifting their paradigm to create ideas and conclusions that are logical and reasonable.[181]

Cranton[183] suggested that transformative learning challenges individuals' existing beliefs and values, making them more transparent and validated. Kiely[184] added that the outcome of transformative learning empowers students to be more socially responsible, self-directed, and less reliant on erroneous assumptions. Hence, transformative learning requires a paradigm shift in which learners question their prior knowledge and consider multiple perspectives to gain new insights.[183]

As such, Mezirow[185] identified ten stages of transformative learning that delineate ten distinct stages crucial for the cognitive and affective processes required for transformative learning. These stages guide students to navigate the complex and often challenging process of transforming their beliefs, attitudes, and values. Through self-examination, critical assessment of assumptions, and exploration of new options, students can redefine their beliefs and develop an action plan to integrate these changes into their daily lives. This framework is essential for educators, as it provides a valuable tool to facilitate transformative learning in the classroom and beyond.[185] The author further asserted that transformative learning is a process of personal growth and development that involves questioning deeply held assumptions, learning new ways of thinking and acting, and ultimately transforming one's understanding of themselves and the world around them.[185]

According to Taylor and Wendland[182] medical education programmes tend to prioritise technical proficiency and clinical knowledge over cultural competence, which is often overlooked. As a result, these authors introduced the term "hidden curriculum" to refer to the implicit and unarticulated values, beliefs, and assumptions that are conveyed to students through the educational process.[182] Hence, it is imperative for paramedic education programmes to prioritise the inclusion of cultural competency training in their curriculum to equip students with the necessary skills to deliver high-quality care to patients from diverse cultural backgrounds.

Critiques of Mezirow's transformative learning theory have highlighted its prioritization of cognitive and rational aspects over emotional and social domains and its insufficient attention to power relations and social inequalities.[186] Despite the criticism, Mezirow's transformative learning theory continues to influence learning in higher

education praxis across several disciplines and remains a relevant theory to paramedic education as part of the broader medical education field.[124,178]

In conclusion, the theories of Dewey's social learning, Kolb's experiential learning, Freire's critical pedagogy, and Mezirow's transformative learning provide unique perspectives on community engagement and paramedic education. Each theory has its strengths and limitations in addressing the complexities of community engagement. Dewey emphasises experiential learning and community involvement, while Kolb stresses the importance of reflection and feedback. Freire's critical pedagogy emphasises social justice and liberation, while Mezirow's transformative learning focuses on personal transformation and critical reflection. While each theory has limitations, a multi-theoretical approach that integrates the strengths of each theory can provide a more comprehensive framework for community engagement and paramedic education.

Following the comprehensive review of core theories pertaining to community engagement in higher education the subsequent section delves into an investigation of international frameworks that have been developed to guide and support community engagement initiatives in higher education institutions.

2.4 Community Engagement in an International Context

Within the international context, the advancement of community engagement has reached varying results and successes globally.[4] Consequently, the historical differences, socio-economic backgrounds, and individual countries' marketisation factors played a pivotal role in transforming the higher education agenda towards community engagement.[187] Furthermore, community engagement initiatives gained popularity in higher education, as seen by systematic attempts to shift the university's focus toward social responsibility and justice via policy frameworks, as reported in the international literature.[6,106,188]

Several scholars have asserted that Canada, the United Kingdom, the United States of America (USA), Ireland, and Australia have recognised the potential of community engagement as a tool for significant change in knowledge production and transfer in meeting the rapidly changing needs of communities; in addition, they have also realised the significance of context-based education and the contextualisation of teaching, learning, and research.[41,105,106,189,190] Despite Farnell's[187] criticism that

community engagement in Europe has developed more slowly than in the USA, increasing socio-economic and political challenges have compelled higher education policy to become more accommodating to societal needs. These changes present a fertile opportunity to reconcile the dichotomy between global market pressures and rising social challenges that characterise university agendas in Europe.[187]

Hall[92] affirmed that community engagement is deeply entrenched in Canadian higher education, viz. service learning, community-based research, community-based education and health promotion. Fletcher[191], on the other hand, criticised Hall's claims by highlighting the deviation of community-based continuing education from its core purpose of social justice and recommending that community-based research (CBR) could reverse the divergence from social justice.

In a recent study, Bhatnagar et al.[105] argued that although many higher education students in India participate in community-based volunteer activities, such as teaching marginalised communities, there was disjointedness between knowledge production by higher education institutions and its application at a community level. On the contrary, compelling findings emerged from a community-based study conducted by Ventakatchalam and Memon[192] in the slums of Mumbai during the COVID-19 pandemic. The study concluded that the socioeconomic characteristic of a community influenced community engagement. Furthermore, the communities developed both formal and informal networks, which they relied on during the crisis, and these were vital for successful community engagement initiatives. Moreover, the initial community needs evolve and change over time as they are addressed; therefore, the roles of stakeholders must continuously adapt. More interestingly, the study showed that communities wish to maintain their sense of autonomy, dignity, and self-reliance even in times of crisis.[192] Similarly, Singh[193] highlighted that community-university engagement impacts students, academics, and researchers with stakeholders for mutual benefit through contextually relevant research for social justice and empowerment.

Furthermore, Jacob et al.[41] asserted that community-based learning has gained increasing support in China due to community engagement exposure of Chinese students studying abroad and returning to China. According to Volet and Jones[194], local Chinese universities have become more globalised, and their students have

become more aware of community engagement universities to increase their human and institutional resources to enhance community engagement in higher education.

On the other hand, traditional forms of volunteering have minimal influence on students' behaviour and attitudes at Chinese institutions.[195] In a broader perspective, Yang et al.[196] argued that community engagement was influenced by the socio-political system, favouring a top-down approach through the governing political party. Moreover, civic engagement differed significantly from institutional practice and was referred to as "alienation of civic engagement".[196] Scholars assert that the government uses civic engagement as a tool to maintain regime stability rather than in response to citizen demands and higher education expansion on civic activities among college students is under-researched. [195,196]

In contrast to the Western higher education system, African universities embraced the holistic philosophy of learning through traditions, whereby educators from different fields of wisdom passed their experience and trained selected community members as apprentices.[58] Although the colonial status quo and agenda historically hampered the development of an African approach to community engagement in most universities, indigenous knowledge and approaches steadily gained a stronger momentum. With the support of the United Nations Educational, Scientific and Cultural Organisation, the formation of the Association of African Universities in the 1960s gave rise to the “Africanisation” of university curricula, which directed the agendas of universities toward community developments.[58]

In Africa, unlike in countries of the First World, community engagement and the participation approach were utilised effectively in health promotion campaigns.[109] Andrus and Perry[197] described how using community structures helped to alleviate anti-immunisation rumours and stigma in Nigeria during polio vaccinations. Duru et al.[198] illustrated the use of volunteer community mobilisers to maintain high vaccination coverage, promote vaccination, conduct community meetings, and monitor compliance. The above strategy was instrumental in improving household immunisation acceptance.[109] Scholars argued that the success of community participation relied on the careful selection of credible community leaders who were willing to act as "caretakers of their community actively".[197] Despite the literature reporting significant efforts at the individual university level in Latin America,

Australasia, and India, coherent community engagement policy frameworks and university-level implementations remains a challenge.

Bedson et al.[199] affirmed that communities must be treated as critical and equal partners in any health crisis response, and they must be able to implement a change in deeply rooted traditions and indigenous practices in response to a disease threat; therefore, community engagement must be an integral part of any planned and organised health response. During the Ebola outbreak in Sierra Leone in 2014, the success of the health response was primarily attributed to the training, remuneration, support, and supervision of mobilisers and other frontline community workers. Moreover, effective coordination and two-way communication were raised as crucial lessons to prevent miscommunication.[199] Interestingly, the complexities of community power dynamics, biosocial factors, structural determinants, and stakeholders' roles should not be undermined when implementing community initiatives and programmes.[200] On the contrary, scholars also pointed out that considering such factors should not become an impediment when a large-scale immediate response to a health crisis is needed. In the said study, the community was framed around the geographical location as well as the representation of shared values, beliefs, and assets.[199]

2.4.1 International commitment to community engagement

Community engagement is crucial for well-functioning democracies in the 21st century due to the increase in broadening and deepening public engagement worldwide.[4] McMullen et al.[201] argued that community engagement is not only desirable but also necessary and feasible due to the likelihood that it will result in more equitable, sustainable public decisions and enhance the liveability of local communities when there are positive relationships between communities, universities, and the government.

The sustainable interest in community engagement internationally has resulted in a host of international conferences, several published manifestos, and the formation of numerous foundations and community engagement bodies as a declaration of commitment to community engagement by participating countries.[202] Due to their impact on global development and the promotion of community engagement, several associations and organisations have been highlighted in the literature. For example, the Carnegie Foundation, which was established in the United States, has been

lauded as a leading proponent of community engagement for developing accreditation criteria, which enhances the credibility of an accredited institution's commitment and thus attracts more funding, students, and local development.[6] In addition, Bhatnagar et al.[105] asserted that multiple international organisations, including the Talloires Network, are dedicated to enhancing the civic roles and social responsibilities of higher education institutions. These scholars, however, claimed that higher education institutions should not be isolated from the communities in which they are located. Similar sentiments were echoed in the United Kingdom by O'Connor et al.[106], who maintained that higher education institutions and communities require mutual learning for the purpose of civic engagement.

Furthermore, Trede and McEwen[189] claimed that the majority of Australian universities have committed to community engagement through the "Engagement Australia" association of Australian and New Zealand universities to address community needs and form networks that promote effective practice. Jacob et al.[41] substantiated evidence of further international associations and organisations committed to promoting community engagement, including the Canadian Association for University Continuing Education, the Participatory Research Initiative in Asia, and the Global Alliance on Community-Based Research.

Whilst there are different ways to engage a community, the literature describes foundational models and frameworks for community engagement in higher education internationally.

2.5 International Frameworks for Community Engagement in Higher Education

In recent decades, scholars have formulated multiple models and frameworks for community engagement, providing a range of interpretations for the engagement between universities and communities in higher education.[61,106,203] These models aim to incorporate engagement activities into the core of academic work, alongside teaching and research. Similarly, Benneworth et al.[6] claimed that universities embrace three key pillars, namely teaching, research, and engagement with external communities, and these are frequently used to illustrate the organisational embeddedness of university–community engagement. To further explore this topic, this study will discuss the frameworks of two scholars Boyer[106] and Hazelkorn [203] who

made significant contributions to the field of community engagement. Both frameworks are highly relevant to the current study, and their relevance will be explained in more detail in the following sections.

2.5.1 Boyer's conceptual foundation for community engagement

Boyer's model of the scholarship of engagement has been widely acknowledged as an influential framework for advancing community engagement within higher education.[106] In the context of paramedic education, community engagement is vital to ensuring that future paramedics are equipped with the knowledge and skills necessary to provide high-quality care that meets the needs of the communities they serve.[39] Boyer's model of the scholarship of engagement has contributed significantly to the conceptualisation of community engagement in higher education, particularly within the context of health science education.[204] As outlined in Chapter 1, Boyer's model challenged the traditional view of academic work by proposing four interrelated dimensions of scholarship: discovery, integration, application, and knowledge sharing, all connected through the scholarship of engagement (Figure 4).[57] These dimensions emphasise the importance of engaging with external communities to address critical social, civic, and health issues, which are particularly relevant to the education of emergency medical care practitioners. The following section will discuss these dimensions in more detail and explore their implications for paramedic education.

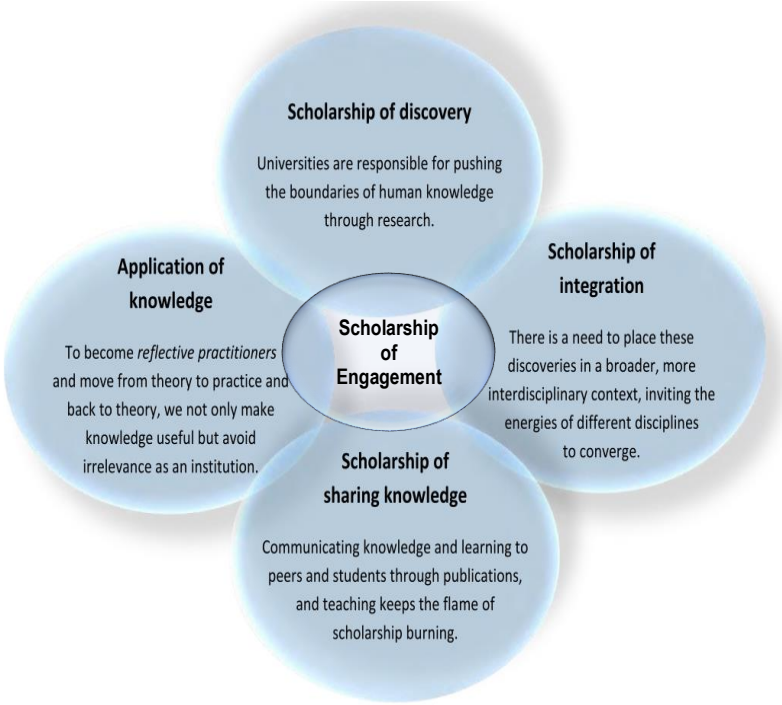

Figure 4. Boyer's model of scholarship of engagement

(adapted from Boyer[57])

The pursuit of new knowledge and the *scholarship of discovery* ignite enthusiasm for pushing the boundaries of new knowledge by discovering new outcomes and processes.[204] *Scholarship of integration* means linking new knowledge to existing forms of knowledge and also contextualising new knowledge in terms of intellect and society at large, thereby creating new connections between disciplines and professional fields.[14,57] *Scholarship of application* is crucial to how new knowledge can be applied to address social issues in a dynamic process, specifically in health promotion.[53]

Scholarship of teaching denotes the pursuit and development of new methods of knowledge transfer and communication. In addition, under the scholarship of engagement, this knowledge must also be transformed and extended.[59] Lazarus states that under this perspective, the roles of the teacher and learner merge into a community of learning, which includes community members, students, academics, and service providers.[14] Pape[204] adds that teachers become intellectual role models and mentors.

Internationally, the scholarship of engagement model articulated by Boyer[57] has been a long-standing field of endeavour for higher education academics and students; moreover, several higher education institutions have modified and adapted it as a model for community engagement.[6,14,106]

Boyer[61] emphasized that the essence of academic work is a commitment to the public application of knowledge to contemporary societal issues. In response to Boyer's work in the late 20th century, the academy began to reflect seriously on what it means to be a scholar and on the institutional structures and policies that would support and reward engagement.[81] Ultimately, if institutions are to remain relevant in the social, political, and economic context of the 21st century, the structures that prioritise reward and thus define academic work must change to include more engaged teaching and research.[81] Boyer's model highlights the importance of linking academic knowledge with practical application to address contemporary societal issues, making it a valuable tool for fostering community engagement in the context of paramedic education. Boyer's model served as a theoretical basis for data analysis of this study and to develop the framework to guide community engagement in emergency care education. While Boyer's model has served as a fundamental theoretical framework for the present study, it is important to acknowledge the relevance of Hazelikorn's Framework in the context of community engagement within higher education.

2.5.2 Hazelkorn’s framework for community engagement

Community engagement is increasingly recognised as an important aspect of higher education institutions' engagement with society.[6] Hazelkorn's framework has been developed to evaluate and assess the impact of such engagement, focusing on four interconnected dimensions of institutional effectiveness: resources, profiles, processes, and outcomes.[203] By applying this framework, paramedic students can develop valuable skills and knowledge to understand better and respond to the healthcare needs of the communities they serve. The knowledge economy paradigm and socio-economic challenges have contributed to the growing emphasis on the value of community engagement in higher education.[79] As such, institutions are placing greater emphasis on the diversity of goals, strategies, and activities to address the needs of their communities.[203] Pinheiro and Stensaker[205] argued that such changes have led to higher education institutions "opening up" to a broader range of stakeholders and attempting to forge new partnerships to enhance and show their

contribution and influence to replace their reliance on state and public government funding.

Consequently, greater emphasis was placed on the diversity of goals, strategies, and activities, as well as the value of community engagement in higher education.[206] Whilst initiatives that connect the university to society are not new, community engagement in higher education found novel means of articulating and shaping how higher education engages with and coordinates its interactions with the broader society.[6] In this context, Hazelkorn[203] distinguishes three engagement strategies based on three broad ideologies or perspectives, namely: *social justice, economic development*, and *the public good*, which are discussed further in the sub-sections below.

2.5.2.1 Social justice model

Hazelkorn's social justice model promotes equality, diversity, and inclusion in higher education institutions.[203] Benneworth et al.[6] asserted that the social justice model focuses on addressing social disadvantages and places emphasis on students, service learning, and community empowerment. Within this context, community engagement is delivered as an integral part of the curriculum, and university policies promote and reward community-based research, learning, and volunteering. Therefore, the emphasis is less on the instrumental use of community participation to achieve a particular goal and more on the empowerment and development of the community itself.[207]

Brunton et al.[109] added that community empowerment is central to social justice concerns and the promotion of social change by encouraging public participation, negotiations, influence control and balance of power. Brunton et al.[109] also contended that community empowerment, as a social justice approach, was desirable, equitable, and addressed some of the social determinants of ill health, and thus resulted in improved health and equitable access to health. From the position of social justice, community members are encouraged to select their own service resource allocation priorities and methods.[208]

O'Mara-Eves et al.[208] highlighted that while improvements in health may be the ultimate objective, the social justice agenda is also concerned with redressing deficiencies in power, democracy, and accountability. As an opposing trend, the effect

of rising globalisation and dependence on knowledge economies worldwide has translated the “third mission” for economic development and transformation of universities into entrepreneurial institutions, representative of the economic development model discussed in the following section.[209] Applying the social justice model to paramedic education and community engagement is vital in fostering the development of essential competencies and values required for paramedic students to become compassionate and socially responsible healthcare professionals.

2.5.2.2 Economic development model

The economic development approach emphasises economic growth, technology transfer, and regional business partners prominent in First World countries such as the USA. It seeks to coordinate engagement with the technology transfer office or other roles, including a business engagement. Therefore, a university with such a mission likely prioritises entrepreneurial activities, such as leadership, staffing, and business networks.[6]

In the context of this model, Hazelkorn[203] argued that the economic and political climate has recently altered the policy imperatives surrounding higher education, research, and all other public services. Additionally, related authors further maintained that increased concerns about cost efficiency and return on (public) investment are becoming more prevalent, which has led to growing government control over higher education and research institutions.[18,203,210]

Moreover, in addition to claiming that there is less public tolerance for academic privilege and self-promotion, Enders[211] also highlighted a widespread decline in public trust in higher education. Whereas higher education institutions historically “had a sense of shared intellectual purpose, bolstered by the security of centralised funding and control”, their environment became “more complex, fluid and varied”.[212] Consequently, Hazelkorn[203] pointed out that higher education must react to a broadening and expanding variety of objectives, as such a change of focus was frequently seen as a rise of capitalism and a betrayal of university interests. The final sub-section of section 2.5, which follows next, focuses on various community engagement models and frameworks to unpack the public good model.

2.5.2.3 Public good model

The public good model advocates a deeper, transformative outcome of community engagement coupled with teaching and research. Due to its integrated nature between research, learning and community engagement, this approach is not as notable in international literature and case reports.[6,18,203] The public good model emphasises a more profound goal for transformation, which necessitates holistically embedding engagement in both mission and governance and integrating engagement with teaching and research.[213] This paradigm promotes an organisational matrix with an increased focus on integrating teaching and research activities within the universities.[18,203,210] This implies that the university fosters cross-team collaboration and shared resource planning across projects.

Cases of university-community engagement under this paradigm show a comprehensive approach, recognising cooperation and collaboration, student access and achievement, community development and revitalisation, discovery and innovation in teaching and learning, as well as research that enriches knowledge resources that promote growth in higher education and communities where universities are geographically located and operate.[203]

Detractors of the public good model raise a valid point by highlighting a potential limitation in asserting that universities are intrinsically geared towards serving the public good. Their criticism centres around the notion that the concept of public good, as commonly understood, excessively aligns with the economic development paradigm, disregarding the historical and cultural underpinnings that underscore education's broader and inherent societal significance.[214–216] Some authors argue that the increasing emphasis on the economic development function of higher education has resulted in its alignment with corporate values and profit-oriented objectives, thereby deviating from its perceived role as a public good.[137,203] Furthermore, literature highlighted that the university functions as a "public sphere," serving as a space for open dialogue, collaboration, and the generation of critical perspectives to pursue the public good.[217]

Similarly, Delanty[218] argued that “the central task of the university in the twenty-first century is to become a key factor in the public sphere and thereby enhance the democratisation of knowledge”. According to Bergan et al.[219], democratic society and higher education are intrinsically linked by their dedication to the common good. This

role is frequently underscored by transitioning to the contribution of higher education as "anchors of stability and growth in their communities". The varying views regarding the purpose, role, and attributes of higher education reflect the many interpretations of the public good paradigm.[220]

The following section unpacks the different knowledge production paradigms and how they have evolved in higher education. Central to the argument is that higher education institutions are responsible for equipping their graduates with relevant and adequate skills for the world of work. Knowledge production via community engagement in higher education is thus discussed next.

2.6 Knowledge Production Community Engagement in Higher Education

In a continuously evolving global environment and world where a knowledge-based economy is the hallmark of advanced societies, higher education institutions are more than ever pressed to equip graduates with the knowledge and skills necessary to thrive in a multidimensional society in an environment that is always evolving.[79,221] In addition, Albertyn and Daniels[79] proposed that universities are meant to empower students to make educated, responsible decisions and to learn to collaborate with the goal of contributing to the development of society. This need necessitates significant shifts in the development of new institutional cultures in universities through novel modes of teaching and learning, research, and community engagement.[79] Similarly, Janke et al.[222] stated that to effectively meet evolving student demands, institutional regulations should incentivise the faculty to engage in non-traditional teaching, research, and service activities and that scholarly output should reflect the fluidity of knowledge production contextual to current societal needs.[222] Additionally, at the core level, higher education institutions have a crucial role to play in addressing societal needs, and, as socially responsible institutions, they have the potential to eliminate inequalities in societies.[223]

Within the above context, the conceptualization and contextualization of knowledge have expanded from traditional notions of knowledge creation and production, described as Mode 1 and Mode 2, into notions of innovation, application, diffusion, and use, collectively classified as Mode 3 knowledge.[107,221] Furthermore, globalisation has shaped the university community engagement agenda within higher education toward social responsiveness and responsibility, which are also integral principles of a knowledge society and knowledge production, specifically

Mode 2 knowledge, which extends into transdisciplinary, social and economic contexts, and requires engagement with governmental entities and local communities.[107,224] Hessels and van Lente[225] posit that rather than replacing Mode 1, Mode 2 supplements Mode 1 knowledge. According to Carayannis et al.[221], university-based research is a form of knowledge production and innovation as a form of knowledge use within a more universal knowledge architecture.

In this sense, Mode 1 knowledge production represents the traditional understanding of research framed within the academic context and a specific discipline, which occurs within a homogenous group of researchers. Criteria for quality control are established only by the research community. Consequently, the dissemination of newly produced knowledge and its application context are frequently ignored, and there is little communication between researchers and the intended users of the research outputs.[224,226]

The Mode 1 knowledge production paradigm was later challenged by the new concept of Mode 2 knowledge, which is more closely related to the conceptualising principles of university-community engagements.[224] In contrast to Mode 1, Mode 2 places emphasis on the application of knowledge and knowledge-based problem-solving within various social and economic contexts. Furthermore, the concept of Mode 2 knowledge production is underpinned by five principles, viz: “knowledge produced in the context of application”, “transdisciplinary”, “heterogeneity and organisational diversity”, “social accountability and reflexivity”, and "quality control”.[226–228] In this vein, Wilson[47] claimed that within Mode 2, knowledge production was not only becoming a “more open system”, which has been the result of radical changes in the structure and functioning of higher education institutions due to growing globalisation and increased access to higher education but also involved greater engagement with local communities and governments.[47] Mode 2 knowledge is thus relevant to community engagement in that its construction extends beyond a specific discipline and considers the context of the broader society, economy, and community. More importantly, Mode 2 knowledge is generated at the interface of the community and university.

In addition, Carayannis and Campbell[229] introduced the Mode 3 concept, which is viewed as a radical rethinking of knowledge production. Mode 3 is a multi-layered system that is regarded as an extension of the Mode 1 and Mode 2 knowledge

production system in that Mode 3 combines and integrates different principles of knowledge production and knowledge application (for example, Mode 1 and Mode 2), thus promoting diversity and heterogeneity and also creating innovative organisational contexts for research and innovation.[221] The key feature of Mode 3 knowledge is the pluralism of various knowledge paradigms, which not only co-exist and co-evolve but also encourage hybrid thinking. The advantage of the latter is that it encourages the formation of "creative knowledge environments".[230]

Mode 3 knowledge places importance on higher-order learning processes and dynamics. This improves metacognitive thinking and allows communities and higher education institutions to communicate and engage with one another in order to attain a more pragmatic approach to societal concerns.[229,230] These scholars emphasised that Mode 3 provides a deeper and more robust connection of vision with reality and helps reaffirm students' socio-economic and socio-political understanding.[221]

Albertyn and Daniels[79] argued that the transition from Mode 1 to Mode 3 in knowledge production has ramifications for higher education institutions' policy formation and for academics' mission-conscious scholarship in higher education. The implications of globalisation for development, especially in the politico-historical South African context, have raised the necessity of responding to the communities where higher education institutions are located.[79] At the same time, developing nations face the additional burden of adapting to global developments while still dealing with the difficulties resulting from poor solutions to past challenges.[223]

Having reviewed literature that discusses community engagement in the international context and deliberated various frameworks and models of community engagement relevant to this study, the focus now shifts to exploring literature dealing with community engagement in the South African context.

2.7 Community Engagement in Higher Education in South Africa

In South Africa, the transition into a democratic country in 1994 exposed the unravelling of historical threats to social justice within higher education institutions. Consequently, the Department of Higher Education and Training called for institutions to redress past inequalities and "transform the higher education system to serve a new social order" in a way that redirected its purpose towards society and development.[231] As a result of apartheid in South Africa, poverty, poor human socio-

economic development, and an increasing healthcare burden that provides additional responsibilities challenges local higher education institutions to restructure their practices to be socially responsive to community needs.[19]

The White Paper on the Transformation of Higher Education[11] mandated universities to restructure their teaching, learning, and research practices to be more socially responsive to the broader society and democratise knowledge production. In this vein, Bidandi et al.[232] posit that community engagement is about social responsibility, wherein the university seeks to respond to the real needs of their communities through the provision of intellectual leadership in areas of community interest while offering resources and facilities for community use and collaborating with them to achieve mutually productive outcomes.

Furthermore, the Higher Education Quality Committee has put forth a foundational definition of community engagement, which encompasses the activities and processes through which an institution leverages its expertise in teaching and research to address significant community issues effectively.[102] This definition is elaborated upon in the section dedicated to the conceptualization of community engagement. In South Africa, the framework for institutional audits stipulates a quality strategy that "includes fitness for purpose, value for money, and individual and societal transformation under an overall framework for fitness for purpose".[102] Consequently, the framework stresses the aims of the White Paper regarding the purpose of higher education institutions and their civic obligation not just for the social reform of the nation but also for the transformation of communities.

Additionally, the framework further emphasised that institutions must fulfil the criteria for instituting and integrating community engagement within an academic activity.[47] In 2004, the Council on Higher Education specified minimal community engagement criteria as part of programme accreditation criteria.[102] These criteria prescribe translating the mission into a strategic plan and integrating quality-related priorities into the institution's core teaching and learning functions, research, and community engagement.[102] Consequently, it is imperative to formalize quality-related arrangements for community engagement that are intricately connected to teaching and learning processes. These arrangements should be equipped with sufficient resources and subjected to appropriate monitoring mechanisms.[42,102]

Despite all the national documents and initiatives, there is still the perception that community engagement is merely an "add-on, nice-to-have, and philanthropic activity" and does not take the form of community engagement as stipulated by the above-mentioned intended outcomes.[40,233] In line with this, Maistry and Lortan[234] supported this statement and proclaimed that community engagement has not yet been fully recognised, accepted, and integrated into academic activities by all traditional universities in South Africa. The authors highlighted that some disciplines, specifically science-related programmes, query the significance of community engagement for students, academics, and communities.[234]

Following the White Paper on Higher Education, the Ford Foundation established the Joint Education Trust non-profit organisation to promote pilot research programmes initiatives and feasibility studies to explore the potential of community engagement in South Africa. [22] The Joint Education Trust, through its research, revealed that while most higher education institutions' mission statements included the concept of community engagement, operational policies to guide community engagement were lacking.[119] Furthermore, rather than community engagement being a deliberate institutional strategy, innovative students and faculty members initiated a variety of community service projects at higher education institutions. On the contrary, where projects incorporated all three functions of higher education, namely teaching, research, and partnerships with communities developed, the benefits were substantial.[22,119]

Subsequently, the establishment of the South African Higher Education Community Education Forum (SAHECEF) in 2009 aimed to champion, advance, and enhance community engagement within South African institutions.[112] Its primary objective is to foster community involvement at universities by collaborating with all stakeholders and emphasizing the fundamental role of community engagement in the mission of higher education.[112]

More recently, a recent local study claimed that community engagement is in its infancy stage, and few South African institutions have commenced making significant efforts to integrate community engagement into their core mission.[19] The study stressed the importance of community-based teaching and learning, transdisciplinary research, community collaborations, and a dedicated community engagement office as important elements of institutionalising community engagement. In addition, the

importance of institutional support and the incorporation of community engagement into the mission and policies of a university would undoubtedly serve as the pillars from which community engagement activities can flourish.[19]

Consistent with this perspective, Bidandi et al.[232] contended that community engagement has grown into an essential element of higher education in South Africa. The study's findings revealed that community engagement required the establishment of institutional links across various departments, which were quickly lost when engaged individuals left. Additionally, the results showed that community engagement is essential for promotion and policy development. Furthermore, Memorandum of Understanding issues takes time, putting students and researchers at a disadvantage. Additionally, the data revealed that there is no uniform procedure for community engagement, as departments, lecturers, and students all have distinct and divergent interests.[232]

Unsurprisingly, some authors claim that most universities in South Africa do not have strategic plans and policies on community engagement, thus failing to institutionalise community engagement at all levels.[19,235,236] Molepo and Mudau[235] argued that faculties and departments at higher education institutions do not actively promote community engagement activities. Consequently, most academics feel unsupported by their faculties, despite their willingness to participate in community engagement. Most universities also do not provide training and development related to community engagement to their academics.[235] Similarly, Bhagwan[5] stated that academics and students struggle to navigate the intricacies of community engagement as a new area of scholarship and knowledge production.

South African universities face many challenges due to academic rigidity and the poor socio-economic status of communities. Moreover, socioeconomic and political uncertainties have afflicted higher education institutions, causing disturbances within institutions and their local communities.[232] Despite the challenges higher education institutions face, a study identified the core principles and values fundamental to the community engagement process to effectively navigate the South African higher education landscape.[5] The study revealed six core values: social justice, integrity, trust, authenticity, honesty, and reciprocity. The author argued that the abovementioned values and principles should be reflected in higher education institutions' mission, vision, and strategic plans.[5]

In order to contextualise community engagement in South African higher education, it is important to further understand the underpinning community engagement conceptual models in South Africa. These are elaborated on in the next section.

2.8 Conceptual Models for Community Engagement in Higher Education in South Africa

Founded on community engagement literature, scholars emphasised the lack of a conceptual framework for community engagement in South Africa.[97,235] Bender[40] attempted to bridge this gap by proposing conceptual models to better understand community engagement in higher education institutions in South Africa to address this issue. Qualitative data analysis from the conference and workshops was utilised to construct the frameworks.[40] The data analysis resulted in three conceptual models for community engagement, namely: *the silo model, the intersection model*, and the *infusion/cross-cutting models.* These are discussed in more detail below under their respective sub-headings.

2.8.1 Silo model

The key feature of the silo model is that teaching, research, and community engagement operate autonomously.[40] Hart[100] argued that community engagement is construed as an add-on or supplementary service. Furthermore, the silo model makes community engagement optional and service-oriented, as seen in a conventional or traditional model (see Figure 5).[40] Within this model, the most prevalent community engagement method is an altruistic or benign approach. In general, this paradigm rejects the notion that community engagement constitutes academic engagement in terms of its contribution to teaching, learning, and empirical research.[237] The Silo model is characterised by a lack of collaboration across departments and with external stakeholders, resulting in missed opportunities for mutual learning and development.[47] In paramedic education, this siloed approach to engagement can lead to a limited understanding of the healthcare needs of the communities served, as well as a lack of practical skills and knowledge that are essential to effective community engagement.

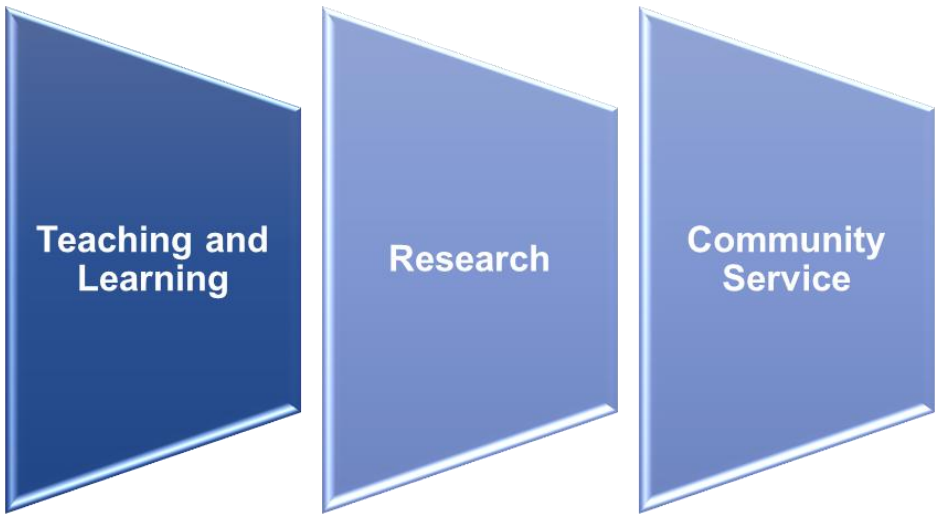

Figure 5. The Silo Model

(adapted from Bender[40])

2.8.2 Intersection model

The second model (Figure 6) is an intersecting model in which higher education has three distinct roles that overlap at specific points in contrast to the silo model.[40] Service learning and CBR emerge where teaching, learning, and research intersect with service and community, while volunteerism and outreach persist where no intersection exists. Thus, community engagement is already unfolding in this model, obviating the need for radical restructuring.[100] Hence, community engagement is an inherent aspect of the university's functions, implying that all research and teaching involve some form of interaction with the community.[42]

Conversely, EMC academics, students, and graduates are under growing pressure to respond to society's external requirements through community engagement strategies, with the particular goal of achieving social and health promotion results in prehospital environments.[39]

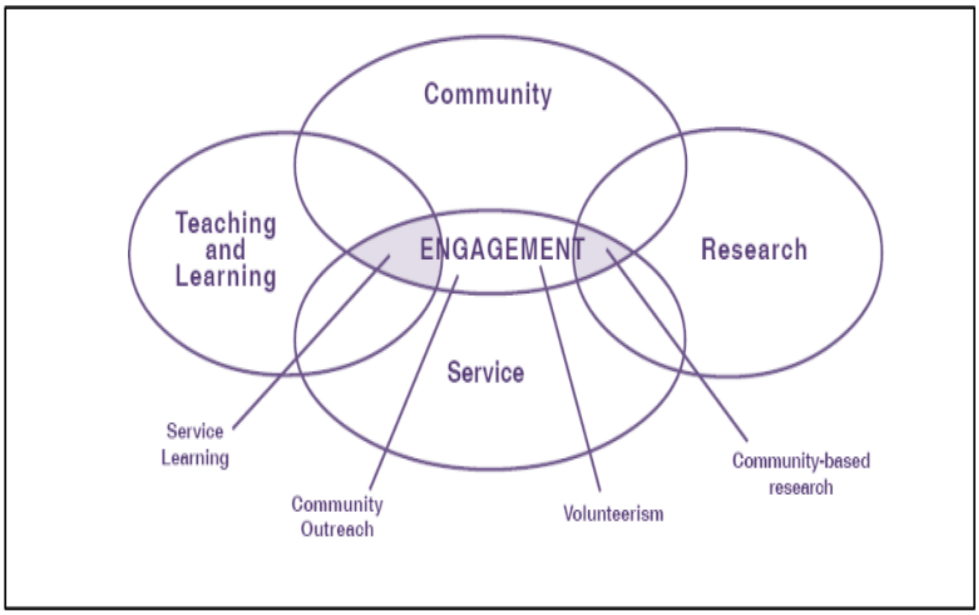

Figure 6. The Intersection Model

(adapted from Bender[40])

2.8.3 Infusion model

The infusion model (Figure 7), also known as the cross-cutting model, places community engagement as a central concept and perspective that permeates and drives teaching, learning, and research.[40] The essential characteristic of this model is the continued reciprocal engagement balanced between teaching, research, and community engagement activities.[100] Similarly, the outcomes of teaching, learning and research take into account emerging social, environmental, and cultural community issues. Under the infusion model, higher education strives to nurture socially responsible students as citizens.[42] Community engagement can include several forms of engagement, ranging from students assisting the community to a university conducting research to assist communities, and it can also encompass students learning from the community.[237]

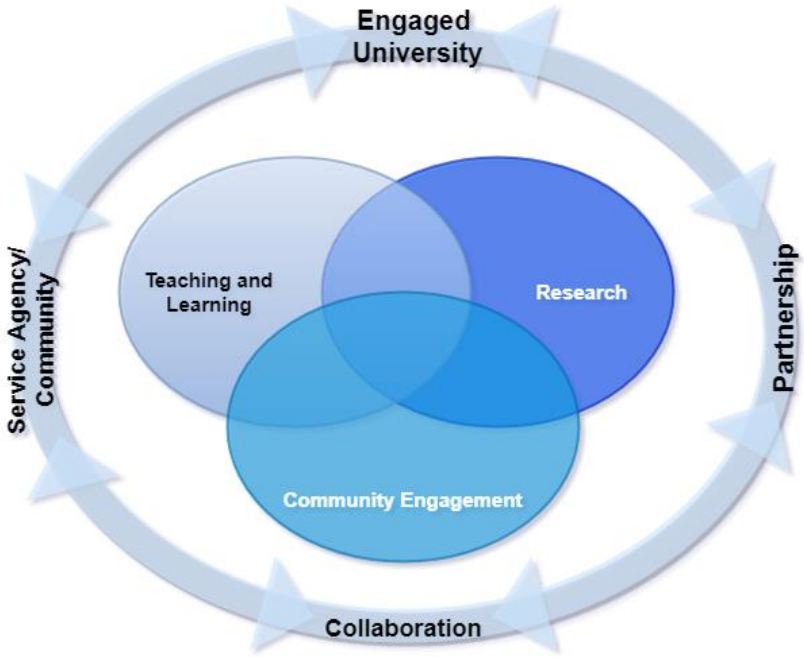

Figure 7. The Infusion Model of Community Engagement

(adapted from Bender[40])

Similar to the infusion model, Vickers et al.[238] asserted that when mutually beneficial and two-way engagement is implemented properly, service learning integrates close relations amongst partners involved in the activities, and dynamic and reciprocal forms of learning and reflection take place among participants.

Collectively, the above models outline critical elements for community engagement in South Africa. The theoretical literature did not favour one conceptual model over another.[40] Instead, the literature recommended that higher education institutions select the most suitable model for their mission and vision.[40]

Despite the Department of Education introducing community engagement more than two decades ago, various community engagement models' conceptualisation and implementation strategies differ across higher education institutions.[43,19] Notwithstanding the publishing of the White Paper on the Transformation of Higher Education[11], which stressed the significance of socially engaged and democratised teaching and learning within institutions, Johnson[97] argued that there is no nationally

accepted framework to guide the implementation of community engagement in universities in South Africa.

Within the current South African health context and the socio-political landscape of higher education, critical elements from Bender's[40] community engagement frameworks could be incorporated into community engagement strategies. Despite the potential of community engagement models, some scholars have raised concerns about their limited ability to address the complex social and economic disparities in specific contexts.[232]

Building on the idea above and following an extensive review of the diverse philosophies, theories, and models of community engagement outlined in this chapter, it became evident that Boyer's model of the scholarship of engagement provides a suitable theoretical framework for the present study, as it aligns well with the research aims and objectives, providing a comprehensive and practical approach to community engagement in paramedic education. Furthermore, the model emphasises the importance of collaboration and partnership between universities and communities to address real-world issues and create new knowledge while promoting mutually beneficial relationships. Moreover, the model's focus on research, teaching, and service is aligned with the goals of effective community engagement in paramedic education in advancing the development of effective interventions that meet the unique needs of the local communities paramedics serve.

2.9 Strategies or Forms of Community Engagement in Higher Education

Health education and health climates are constantly changing, necessitating the need for flexible strategies or forms when implementing community engagement.[239] While meticulous planning and stakeholder interaction benefits strategic community engagement initiatives, there is value in being flexible to adapt to the demands of stakeholders and contextual constraints in community engagement activities at universities. Various scholars acknowledged that strategies for community engagement are vital and beneficial since they allow diverse individuals to participate in programmes that focus on pertinent topics that are contextually relevant to societal needs.[42,47,48,240] In addition, Benneworth et al.[6] asserted that such strategies provide individuals from the community as equal partners with academics and students to communicate with organisations or stakeholders and develop community-

collaborative initiatives, conduct focus group sessions, promote research, and drive health promotion activities.

In keeping with the theoretical framework of this study, Boyer advocated for higher education institutions to "serve a greater purpose".[57] Notwithstanding this, the majority of institutions have been hesitant to integrate teaching and research with community engagement, failing to pursue the institutional transformation necessary to link the basic activities of higher education with the central notion of engagement.[23,241] Community engagement can be accomplished by a variety of teaching and learning activities, including service learning, community-based research, community engagement, and student involvement.[41] Through knowledge exchange and understanding, community engagement initiatives aim to assist students in acquiring a stronger sense of social responsibility and becoming more informed and engaged members of society.[242,243] Community engagement activities combine thinking, action, reason, and emotion into everyday life by integrating student experiences with communities that interact within the context of higher education.[55]

Within the above context, the researcher discusses several strategies or forms of community engagement activities that benefit communities, students, and higher education institutions in South Africa and internationally. Bringle et al.[244] argued that distance education, CBR, participatory action research, professional community service, and service learning are all examples of community engagement activities. In its broadest definition, community engagement is the simultaneous application of teaching and learning, professional community service by academics, and participatory action research to specified community development goals.[22,119]

Community engagement is characteristically expressed in a variety of forms within the context of higher education. Furco[245] illustrated multiple terms used to describe various forms of student community engagement and engaged learning in higher education in Figure 8.

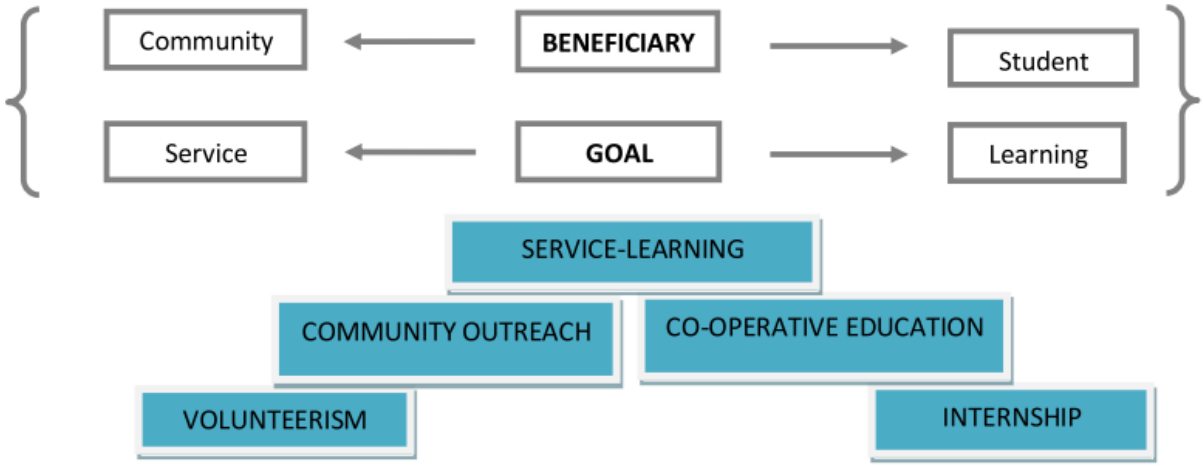

Figure 8. Forms of community engagement

(adapted from Furco[245])

Figure 8 above illustrates various forms of community engagement learning positioned on a continuum between two important distinctions, namely (i) the primary beneficiaries of the service, in other words, the community, or (ii) the student and the primary purpose of the service, namely, community service or student learning.[245] Furco identified volunteerism, community outreach, internships, co-operative education, and service learning as typologies for student community engagement.[245] The boundaries between these forms are indistinct as learning activities integrated into academic programmes may move along this continuum.[246]

The author stressed that the aforementioned forms of community engagement are not distinct or exclusive.[245] In particular, the distinctions between volunteerism and community outreach, internships and co-operative education, community outreach and service learning, and co-operative education and service learning are frequently blurred, and learning activities integrated into academic programmes may change in one direction or the other along this continuum. Furthermore, experiential learning is a trait shared by all of the aforementioned modes of community interaction.[119] Despite the grounding principles of community engagement of service learning and related activities, local higher education institutions have expanded on the typology of student

engagement, challenged the typologies, and introduced new concepts of community-engaged teaching and learning.[247,248]

2.9.1 Student volunteerism

Volunteerism is the participation of students in activities where the major benefactor is the community, and these initiatives are essentially altruistic, extracurricular, and non-credit bearing.[22,119] More recently, Jacobs[249] asserted that volunteerism was critical in South Africa for allied health students who assisted with frontline duties and provided innovative patient treatment during the COVID-19 pandemic. Although enrolled for their 2020 academic year, students volunteered their skills, time, and services to take on various roles. Furthermore, volunteering provides students with a sense of purpose in terms of health education and prevention, and students reported experiencing a range of positive emotions due to their commitments to volunteering.[250]

On the other hand, MacNeela and Gannon[251] claimed that student volunteerism is a distinct form that originates within university structures and encompasses two types of volunteering, namely volunteer-driven, student-led committees, or off-campus volunteering in conjunction with civic organisations. Bringle and Clayton[252] argued that civic knowledge is acquired through volunteer opportunities, as students learn about the complexity of societal issues and how to contribute to their communities and society.

Student volunteering coincides with a greater emphasis on higher education's democratic and public purposes in cultivating undergraduate personal and social responsibility.[253,254] Volunteer experiences teach students communication and listening skills, the importance of and ability to work with others from diverse backgrounds, and sensitivity towards diversity in a pluralistic society.[252]

On the contrary, scholars proclaimed that volunteerism in community engagement at universities is relatively unexplored.[250,255–257] Despite the dearth of research on community engagement, some studies indicated that volunteering has several advantages for undergraduate students.[257,258] Research shows that volunteering benefits students and communities.[259] Community engagement also assists students in establishing institutional and personal relationships with local organisations,

activists, and communities.[260] Student volunteerism boosts opportunities for skills development and enhances employability while contributing to social benefits.[23,255]

In line with the above, Ross and Kabidi[9] claimed that paramedic students perceived volunteering as an extremely valuable means to develop various interpersonal and communication skills necessary for their future jobs and paramedic practice in Australia. Additionally, volunteering enabled students to learn about themselves and the larger society, build confidence, and improve their overall job preparation and employability. Johnson et al.[110] explored undergraduate paramedic students' perceptions of a community volunteer placement. Scholars concluded that paramedic students had positive perceptions of volunteering during a community volunteer placement which improved paramedic graduate attributes and simultaneously addressed the health needs of communities.[110]

Johnston et al.[110] conducted a study involving 191 paramedic students from Charles Sturt University that were requested to complete 50 hours of health screening volunteer work and work-integrated learning in local communities. The study explored students' volunteer experience, with 77.3% of respondents feeling a sense of civic responsibility and contribution to the community. Furthermore, 67% of participants indicated future volunteering as facilitators engaged and encouraged them. Moreover, scholars concluded that university facilitators encouraged introspection, and effective university-community partnerships were characterised by mutually beneficial and significant engagements while retaining a student-centred mindset anchored in a university strategy.[110] Considering the above context, student volunteerism fosters a deeper understanding of real-world issues, embraces cultural diversity, and heightens social and civic responsibility.[19]

2.9.2 Community outreach

Community outreach involves student activities where the primary beneficiary is the community, and the goal is to provide a service with a structured approach initiated by higher education institutions and requires a commitment from students.[119] Grobbelaar[42] asserted that community outreach at higher education institutions could be acknowledged as an academic credit or research publication. As the service activities become increasingly interwoven with academic activities of modules with increased participation in a formal intellectual dialogue on service problems, the

programme advances closer to the centre of the continuum towards service learning.[22,119]

Whowell[261] argued that outreach delivers services to communities that lack access to essential services within the population's geographic location. Buck[262] asserted that outreach is distinguished by its interaction with vulnerable, disadvantaged, and difficult-to-reach communities. In addition to providing services, the objective of outreach is to inform and educate communities about matters pertaining to their needs.

Due to the complexity of community outreach, Dewson et al.[263] described four distinct forms of outreach delivery, namely: (1) satellite models, which provide outreach to a particular location; (2) the peripatetic model, which involves using the facilities of another organisation, such as a community centre venue; (3) the detached outreach strategy, which involves outreach personnel entering the neighbourhood and interacting with residents; and (4) the domiciliary strategy, which entails outreach personnel visiting individuals at their residences.[263]

Within the above context, local universities strive to engrain higher education outreach activities.[45,264] In line with this, a local study centred on the concept of ubuntu, connecting the African spirit through an outreach approach at higher education institutions to improve graduate attributes by focusing on patient-centeredness, social responsibility, and sensitisation to social injustices within the South African health care system, was conducted.[265] In contrast to Western practice, South Africans associate social responsibility with the African concept of ubuntu, which is interpreted as "shared humanity".[266] As part of outreach activities, students must provide health services to underprivileged populations in Cape Town via public facilities, according to their current knowledge, skills, and medical expertise.[265]

Similar strategies were highlighted in the Western Cape, with First Aid Responders training in marginalised communities or communities with poor access to emergency care.[267] Despite these activities addressing social ills and emergency care health prevention, outreach is yet to be formalised into DEMC paramedic training as part of the credits towards the qualification. In this vein, Swanberg et al.[268] argued that engagement in outreach initiatives at health science faculties has a unique role within the university and the surrounding communities to amplify health promotion and health education.

Brice et al.[269] suggested that outreach efforts by EMS personnel and paramedic students may be core grassroots methods to increase community awareness of symptoms and empower individuals to call EMS immediately if they recognise symptoms of patients with a stroke or heart attack to prevent mortality and morbidity. In the last decade, the American Heart Association has promoted the "Time Is Brain" message to attain the same notoriety as the "Time Is Muscle" campaign for heart attacks, which has gained some traction through community outreach education.[270] Scholars concluded that community outreach programmes for both stroke and chest pain are minimal, and a substantial amount of work remains.[269,270] Similarly, in South Africa, myocardial infarctions and cerebral vascular accidents are critical drivers for non-communicable diseases, which has a rippled effect on the under-resourced healthcare system.[271]

2.9.3 Internship

On the opposite end of the spectrum (Figure 8), internships involve students in activities where they are a significant benefit, and student learning is the ultimate focus, designed to offer students practical experience to enrich their understanding of their field of study in the workplace setting.[22,119] In addition, internships assist students in achieving learning objectives and provide them with professional experience.[106] Traditionally, internships are extensively incorporated into a student's academic education. Internships also referred to as ‘clinical practice’ in some instances, are used extensively in many professional programmes such as social work, health science, education, and psychology.[22,119]

According to Colburn and Newmark[272], internships offer students an opportunity to experience what will become a substantial percentage of their life's work while still being able to critically reflect on pressing concerns.[272] Colburn and Newmark[272] argued that internships are typically omitted from the category of service learning due to their relationship with employment. Moreover, the latter argues that students are more likely to be placed in internships or experiential education programmes where they are expected to learn specific skills or training that would enable them to undertake a specific sort of employment following the completion of the programme.

Moreover, Reid[273] suggested that internships are beneficial for attracting allied health students to rural and disadvantaged health institutions in South Africa, but they are ineffective in retaining them in the absence of long-term human resource reforms. The

author argued that internships have beneficial impacts on personal and professional development and are an asset in marginalised communities to improve their understanding of health disparities in South Africa.[273]

In contrast to South Africa, international literature on internship programmes for paramedics strongly focuses on competency in clinical interventions rather than health promotion and injury prevention.[274] Notwithstanding the incorporation of internships into the curriculum, O'Brien et al.[275] asserted that Australian universities are increasingly debating the educational training requirements of paramedic graduates and how to best prepare them for the healthcare sector. Despite the importance of developing holistic paramedic practitioners, internship programmes for new graduates have yet to be incorporated in South Africa.

2.9.4 Co-operative Education

Co-operative education is a learning concept based on a collaboration between higher education institutions and their external stakeholders, intending to enhance the student's learning experience in the industry.[276] Additionally, cooperative education is essentially a three-way collaboration in which students alternate periods of academic study with periods of work experience, during which they apply their learning in real-world circumstances under the guidance of experienced mentors in the field and the supervision of academic staff from the university.[277] The work completed during this period is monitored and evaluated by department-specific criteria.

Co-operative education affords students co-curricular opportunities closely linked to the curriculum. "The primary beneficiary of co-operative education programmes is the student, and the primary goal is student learning".[237] According to the HEQC, co-operative education was widely used in South African universities of technology.[119] It should be noted that the primary distinctions between co-operative education and service learning are not necessarily due to methodological differences but instead to the nature of student placements and the desired outcomes.

Co-operative student placements occur within the industry, while service learning placements require student placements within service organisations or directly in the community. While the purpose of co-operative education is primarily student learning, service learning incorporates the added goal of offering a service to the community.[47,119] Regarding student learning outcomes, cooperative education and

service learning aim to enrich the student's understanding of the module content and discipline. Co-operative education, sometimes termed work-integrated learning, requires students to be placed in the industry to learn technical skills related to the qualification.[42]

In light of the context above, the process of globalization within the paramedicine profession and the growing emphasis on experiential learning in higher education, Smith and Worsfold[278] assert that work-integrated learning or community engagement has been widely incorporated internationally into paramedicine curricula. A study by Simpson et al.[279] explored the experiences of twelve paramedic students who participated in their first international work-integrated learning placement in either South Africa or New Zealand. Paramedic students were required to conduct work-integrated learning in a three-week placement and were `not accompanied by a faculty member from the host university. Key themes identified in the study included the suitability of the work-integrated learning site, the timing of foreign work-integrated learning within an undergraduate paramedic qualification, and the risk of being overwhelmed by the combination of an intensive early clinical experience and self-management responsibilities during an unaccompanied placement. This study emphasises the necessity of preparing and supporting students for community engagement or work-integrated learning practice in paramedic education.[279]

Although the distinctions between many types of community engagement, such as volunteerism, community outreach, internships, cooperative teaching programmes, and service learning, are frequently muddled, one feature they seem to have in common is their emphasis on experiential learning.[119]

2.9.5 Service Learning

The HEQC's Criteria for Institutional Audits defines service learning as "applied learning which is directed at specific community needs and is integrated into an academic programme and curriculum".[102] Erasmus[280] highlighted the importance of integrating research and service learning to contribute to the transformation of higher education in South Africa, where universities were urged to become more democratic and responsive to community challenges and receptive to partnership building with a diverse range of stakeholders.

According to Beere,et al.[281] service learning is a course-based, credit-bearing educational experience in which students participate in an organised service activity that satisfies needs identified by the community and offers a reflection on the service activity in order to obtain a better grasp of the course material, a broader appreciation of the discipline, and a heightened feeling of personal dignity and citizenship. Service learning has been described as "a type of experiential education in which learning occurs through a cycle of action and reflection as students strive to achieve meaningful goals for the community and a greater knowledge and skill set for themselves".[282] In this method, the student can integrate personal and social development with academic and cognitive development to enhance knowledge and understanding.[282] Bringle and Hatcher[283] emphasised that high-quality service learning achieves reciprocity between higher education and the community when the service activity is structured and organised to satisfy both the academic learning objectives and the community's needs.

Within the concept of service learning, "community" refers to the distinct, local, collective interest groups that collaborate in the institution's service learning activities. Local communities are no longer viewed as beneficiaries but rather as participants with a full voice in identifying service needs and development challenges. Communities participate in establishing service learning and development outcomes, identifying the appropriate assets they already possess, evaluating the effect, and making meaningful contributions to the mutual quest for sustainable solutions to complex problems.[119]

Moreover, Robinette and Noblet[284] stated that service learning programmes should be integrated with problem-based learning; collaborative learning; undergraduate research; critical thinking; multiculturalism and diversity; community knowledge, leadership skills; and social as well as professional responsibilities. In addition, Howard[285] and Stacey et al.[286] claimed that service learning activities should enhance the achievement of learning outcomes and supplement learning resources. They also expressed that student learning emerges via activities, experiences, strategies for learning, and assessment, and in addition, that there should be a clear link between the objectives of the module and its service activities.

Furco[287] proposed a self-assessment scale for higher education institutions that evaluates the extent of service learning institutionalised in terms of developmental

phases and essential success criteria for institutional service learning. These parameters were classified into three categories to represent the stage of service learning institutionalised at which a higher education institution functions, namely: Stage 1 entails critical mass development; here, a higher education institution is primarily concerned with establishing a critical mass of service learning scholars and fostering service learning activities throughout campus. In Stage 2, the quality of relationship building stage, institutional actions are primarily directed toward improving the quality-of-service learning programmes rather than extending their reach. Finally, Stage 3 is concerned with maintaining service learning through the incorporation of service learning inside a higher education intuition's fundamental activities and operations[288]. Interestingly, the primary criticism is that the framework dismisses contextual diversity.[288]

In particular, service learning should promote civic learning and social responsibility. Civic education is broadly defined as anything that "prepares pupils for citizenship".[119] In the strictest sense, civic learning is defined as "any learning that contributes to student preparation for community-based public involvement in a varied democratic society".[285] That is, knowledge, skills, and values that provide an explicit, direct, and deliberate contribution to the preparation of students for active civic participation, active involvement in community engagement, and, consequently, social responsibility.

Students require planned opportunities for reflection in order to link community engagement activities to the module.[289] Subsequently, theorists in the field of experiential learning and service learning view reflection as a critical component for translating, clarifying, strengthening, and extending the actual experience into knowledge.[143,179] Reflection contributes to a greater grasp of module material, a broader appreciation of the discipline, and/or a heightened feeling of personal values and social responsibility.[143,283,289,290]

Swanzen[291] identified institutional integration of community engagement practices, service-user involvement and civic service integration, cultural competence, interdisciplinary teamwork scaffolding experiential and integrative learning, administrative requirements, and authentically sustainable partnerships as critical processes for effective service learning in higher education. It is evident that service learning requires every educator to shift their paradigm. This paradigm shift is

congruent with other trends in higher education toward collaborative learning, problem-based learning, and interdisciplinary work, where the emphasis is on learning and not teaching.[292]

2.9.5.1 Discipline-based service-learning

In this approach, students are encouraged to participate in community service throughout the course and report on their experiences on a regular basis. In these reflections, students use course material as a basis for their analysis and comprehension of the important theoretical, methodological, and practical issues at hand.[119] Sachs and Clark[293] emphasised that by actively interacting with the community, academics may gain a deeper awareness of community concerns and challenges of significant importance, and community members can develop skills and talents that can be used for the betterment of their community.[293]

In a study conducted in South Africa, Harrison et al.[39] concluded that BEMC paramedic students' reflections on service learning greatly added to EMC students' awareness of social determinants of health and enabled them to recognise and explore their potential to become essential activists in addressing social causes of ill health. Service learning provides an opportunity for transformational learning in EMS education by expanding students' awareness of socio-economic determinants of health, causing a dramatic shift in their attitudes and worldview.[39]

2.9.5.2 Problem-based service learning

Problem-based service-learning is a method whereby students or student teams interact with the community in a manner similar to that of 'consultants' working for 'clients'. Students collaborate with community members to comprehend a specific community issue or need. Problem-based service learning incorporated within the academic curriculum intends to increase university students' civic participation. Kulnieks, Longboat, and Young[294] asserted that when designing service learning programmes, it is necessary to recognise, comprehend, and respect the community's values if the programme is to result in social transformation and social justice.

Such a strategy assumes that students have some expertise upon which they may draw to make suggestions to the community or propose a solution to the issue.[119] Berle[295] asserted that incorporating Problem-based service learning improves student

learning and augments the relevance of theory-to-practice, integrating evidence-based interventions and programmes to address community-identified health needs. Buregyeya et al.[296] argued that interdisciplinary Problem-based service learning exposure benefitted both students and communities in field placements and strengthened skills of collaboration, teamwork, and communication. These aspects are critical for a multidisciplinary approach which is needed among the future workforce to solve the country's health challenges.

2.9.6 Community engagement and work-integrated learning

According to Winberg[297], "community engagement has become one of the criteria for higher education quality assurance". Winberg[297] provides a South African standpoint in her work for the Council on Higher Education, claiming that many local universities employ service learning to promote community engagement and cultivate civically responsible students. The author argued that South African higher education institutions employ community engagement not just to educate students with curriculum-specific knowledge and skills but also to teach citizenship with the intention of generating socially responsible graduates.[37]

Muller[93] proclaimed that "the inextricably contextual aspect of interaction" precludes a prescriptive attitude and that a stereotyped model for community engagement for all higher education institutions is unachievable. Moreover, a fit-for-purpose community engagement activity varies across higher education institutions based on the type of institution and its academic purpose.[48] As mentioned community engagement is one of the criteria for the quality assurance of higher education in South Africa and, as such, a way of enabling students to learn from experience while preparing for responsible citizenship in a changing world.[37]

According to Nicholas[298] work integrated learning is a community engagement technique that is gaining traction internationally in higher education institutions in an effort to improve graduate skills, qualities, and employability. Scott and Etten[299] established that work-integrated learning is an authentic learning technique that is rooted in the context of the learners and the workplace. Through work-integrated learning, students apply theoretical and practical knowledge to practice. In other words, they apply what they have learned in school to the workplace setting.[14,299] Furthermore, students are given the opportunity to learn and integrate academic information, skills, and experiences in a community context that is relevant to their

courses. This experiential learning produces a direct interaction with the topic under study, as opposed to merely contemplating the surroundings as an abstract idea.[300] Within an EMC context, although students are placed in frontline clinical settings, these real-world experiences provide rich opportunities for health education and health promotion.

2.9.7 Community-based research

CBR was proposed as a systemic reform of higher education based on a research strategy that addresses Boyer's[20] challenge to "develop students' civic capacity and prepare them for active democratic citizenship". George et al.[301] assert that the purpose of CBR is to provide mutual benefit to community members, researchers, and students through reciprocal teaching and learning. Manning[302] suggested that higher education should cooperate with community-based groups to achieve social change and collaborate with local populations. Mello-Goldner[303] described CBR as a method in which research issues are established by the community in which the study takes place; community members are equal research partners; and all community members, participating students, and academics have knowledge and experience to contribute.

According to Soria et al.[304], research universities are rich resources as they have human intellectual resources, structural mechanisms, laboratories, academic facilities, and the funding to generate additional resources through their prestige; as a result, they can produce high-quality service learning and CBR. Scholars recognise that service learning and CBR should begin with careful planning, the orientation of students to service learning and CBR, and reflection on the subject material together with institutional support.[281]

Farnell[187] asserted that CBR strengthens relationships with an academic institution, and community members, the faculty, and students collaborate as a research team throughout all the phases of the project, resulting in a collaborative approach rather than a conventionally taught research process. Moreover, CBR equips students with real-world experience in the development of research and statistical abilities, as well as other career-essential abilities such as cooperation, critical thinking, knowledge application, and social justice.[303] Community partners and students initially identify a research project jointly. Furthermore, CBR maximises community participation at

each stage of the research process by concentrating on questions posed by the community and fostering continuing cooperation.[134,201]

Similarly, Strand et al.[305] and Muhammad et al.[306] asserted that higher education institutions have progressed significantly and emphasised that CBR is the deliberate creation of knowledge with the objective of addressing community-identified needs. Scholars adopt novel approaches to gather knowledge in which numerous information sources are evaluated, which yields a variety of discovery and dissemination strategies.[305] Hattingh[307] asserted that the above-mentioned approach emphasises the importance of social action and transformation in order to advance the cause of social justice. As a result, community organisations collect data in order to make necessary changes, improve their programmes, promote their objectives, attract and retain resources, better understand their target populations, and contribute in other ways to a social action agenda focused on raising the living standards of local residents.[305,308]

Trent et al.[309] argued that centuries of tradition resulted in institutional silos, which have been reinforced by layers of policy and cultural distinctions across academic departments, colleges, and academic and non-academic entities. Successful transdisciplinary programmes need programmatic and administrative innovation that fulfils the goals of academics and students to maximise available resources. Scholars claim that when institutional silos are broken down, meaningful partnerships are cultivated that meet the needs of multiple stakeholders.[309] While certain higher education institutions in South Africa may continue to operate in silos, interconnection and integration are critical functions that are widely advocated. Although CBR may appear to be a nebulous ideal in this context, Strand et al.[305] stressed that, prior to initiating CBR, higher education institutions must engage in strategic planning to determine the following:

- How does the planned research project align with the institution's mission?
- What is the institution's culture, and what are the faculty's views on scholarship, publications, and institutional rewards?
- What has been the nature of the institution's historical interactions with the community?

- What are the priorities and capacities of the communities?
- How are students active in their communities, and what capabilities do they have to do collaborative research?
- What internal resources, such as people, materials, networks, and finances, are available?
- What are some possible external sources of funding for joint research between the community and the university?

Within the above context, CBR will contribute to the body of knowledge, which in turn benefits community-based education and community engagement.[305] Over the past few decades, three factors have contributed to the establishment of CBR.[307] Firstly, as highlighted by Strand et al.[305], CBR has a 'popular education paradigm' that promotes the participation of individuals in self-education for social transformation. Secondly, an action research model combines academics with major social institutions; and thirdly, the participatory research model stresses the participation of individuals in conducting their own research for social change.[305,308,310] The popular education model focuses on community-generated needs, whereas Kurt Lewin's action research model provides a strategy that promotes efficiency in the workplace through democratic relations.[305]

Mello-Goldner[303] proposed a method of CBR that incorporates a variety of contextual factors led by three core principles that emphasise the fundamental tenet of CBR. CBR makes use of university resources to assist communities in addressing key challenges by, first and foremost, engaging as a collaborative partnership between academic researchers, such as faculty members and community members. Furthermore, the scholars acknowledge the sources of information while encouraging the use of a variety of techniques for knowledge discovery and dissemination. Ultimately, CBR seeks to achieve social justice through active social change.[92]

2.9.8 Participatory action research

Participatory action research is a method of action research that emphasises the involvement and action of people in the communities affected by the research. It seeks to understand the world by attempting to alter it in a collaborative and reflective

manner.[311] In addition, participatory action research places a premium on collaborative inquiry and experimentation that is founded on experience and social history.[312] In addition to being inextricably tied to action, the reflective process is also affected by the knowledge of history, culture, and the local context and is ingrained in social interactions. Moreover, the participatory action research method was noted as being empowering, and, as a result, people experienced greater control over their lives.[313] Furthermore, researchers and community stakeholders create equitable collaborations and co-construct research to achieve mutually beneficial goals such as community health improvement, sustainable development, and knowledge generation.[310]

Schneider[314] asserted that participatory action research is a philosophy of research engagement and not a methodology in that it does not steer researchers to a particular study location or data-collecting approach. Instead, participatory action research promotes and supports work in a range of organisational and community contexts via the use of quantitative and qualitative methodologies. Participatory action research fosters inclusive, collaborative learning and inquiry; reciprocity between theory and practice; the fundamental premise that members of the public possess and can generate valid knowledge of the social systems in which they engage; and the fundamental premise that community members should be full partners in defining, exploring, and addressing issues they encounter.[312]

According to Jacquez et al.[315], such a research strategy recognises that researchers are equally grounded in the community and in academia, as well as that they are co-researchers with their own knowledge and experience to solve real-world problems. Via such collaborative efforts, cultural and social change can occur as communities affected by the research problem become involved in the process; furthermore, not only do they have knowledge of the problem, but they also possess potential solutions.[310,315]

Interestingly, the participatory action research approach emphasises one of the most frequently used ways to research the potential of impartiality between the researcher and the subject being investigated.[243,306] Notwithstanding that community participation has become increasingly crucial in CBR, some researchers continue to assume that community members are incapable of making significant contributions to science.[243]

Howard-Grabman[316], who stressed the importance of bridging the divide between curative and preventive health programmes, has produced growing evidence that illness prevention is only possible when the community, families, and social organisations work together. The author opines that the global trends of democratisation, decentralisation, devolution, and civil society building increase information and communication flow and that a focus on human rights provides a greater impetus for client and community participation and necessitates a redefinition of their roles and responsibilities in numerous sectors, including health. Moreover, Bedson et al.[199] concurred and claimed that community mobilisation could be a very successful way of facilitating participatory action research to enhance health and increase the ability of people and/or communities to meet their needs.

Community-based action research, a relatively novel strategy that is gaining popularity, resembles an independent study option for students with rich experience in community engagement.[317] In this strategy, students collaborate closely with academic faculty to understand research methods while working as advocates or community researchers. This technique is based on learning theory as encountered in the action learning cycle of Lewin's model of action research adapted by Zuber-Skerrit[289], which includes planning, act, observing, and reflecting.

According to Bedson et al.[199], structured participatory action research initiatives and activities during large-scale epidemics have gained traction. The author emphasised the significance of the Community Led Ebola Action approach, which was implemented by the Social Mobilisation Action Consortium between 2014 and 2016. Social Mobilisation Action Consortium was a large-scale intervention that included (n=2,466) community mobilisers, over (n= 6,000) religious leaders, and (n=42) local radio stations. Community mobilisers were active in more than 70% of all communities across the country using the Community Led Ebola Action method. The process included a community-wide "trigger" event, action planning, and weekly check-ins to monitor progress on specific action items. In comparison, the in-progress status of most action points indicated long-term sustainability, such as continuous monitoring of visitors into the community, installation of handwashing stations, continuous assessment of the intervention, behavioural changes, and safe burials. Following the Ebola outbreak, Community Led Ebola Action demonstrated how large-scale, coordinated community engagement initiatives combined with participatory action research reduced mortality.[199] During the Ebola outbreak, medical students

contributed to the health response by spearheading educational campaigns on social media platforms like Facebook and Twitter. The students also dispelled stigma and fears about Ebola disease through radio and television media outlets, as well as providing accurate health information in the communities.[318]

The next section identifies several factors that contribute to or hinder community engagement in higher education. The challenges discussed include marketisation and massification in higher education; social justice; power disparities; promotions and incentives for academics; the value of trust; lack of resources and infrastructure; and poor strategic planning that neglects the cultural dynamics. Conversely, the following factors were found to facilitate community engagement in higher education, namely leadership in community engagement; mutual benefits and partnerships; policy frameworks; and lastly, the potential role of paramedic practice in health promotion through community engagement.

2.10 Barriers and Enabling Factors for Community Engagement in Higher Education

Despite the fact that community engagement is the third mission of the university, after teaching and learning and research, community engagement professionals face numerous challenges globally and nationally. Experts in community engagement frequently refer to community engagement as the "stepchild" of higher education.[97] However, some scholars consider community engagement as interconnected successful drivers.[41]

The following sub-sections identify the barrier–driver duality and, in addition, make a case for their systemic interconnectedness highlighted in the literature.

2.10.1 Marketisation and massification in higher education

Despite higher education expansion in the 'third mission' activities over the past few decades, the global focus of these activities has been on economic development rather than larger societal concerns.[187] Furthermore, in an effort to adopt community engagement as a central policy and institutional mission, the international literature identifies key challenges to the community engagement agenda; these are related to the massification, marketisation, and managerialism of higher education.[105,106,319,320] Winter et al.[321] asserted that with advancements in learning technologies,

massification has increased university accessibility for students. On the contrary, increased student enrolment had a subsequent impact on quality and standards, necessitating heightened scrutiny and resulting in the adoption of market-based and managerial approaches to higher education with a lack of attention to community engagement activities.[319] Moreover, marketisation is linked to budget cuts and austerity, as well as the erosion of collegiality and academic autonomy. Conversely, collegiality and academic autonomy are significant enabling factors for institutional culture development toward community engagement.[19,170]

Biggs[322] argued that managerialism undermined internal cooperation and collegiality, as mentioned within the aforementioned context. Trede and McEwen[189] expressed that the higher education institution shifts to managerialism contributed to an increase in temporary and part-time faculty members, as well as a decline in tenure, contributing negatively to community engagement practices. Concurrently, there is pressure to increase the provision of courses that meet external demands at the expense of low-demand science courses and an increasing consumer orientation among entering students. These altered conditions jeopardise the traditional university-community partnerships that have long supported community engagement.[189] O'Connor et al.[106] asserted that in the United Kingdom, funding structures and government policies favour a market-based model of higher education, with a particular emphasis on graduates' skills and employability, which are also characteristics of local EMC training.

Notwithstanding the national government’s notion that private investment in higher education provides significant benefits to individual students, O'Connor et al.[106] argued that higher education benefits should also be collective, social, and civic in nature. In contrast to the marketisation of higher education, research on student experience shows that students prefer to contribute to society as part of their higher education learning experience.[106] Brewis et al.[323] concluded that volunteering, as a form of community engagement, fulfilled both the objectives of the students' experience and improved their employability. Nevertheless, the authors were concerned that the marketisation of higher education reduces resources for community engagement and student development, particularly in areas where the benefit is difficult to quantify.[323]

2.10.2 Social justice

Aside from policy implementation challenges, the unique and complex nature of community engagement (both as a concept and activity) posed several barriers to community engagement, as highlighted in the literature. Key barriers within the South African context revolved around social justice, the institutional culture, and the dynamics of marginalised communities.[100] Albertyn and Daniels[79] stated that, despite the acknowledgement of higher education institutions as agents of social justice and development within higher education, the implementation of community engagement remains problematic in South Africa. Indeed, Curwood et al.[324] suggested that the purpose of a community-university partnership is to achieve a specified social change objective through community-engaged scholarship that benefits both the community, higher education institution, and participating students. South African academics alluded to the lack of a community engagement-specific unified framework embedded at the national level to guide the implementation of community engagement at local universities.[19,79] Although the White Paper on the Transformation of Higher Education[11] advocated the imperative to socially engaged and democratised teaching and learning within the universities' ambit, policy implementation has been poorly adopted to address social redress. Daniels and Adonis[12] attested that with diminishing resources in South Africa, higher education institutions were tasked with fulfilling numerous challenging duties, including promoting social justice through community engagement, which has been challenging in the absence of government financing and fee increase-related student-university conflict.

Several academics emphasised the barriers at the level of the university and its approach and adoption of community engagement in its core activities.[57,19,309] Trede and McEwen[189] criticised present community engagement student activities, which the authors described as not serving their purpose of developing key graduate competencies or practical knowledge through deep engagement and learning about societal, economic, or racial issues. Thus, the activities only served to fulfil university needs and failed to accomplish a true sense of community engagement.[189] Stoecker and Tyron[326] agreed that universities often acted in their own interest without any intention to address issues of poverty and health; thus, students potentially learned about "institutional exploitation" rather than learning how to seek purposeful solutions.

2.10.3 Power disparities

Trede and McEwen[189] attributed the aforementioned realities to the creation of power disparities between the university and communities, which compelled universities to develop ignorance towards deliberate planning of student learning activities for deep learning and to take community partnerships for granted. Therefore, universities have placed their needs first before the needs of the community.[189] Such institutional approaches have led communities to perceive themselves as being exploited and lacking the power to effect any input or contribution within university-community partnerships. In support of this argument, Bender[40] maintained that communities often viewed universities as "ivory towers". Furthermore, this perception was enhanced by visible barriers that surround universities, such as boundary walls, fences, locked security gates, and large campus lawns, which further contribute to the perceived separation. As Bender[40] argued, such settings may "contribute towards resentment of communities, which ironically compels universities to increase their security, making the connection to neighbouring communities more difficult". Moreover, Bender[40] and Bhagwan[5] lamented about the existing embedded culture of higher education institutions, which was often ignorant of the mere theoretical community engagement rhetoric. In other words, universities were not always willing to change their institutional culture and take on community engagement in its true sense.[19] To facilitate community engagement, Bender[40] called for critical self-reflection of universities with regard to their institutional culture and readiness for a more prominent shift toward community engagement integration.

2.10.4 Promotion and incentives for academics

As part of institutional barriers, insufficient promotion, tenure and recognition of staff engaged in community engagement activities were emphasised as crucial contributing factors.[62,327,328] For that reason, academics were demotivated and discouraged from participating in or initiating community engagement activities for community benefit.[325] Moreover, academics were compelled to choose only those activities which were valued and recognised by the university, compared to activities that would add value to their personal knowledge.[6] Accordingly, some activities became "hidden", "marginalised", and unreported, and thus did not form part of the central activities of the university.[6] Over and above that, the diverse and difficult to measure nature of community engagement activities did not fit with the university's

strategic choice of missions in an environment based on easily measured performance indicators, thus preventing the promotion of community engagement activities at a strategic level.[6]

2.10.5 Value of trust

Unsurprisingly, the power dynamics and institutional complexities are sometimes inadvertently linked to a lack of trust as a further barrier to community engagement, which plays a critical role in the failure of community engagement initiatives.[200] Armien[200] illustrated her claim by an HIV prevention project which was not built on a deliberate relationship between the university and the community and, therefore, subsequently failed to establish effective collaboration and sustainable trust.

McPherson et al.[329] affirmed that key strategies for community engagement must combine a variety of concepts which include trust and respect as critical components of collaborative work throughout the cooperation process. Establishing trust should begin at the outset of the interaction.[330] Scholars claimed that trust could be built through face-to-face interactions, co-planning agendas and activities, and co-decision-making.[331] Consequently, to foster trust, communities and higher education institutions should acknowledge the significance of transparency and accountability in health promotion and well-being.[330]

Furthermore, transparency is crucial for successful community participation, as well as for participatory procedures and decision-making.[325] Transparency is critical for building trust and can contribute to the development of other enabling elements necessary for effective community involvement. At all levels, community participation enhances individuals' and communities' autonomy and empowerment.[79]

2.10.6 Resources and Infrastructure

Lack of resourcing and infrastructure was further highlighted in the literature as a barrier to community engagement, particularly in the context of partnering with community organisations.[101,189,332] Trede and McEwen[189] claimed that student community engagement placements are costly and time intensive for the staff of partnering community organisations, taking staff away from their priorities and preventing the achievement of central objectives determined by the funders of the NPOs. Therefore, community engagement partners often did not have sufficient

resources and infrastructure to ensure induction and supervision during students' community engagement placements. The liability risk of transportation of students to community engagement placement sites was also identified as a factor limiting community engagement projects.[119]

2.10.7 Strategic planning encompassing cultural dynamics

The ineffective uptake and unsatisfactory results of community engagement initiatives have also been linked to poor strategic planning, which did not consider the community dynamics, such as poor health literacy, cultural diversity, language, and poor access to healthcare.[5,296] In parallel, Cyril et al.[333] avouched that community engagement projects often failed to achieve their objectives because they are targeting non-disadvantaged communities, rendering them ineffective in terms of achievement of improved health outcomes in marginalised, poor communities. Bureqyeya et al.[296] also alleged that cultural beliefs played a vital role in the community's reception of health interventions. Correspondingly, inaccessibility is a negative factor of participation, notably geographic, linguistic, cultural, and socio-economic access, and marginalised people are less likely to participate, necessitating specific programmes to reduce inequities.[6]

Barnett and Kendall[334] investigated Australians' self-management of chronic sickness and health. Local indigenous volunteers performed poorly. Scholars concluded that the programme should be made more accessible and adapted to the local setting for indigenous individuals to express their opinions. The study determined that self-management programmes need to be more responsive to local systems and structures; incorporate local cultural traditions and knowledge-based systems, such as traditional medicine; and use locally accepted forms of cultural communication, such as community gatherings, to promote health in the community. These variables influenced the programme's acceptability, effectiveness, and longevity in each community. According to this study, health interventions will undoubtedly fail without local cultural knowledge and practices.[334] The WHO[7] asserted that community engagement is more valuable when it is based on local understanding and involvement of communities and when it is carried out in accordance with the language, culture, and context. Recognising what is valuable to the community and improving the community's sense of value results in increased involvement.[4]

2.10.8 Leadership in community engagement

According to the literature, the following additional enabling elements contributed to the effectiveness of community involvement strategies.[335] When it comes to fostering meaningful engagement, sound governance, effective leadership, and defined roles and duties are critical. Establishing roles and duties within the community and strengthening existing capacities increases community ownership of a programme and buy-in. However, the latter should also be accompanied by participatory governance structures and procedures.[7] In terms of leadership, two distinct types were described, viz. (i) classic leadership, which is top-down in nature and relies on "position power", and (ii) leadership that emerges from the community, which is more collaborative in nature and relies on the power of a shared vision and relationships rather than “position power”.[335]

The type of leadership style used in community engagement programmes is determined by the environment and objectives of the project. Bottom-up methods typically complement top-down techniques, and the two may be combined to produce a complete and sustainable form of participation.[12] Decision-making and sustainability are achieved via collaborative decision-making procedures that engage the community. Governance of community engagement may assist in transferring authority and decision-making control to the community, suggesting a shift away from a utilitarian perspective on community engagement.[109]

The importance of leadership was highlighted by Aviñó et al.[336], whereby scholars emphasised the significance of leadership in the Alzira Centre of Public Health in Valencia, Spain, to promote accessibility and utilisation of health care services in vulnerable settings; it empowered multicultural women with leadership qualities to become community health agents who spread positive health messages. The research concluded that increased social recognition and leadership ability served as agents of change and improved access to and use of health services by the community, with women acquiring information about health, contraception, pregnancy, and health services. The project was valued due to community-based leadership, which ensured sustainability.[336]

2.10.9 Mutual benefits and partnerships

In health education, community engagement is increasingly regarded as essential to achieving high-quality, efficient, and collaborative care.[200] Communities can only achieve "meaningful participation" if organisational processes are adapted to be reciprocal, inclusive, accessible, and supportive of citizens.[316] Furthermore, Garlick and Langworthy[337] developed a national approach for benchmarking university engagement with local and regional communities in Australia. These scholars provided guiding principles of their framework, whereby the university supports its community partners in enhancing their contribution to society and the environment via reciprocal knowledge exchange and action, and that the engagement process is a learning process in which all participants regard themselves as learners.[337]

Cooperation, partnerships, and mutual understanding, as well as effective communication techniques, are crucial at all levels of participation to facilitate community engagement communication.[5,6,19,23] Community engagement strategies can benefit from sustainability and effectiveness through forming partnerships, establishing networks, and creating long-term connections. Integrating these variables early in the implementation process will ensure optimum effect. Intersectional coalitions at the local level can directly impact the longevity of engagement efforts built on existing collaborative relationships.[200] In addition, successful community engagement projects can be achieved by forming agreements and memoranda of understanding with community partners maintained by steering committees.[338]

2.10.10 Policy frameworks for community engagement

Scholars asserted that, internationally, there had been pockets of successful efforts in community engagement; however, they also argued that policy implementors should move beyond community engagement rhetoric and accelerate practical implementation; conversely, national support for community engagement programmes remains weak[41,106,187,190] Farnell[187] advocated for a national policy framework explicitly designed for community engagement in order to achieve and sustain community engagement globally. Goddard and Puukka[339] posited that each country should develop contextualised national frameworks to connect higher education institutions, industry, and communities by providing an environment

conducive to strengthening relationships among higher education institutions, community partners, and communities.

Farnell[187] proposed critical policy approaches to the European Commission in order to advance community engagement, including key recommendations for governments to "…set the societal role of universities as a priority in the future policy frameworks for higher education and research, specifically distinguishing between universities' contribution to economic development and innovation on the one hand, and broader societal development through community engagement on the other". Such policy change would address the paradoxical orientation to the market model on one end of the continuum and the increasing pressure to focus on societal needs at the other end.[6,187] A review of international literature affirmed that the critical challenges of community engagement are the implementation of high-level discourse and intent through institutional strategies to the level of practice; and the dichotomy between the economic development approach and social justice and public good models, classified by Hazelkorn[203]. Bhagwan[23] argued that community engagement is rooted in academia, including teaching and research, and should not be distinct from the mission of universities. Despite the calls for "a rigorous conceptual framework", this has not yet been developed; as a result, guiding definitions of community engagement remain rudimentary.[12]

2.10.11 Paramedic practice and community engagement

The literature further advocates that paramedic practice has the potential to play a significant contributing role in health promotion through community engagement, as evidenced by reported cases of expanded paramedic scope of practice internationally.[188,340] However, development of community paramedicine requires clarity regarding the role and the type of services offered under such domain.[341,342] Besides, the lack of training and inclusion of community engagement tools within paramedic education created a barrier to health promotion through paramedic practice.[188] Although the access to healthcare challenges in countries that have advocated for an extended model of paramedic practice is comparable to South Africa in terms of geographical distances and reduced mobility of citizens in rural areas, there is a paucity of research to support this notion.[188] Similarly, Ostander[190] argued that the primary components of engagement should include student learning, curriculum transformation, community-defined priorities, and knowledge production

as community engagement evolves and circumstances change. Furthermore, local factors and conditions present both facilitators and barriers that should be identified, understood, and considered. Moreover, faculty participation was essential to have an intellectual rationale, a set of intellectual projects, and organisational structures that support the development and maintenance of university-community partnerships that share power and resources. Following international paramedic practice to reduce the burden of disease in low- and middle-income countries similar to South Africa, scholars asserted that service learning plays a critical role in paramedic education in health promotion and prevention.[39]

Based on the preceding discussion, the following section provides concluding remarks to bring the chapter to a close.

2.11 Conclusion

This chapter reviewed existing literature on community engagement in higher education institutions and the health field. Furthermore, the researcher deconstructed community engagement's conceptualisation and contextualisation, laying the groundwork for community engagement's global and South African discussion at higher education institutions. Moreover, the discourse has shown that community engagement is conceptualised in several ways, and a suitable definition must be determined and integrated into EMC education.

Additionally, theoretical and conceptual models for community engagement were researched and addressed in line with the study's objectives. Moreover, this chapter deconstructed the numerous strategies and forms of community engagement activities.

As part of the prominent barriers and enablers, this chapter alluded to the problem of commodification and increasing access to higher education facilitated by online technology within an international context of high-income countries. Locally, the chapter highlighted universities' lack of buy-in and commitment to social justice and social responsibility, despite the legislative mandate to re-dress past educational and socio-economic inequalities of apartheid. The literature also pointed to the lack of institutional interest in addressing social ills compounded by inadequate government financing and student unrest. The slow integration of community engagement into

recognition and promotion policies and the sparse funding of community engagement initiatives were identified as barriers at an institutional level.

Some scholars asserted that “South Africa is considered a melting pot of culture, language, heritage and traditional beliefs, all of which influences how communities function and interact with one another.”[45(p2)] Therefore, the literature suggests that higher education departments should adopt a community leadership style that considers South African communities' multidimensional aspects. Furthermore, cultural sensitivity, language and socioeconomic access were emphasised as critical factors for community participation in community engagement activities or programs, enabled by shared power dynamics, trust and collaborative decision-making. Moreover, the chapter underscored the absence of a unified framework as a strategic barrier to implementing community engagement in higher education.

Therefore, this chapter concluded with significant findings from the literature, which addressed global and local barriers and enablers, as well as essential elements that can promote community engagement in teaching, learning and research, which collectively can be used to guide the development of a framework for community engagement in EMC education. The following chapter discusses the methodology that was employed in this study.

CHAPTER 3: RESEARCH METHODOLOGY

"Education is for improving the lives of others and for leaving your community and world better than you found it".
(Marian Wright Edelman).[343]

3.1 Introduction

The preceding chapter provided a synopsis of existing literature on community engagement within the context of higher education. Attention now shifts in the current chapter to the research methodology. The research methodology encompasses the systematic and structured procedures for executing a study. It is an essential component of the research process since it leads and directs the research.[344,345] Furthermore, the research design is controlled by the notion that the chosen method is optimally suited to the context of the topic to make the research valid, trustworthy, and legitimate.[346]

The objectives of this study were to establish the views of health science academics in the Western Cape, involved in community engagement at higher education institutions regarding best practices on community engagement within health science education (Objective 1), to ascertain how EMC academics currently conceptualise community engagement and implement it within the context of teaching, learning and research (Objective 2); explore the views of EMC students about their experiences of community engagement (Objective 3); investigate the experiences of community engagement partners with regards to how they engage with EMC students and academics from higher education institutions (Objective 4). Moreover, the study sought to achieve rich data to guide the development of a framework for community engagement in EMC education as an emerging health profession to effect positive change in its professional response to community engagement (Objective 5).

This chapter begins by describing the research methodology, design, and components so that the study can be properly understood in its entirety. Furthermore, the data collection methods and procedures, as well as the measures used to

determine reliability, are presented prior to the discussion of the study's ethical standards.

3.2 Research Methodology

The term "research methodology" refers to a comprehensive strategy that integrates philosophy, inquiry strategies, and the specific methods used to conduct the research.[347–349] It entails introspection regarding the planning, execution, and evaluation of research in order to ensure that it adheres to the standards of truth, objectivity, and validity.[350] In keeping with the aim of developing a community engagement framework for EMC education, it was important to have adopted a design that explores the key elements to construct a guiding framework for current and future EMC programmes.

The researcher was the primary instrument for gathering, analysing, and interpreting data during the qualitative research investigation.[348] Furthermore, since this study was conducted during the COVID-19 pandemic, the researcher followed all relevant occupational health and safety precautions to protect the participants. Moreover, the researcher avoided personal bias that might have prevented the research participants from sharing their perspectives and experiences of community engagement at higher education institutions in relation to the research.

3.3 Research Design

De Vos et al.[350] stated that a research design is the architectural backbone of the study, guiding the plan and frameworks through which the study is implemented. This is consistent with Brink et al.[348] definitions of a research design as a plan or blueprint for a logical sequence study. High-level thinking is required in research that begins with broad assumptions and covers all aspects of data collection and analysis, from preliminary investigation to a conclusion. Burns and Grove[351] further contended that the research design chosen for a study must be appropriate for answering the research questions. The overall decision, conceptually, entailed determining which research design best suited the study based on the researcher's worldview and the premise that the researcher set out to investigate.[349] More importantly, the researcher's choice of research design was guided by the research aim and objectives that the researcher investigated.

Scholars have noted that the three most common research designs are qualitative, quantitative, and mixed methods.[347,348] Creswell and Poth[347] affirmed that researchers should not assume that qualitative and quantitative approaches are mutually exclusive; rather, they should view qualitative and quantitative approaches as distinct points on a spectrum of methodological approaches and as different ends of a continuum. In addition, mixed methods combine qualitative and quantitative methods and reside in the middle of the spectrum.[347] Furthermore, Brink et al.[348] described a quantitative research design as a numerical, non-descriptive methodology that employs statistics to address the research objectives.

Burns and Grove[351] contended that the research design chosen for a study must be appropriate for answering the research questions. According to Creswell[349], qualitative research is naturalistic in nature and permits the exploration of people's actual experiences on the assumption that there is no objective, singular reality. In a similar vein, Stake[352] argued that the objective of qualitative research is to investigate and comprehend rather than to prove a hypothesis that aligns with the purpose of this research.

Moreover, the focus of a qualitative research design is on reporting experiences, descriptions, and interpretations of reality, which leads to the development of a concept or framework.[353] A qualitative design, according to Creswell and Poth[347], includes methods and techniques such as documenting, analysing, observing and interpreting the meanings and characteristics of human phenomena or social issues being studied. Qualitative research designs are capable of unravelling social phenomena and increasing awareness and understanding of such issues.[349 91,354] According to Cooper and Endacott[355], there are an increasing number of international qualitative research publications in Emergency Medicine, which are consistent with the nature and objectives of this study.

While the researcher was cognisant of the views and assumptions of the social environment and the ontological and epistemological orientations, the aim and objectives of this study were central to the choice of research design.[91] The study's objectives were exploratory and descriptive, seeking to gain individual perceptions and experiences of participants involved in community engagement in the context of EMC education. Qualitative research designs can facilitate a better insight into the experiences and understandings of academics, EMC students, and community

partners and provide participants with more opportunities to express their real feelings and perspectives on the subject.[354] Therefore, the researcher determined that a qualitative research design was most suited to answer the objectives of the study. The section that follows discusses the qualitative research methodology.

3.3.1 Qualitative research methodology

According to Creswell, qualitative researchers may choose from a variety of qualitative strategies or methods of inquiry for their research, which must be described and justified.[349] As a result, a qualitative approach was considered most appropriate for exploring and fully understanding the views of health science academics regarding their experiences with community engagement. It was also deemed necessary to interview EMC academics, EMC students, and community partners in order to understand their experiences in their respective settings.

The most common methods of inquiry in qualitative research include narrative inquiry, phenomenology, ethnography, grounded theory and case study, amongst other strategies of inquiry.[354] Each approach has its unique strengths and limitations, which must be considered within the context of the research objectives.[354] The researcher considered the characteristics and features of the common approaches but deemed that the exploratory descriptive qualitative approach, as described by scholars, was the most appropriate for this study.[84,87] The next subsection elaborates on exploratory descriptive qualitative research methodology, its background, and the justification for its application in this study.

3.3.2 Exploratory descriptive qualitative research design

The researcher utilised an exploratory descriptive qualitative research design because community engagement, particularly in emergency medical care in South Africa, is uncommon and largely unexplored in paramedic education. It is also poorly theorised and understood; hence not many scholars and academics understand community engagement and how it can be integrated into teaching and research locally. Hunter et al.[87] developed a conceptual framework, supported by literature, to justify the use of an exploratory descriptive qualitative approach and argued that it has a place in health research and is a valid qualitative method for achieving the objectives of a study. Although Hunter et al.[87] were not the first to coin the term

"exploratory-descriptive qualitative research," they provided a substantial theoretical foundation to underpin this approach.

Rather than using traditional qualitative research methods, Lichtman[356] proposed that the exploratory, descriptive design involves data collection through interviews, adhering to an explicit scheme for coding and searching for themes, provided that the research is scientifically validated. Certain scholars pointed out concerns that “While studies already exist that purport to use an ‘exploratory descriptive’ methodology; closer examination suggests that their theoretical underpinning is lacking”.[87(pg1)] Through scholarly research Hunter[84] formalised exploratory descriptive qualitative research as a distinct qualitative method by combining exploratory and descriptive methodologies based on the work of Sandelowski and Stebbins. In this vein, Stebbins's work was instrumental in conceptualising Hunter’s exploratory descriptive qualitative research design by providing a comprehensive definition of exploratory research as a qualitative methodology.[87,357] Stebbins[357(p3)] defined exploratory research as "a broad, purposeful, systematic, and pre-planned project aimed at maximising the discovery of generalisations in a particular area of social or psychological life that results in a description and understanding of life”.

Thus, the exploratory aspect of the selected exploratory descriptive qualitative research design aimed to explore the meanings and experiences that the study participants assigned to community engagement in the health science and EMC education context. Furthermore, the exploratory descriptive qualitative design allowed the researcher to build upon the exploratory data by gaining richer, more descriptive information from participants.[87,358,359] Health science academics, EMC academics and students, as well as community partners, provided detailed insights and descriptions of the meanings and experiences of community engagement in the EMC education field. Therefore, the exploratory descriptive qualitative research design was considered best suited for this study.[87]

From a descriptive perspective, Sandelowski[360] proposed descriptive qualitative studies as a distinct method for qualitative inquiry. In Sandelowski’s view, qualitative descriptive research does not rely on significant data interpretation and conceptualisation because it draws on naturalistic inquiry.[360] However, Sandelowski later clarified that qualitative descriptive study is not entirely detached from theoretical

underpinning and that the method should not be used as a salvage method for poorly executed studies.[361]

Based on further recommendations by scholars for justification of exploratory descriptive qualitative design, the choice of the method for this study was substantiated by providing a description of gaps in the literature, detailing the data collection methods and the process of thematic analysis. [84,87,361] Furthermore, Sandelowski[361] proposed that the descriptive aspect of the design has the potential to provide exploratory researchers with a “textured, toned, and hued” approach. The flexibility of the exploratory, descriptive qualitative research approach has also been acknowledged, enabling researchers to be innovative in their thinking.[87] The next two sub-sections will discuss in greater depth the exploratory and descriptive aspects of the study design.

3.3.3 Exploratory aspect of research

Exploratory research seeks potential solutions to ambiguous research questions in a largely unexplored field of scientific study.[362] In addition, exploratory investigations try to determine the existence of novel patterns and establish unknown facts through the acquisition of new data or concepts. It is used to investigate research issues about which little is known.[363,364] Moreover, Stebbins[357(p3)] defines the exploratory research design as one that "investigates distinct phenomena characterised by a lack of extensive preliminary investigation".

The exploratory aspect of this study was used since little has been written about and researched in relation to community engagement in EMC education. Given this theoretical and empirical gap, the study explored how community engagement could be conceptualised and exploring the values, principles and processes of community engagement was important to illuminate this third pillar of higher education in EMC more clearly. Moreover, the exploratory descriptive approach was crucial to describing some of the health science-related community engagement projects implemented by engaged scholars in related fields. The purpose of this research was to gain a deeper, more comprehensive understanding of engagement with the view of enabling its integration and implementation in EMC education. This information was pivotal in developing a framework to guide community engagement in EMC based on best practices within the Health Sciences in the Western Cape.

3.3.4 Descriptive aspect of qualitative research

In qualitative research, a descriptive design entails observing, documenting, and describing the nature of the research in sufficient detail so that the findings can be applied to another context.[364] In the health sciences, descriptive research is a commonly used method, as it enables researchers to analyse circumstances that occur naturally.[360] Descriptive qualitative research provides explicit descriptions of experiences and perspectives, especially in instances where little is known about the research topic.[361]Grove et al.,[365] stressed that descriptive research must be conducted to address an issue or problem in need of a solution or further understanding. Descriptive research entails an in-depth exploration of an issue, and the deeper meaning obtained leads to a thicker description of the phenomenon.[366] In this study, descriptive research allowed for a richer description of the engagement experiences of participants and their interactions with community partners as well as the challenges they experienced with regard to community engagement. The rich description emanating from this inquiry helped enhance understanding of the mutually beneficial and reciprocal partnerships that emerged in the health science context in the Western Cape, thereby identifying aspects that needed to be integrated into the engagement framework.

Scholars argued that exploratory descriptive investigations can illuminate a particular concept and can be beneficial in terms of uncovering the whole essence of a construct in order to improve health science education teaching and research [367,368] An exploratory descriptive qualitative method was, therefore, most appropriate for this study, because, through the descriptive approach, the researcher was able to describe the multidimensional challenges and strengths, as well as the significant role that community engagement plays in EMC teaching and research. The recommendations emerging from the data also helped to strengthen the community engagement framework for EMC education.

3.4 Research Paradigm

The research paradigm established a framework or lens through which this study was conducted and laid the foundation for the research design.[353,369] The lens through which the researcher viewed reality was shaped by his thoughts and beliefs about fundamental aspects of community engagement in EMC education.[370,371] Through the

social constructivist approach, the researcher believed that the subjective interpretations of community engagement are diverse and numerous therefore requiring a focus on the richness of study participants' perspectives which are formed within their social context. Furthermore, it encompassed the researcher's epistemological, ontological, and methodological perspectives.[353] Consequently, the social constructivist paradigm played a role in shaping the essence of this study. This, along with the literature review, informed the methodological approaches and aided in the formulation of the questions used for the semi-structured interview guides in order to gather pertinent information about community engagement. The latter eventually produced results that helped to achieve the goal of this research study.

Social constructivists hold assumptions that individuals seek an understanding of the world they live and work in to develop subjective meanings from their experiences.[346] Through this understanding, the researcher interpreted the complexities of the participants' experiences whilst undertaking an engagement, which helped gain greater insight into the intricacies of community engagement and EMC education. As a result, the researcher needed to engage and interview the participants in their natural settings, especially at higher education institutions and in communities with community partners where community engagement projects and activities were conducted.[372]

Additionally, the social constructivist paradigm aimed to understand the community engagement experience through the perspectives of diverse participants, namely academics, researchers, students, and community partners. The researcher also collected data using two data collection tools, namely in-depth interviews and focus group discussions. Within the social constructivist paradigm, the qualitative data collection tools used in this study facilitated the exploration of participants' individual subjective interpretations of their experiences in community engagement. In the process of collecting data, the researcher sought to understand the context to gather information from the participants using a semi-structured interview guide with open-ended questions.

In the social constructivism paradigm, the researcher frequently employs an inductive approach, in which the themes are generated through data interpretation.[346] Using the social constructivist paradigm, the researcher gathered meaningful and contextually relevant data from experienced academics at local higher education institutions

involved in community engagement. These academics had several years of experience in community engagement in health sciences departments and were actively involved in the transformation of South African higher education to address issues of poverty, social responsibility, and health promotion in marginalised communities. Data was also gathered from EMC academics, students, and community engagement partners. The sub-section below contains a discussion of the research site for the study.

3.5 Research Site for the Target Population

The Western Cape Province was chosen as the site for the study.

Figure 9. The Western Cape Province[373]

Qualitative research does not often require a large sample size to obtain qualitative data. As a result, Stebbins[357] proposed that the research environment should strive to optimise a population's representativeness, which could be accomplished by sampling strategies. Figure 9 provides an overview of the geographical location of the Western Cape Province, indicating the location of the study participants from the various samples. Hunter et al.[87] suggested that the researcher recruits participants who can provide the essential data to address the study's objectives. Other than

Gauteng, the Western Cape is the only province in South Africa that offers the Emergency Care Assistant, DEMC, and BEMC undergraduate qualifications. In Gauteng and the Western Cape, public higher education institutions have partnered with provincial colleges to provide undergraduate programmes. Hence, in the Western Cape, the DEMC curriculum is delivered by three educational institutions.

Due to the geographic proximity, all three institutions offering EMC undergraduate training share work-integrated learning and community engagement platforms for pre-hospital clinical student placement, which includes EMS, healthcare facilities, and Western Cape communities. Additionally, the research environment facilitated access to data and ensured the viability of the study in terms of cost and timeliness, as the research was conducted during the COVID-19 pandemic.

During this time period, multiple surges of the COVID-19 pandemic occurred, requiring the researcher to work around the availability of the study participants in the Western Cape. Whilst the researcher cited three EMC qualifications, this research focused primarily on the DEMC qualification, as this qualification is offered at all three institutions. As mentioned earlier, the BEMC has a service learning component which allows EMC students to participate in community engagement activities. The ECA qualification was introduced in the Western Cape in 2021 and is currently offered by one higher education institution. Irrespective of the EMC qualifications offered in the Western Cape, the community engagement framework developed for EMC education is generic and can be contextualised to all EMC programmes.

The BEMC and DEMC qualifications are listed on the HPCSA register in two different categories.[374] The BEMC graduate registers with the HPCSA as an ECP with a broader scope and skill capabilities, whereas the DEMC registers as an advanced life support paramedic. Since the introduction of the two-year DEMC qualification in the Western Cape, the number of DEMC graduates has far outnumbered BEMC graduate output and employment in the province. As a result, the DEMC students were the focus of this study, as DEMC graduates are critical to the viability of advanced life support services in EMS.

3.6 Target Population

A ‘population’ is defined as the entire group of individuals who meet predetermined access criteria for the researcher.[348] In this study, the first population of interest was

comprised of health science academics from higher education institutions who were engaged or experienced in community engagement-related work. The target population for the subsequent two samples consisted of EMC academics and EMC students from higher education institutions. The fourth sample consisted of community partners involved in community engagement with health science faculties at higher education institutions. The study population sample was confined to the Western Cape.

It was presumed that the sample populations for EMC academics and EMC students had already been exposed to community engagement in the community or clinical settings; hence they were selected for participation. Consequently, the above-mentioned population was in the best position to easily reflect on community engagement experiences and provide recommendations in order to develop a framework to guide EMC education.

3.7 Sampling Strategy

The sampling strategy selects cases representing the total population to whom inferences are made.[91] Consequently, the sampling process is critical for qualitative research as it attempts to achieve representativeness.[350] De Vos et al.[350] described the sampling criteria as population parameters that require the formulation of clearly defined characteristics for the sample population. The study employed purposive and convenience sampling, which was deemed appropriate for eliciting information from the study population selected based on the specific inclusion criteria.[348] Scholars such as Hunter et al.[87] supported this sampling approach in exploratory descriptive qualitative research since it is purposive and aims to capture and explain phenomena across various samples and contexts. Convenience sampling method is also applicable to qualitative studies and prioritises the generalisability of knowledge obtained and represents the population from which the sample was selected.[375]

Firstly, purposive sampling was used in this study to select participants based on the study's intent, with the goal that each participant would contribute unique and valuable information to the aim and objectives of the study. Similarly, Stebbins[8] proposed that the goal of the sample is to increase the population's representativeness; therefore, the researcher used purposive sampling to recruit suitable samples of health science academics and community engagement partners. The researcher classified and selected participants who had prior experience or involvement in community

engagement projects, especially those who were familiar with and shared their rich experiences of the studies investigation.[350]

Some scholars advocated that the sample size should be guided by data saturation.[89,354]Similarly, Hunter et al. proposed that the sample size in exploratory descriptive research may be flexible, provided the research objectives are achieved.[87]

Secondly, the researcher used a convenience sampling method as participants were more conveniently accessible to the researcher regarding their participation in this study.[350] EMC academics and students were recruited using convenience sampling methods discussed in the next subsection. The researcher works in the field of EMC education and has access to EMC academics as well as students.

Thirdly, in addition to the two sampling strategies discussed above, an *expert sampling* strategy was employed to recruit samples from community engagement subject specialists. Expert sampling involves recruiting a sample of participants with known or demonstrable experience and expertise in community engagement. Such a sample strategy is convened under the auspices of a "panel of experts" to elicit the views of persons who have specific expertise.[346,350,376] For this study, expert sampling was essentially a specific subcase of purposive sampling that provided evidence of validity to evaluate and comment on the draft framework. All suggestions and recommendations provided helped to strengthen and validate the framework for community engagement in EMC education. Using an expert sample eliminated the researcher's bias, and the community engagement framework was validated and acknowledged by experts. [346,350,376]

Scholars emphasised the importance of ensuring an adequate sample size for obtaining an optimal level of information in exploratory descriptive qualitative research.[87] In order to facilitate the formation of significant categories and sub-categories, Stebbins proposed a minimum sample size of 30 participants exploratory studies.[357] On the other hand, Hunter et al.[87] recognised that a smaller sample size is preferable. Although the study was limited to the Western Cape, the researcher recruited an adequate sample size for each objective and generated valuable data. Further details of the sampling strategy are described below, hereafter referred to as

Samples 1, 2, 3, 4, and 5. Each sample was related to the specific objectives outlined in the recruitment process.

3.8 Sampling Selection Criteria

Inclusion requirements or eligibility criteria are the parameters that all potential participants must satisfy to be included in the research.[91,371] The five samples selected for this study are described in more detail below. The samples correspond with the study's objectives and purpose.

3.8.1 Sample 1: Academics from the health sciences with experience in community engagement

In order to recruit participants for Sample 1, the researcher used a purposive sampling strategy.[91] Creswell et al.[377] defined purposeful sampling as identifying and selecting individuals or groups of individuals who are highly knowledgeable or experienced about the topic of interest. Purposive sampling is also commonly utilised when a researcher wishes to collect a representative sample of specialists or critical informants knowledgeable about the research context.[91]

Sample 1 consisted of academics from Health Sciences departments, representing Emergency Medicine, Family Medicine, and Social and Allied Health Sciences divisions. The sample was selected due to the fact that these academics had experience in engagement and their active involvement in community engagement projects related to health or EMC. Additionally, academics for Sample 1 from the departments were purposefully selected because of their scholarly credentials, familiarity with healthcare challenges, and professional knowledge. Moreover, the academics in Sample 1 possessed substantial clinical teaching expertise.

To gain access to the sample, the researcher contacted the chairperson of the SAHECEF telephonically. This was followed by an email describing the proposed research, accompanied by ethics approval from the University of Cape Town and a consent letter (Annexure B1 and G) to circulate the research request for voluntary participation to higher education institutions and academics experienced in community engagement in the Western Cape who have established good practices in the field of health science education. The chairperson distributed the research invitation and information via email to the relevant academics from higher education

institutions for voluntary participation. The researcher then contacted academics from four established local universities, who responded to the initial email invitation, to arrange a one-on-one interview. The inclusion and exclusion criteria used to select the academics with experience in community engagement are provided below:

Inclusion criteria

Participants had to:

- Belong to a higher education institution or College of Emergency Care and/or could be recommended by SAHECEF
- Be experienced in community engagement scholarship or projects
- Have coordinated, implemented, or evaluated community engagement activities
- Be employed at any one of the higher education institutions or colleges of emergency care in the Western Cape

Exclusion criteria

Participants were excluded if they:

- Were not willing to participate in the study
- Did not belong to SAHECEF and had no exposure to community engagement scholarships or projects
- Were not involved in community engagement scholarship or projects
- Have never coordinated, implemented, or evaluated community engagement activities
- Were not employed at any of the higher education institutions or colleges of emergency care in the Western Cape

The researcher contacted nineteen academics experienced in community engagement telephonically, followed by an email outlining the proposed study (Annexure B). This was accompanied by an Ethics Approval letter from the University

of Cape Town and a Participant Consent letter (Annexure B6). Most of the academics contacted expressed an interest in participating in the study. During the recruitment process, one of the institutions declined the invitation to participate in the study, which prohibited access to participants from this institution.

Nevertheless, the researcher still gathered rich information from other academics from established higher education institutions. After thirteen one-on-one interviews with academics experienced in community engagement from four institutions, data saturation was reached. Hence no further interviews were necessary.

These thirteen academics were from the field of health sciences faculties and actively participated in the research from four local higher education institutions in the Western Cape. This sample of participants consisted of six males and seven females. In addition, each participant had a minimum of five years of experience in engagement and provided significant insight into community engagement within the field of health science education.

3.8.2 Sample 2: Emergency medical care academics

The participants for Sample 2 comprised EMC academics. The researcher requested permission from selected heads of departments (Annexure A and B2) offering EMC undergraduate training (Annexure H) to interview EMC academics involved in service learning or other forms of community engagement activities at departments. Convenience sampling was the most appropriate sampling technique for selecting Sample 2.[350]

Convenience sampling is a non-probability sampling technique which was used to target EMC academics based on their proximity within Western Cape Province, accessibility and willingness to participate.[375] The inclusion and exclusion criteria used to select the EMC academics are provided below.

Inclusion criteria

The participants had to be:

- Employed as an EMC academic or lecturer
- Willing to participate

- Have at least two years of teaching experience, based on HPCSA criteria for EMC programme accreditation
- Involved in community engagement activities

Exclusion criteria

Participants were excluded if they:

- Were not employed as EMC academics or a lecturer
- Were not willing to participate
- Had less than two years of teaching experience, based on HPCSA criteria for EMC programme accreditation
- Were not involved in community engagement scholarship or projects

To minimise researcher bias and prevent the coercion of the study participants, the research assistant extended an invitation (Annexure B) to the EMC academics via email for their voluntary participation in the study. The focus group interviews were conducted during the COVID-19 pandemic; therefore, strict COVID-19 precautions were followed.

EMC academics from two institutions participated in the focus group interviews. As mentioned earlier, one institution declined to participate in the study. The researcher recruited an adequate sample size for the focus group interview, and the sample was representative of EMC academics in the Western Cape.[346] Accordingly, Hunter et al.[87] recommended sample size flexibility and advocated for a sample size not larger than fifteen participants for exploratory descriptive qualitative focus group research, provided that the participants offer rich information to address the study's aim.

From the aforementioned sample, sixteen participants accepted the invitation, but on the scheduled date of the focus group interview, only thirteen EMC academics participated. The participant group consisted of four females and nine males. All of the participants recruited for the sample were actively involved in teaching EMC and work-integrated learning since the inception of the revised 2016 Diploma Emergency Care programme in the Western Cape.

3.8.3 Sample 3: Emergency medical care students

The rationale for selecting EMC students was that they provided contextual data relating to community engagement scholarly activities as part of education and training, as they were interviewed just before the final exams and completed all work-integrated learning activities. EMC students were selected because a large part of the practical hours focuses on frontline emergency care work in community settings.

Although EMC students are not placed directly in communities, frontline work indirectly requires EMC students to engage with community members during patient care. As part of the EMC curriculum, the foundations of practice and primary health care subjects are based on health promotion and effective strategies for providing quality health services through the strengthening of citizenship and social accountability. Therefore, it was important to interview EMC students due to their continuous interaction with communities in different health settings to reflect and advise on contextual community projects that would promote and improve healthcare in these settings. The inclusion and exclusion criteria used to select the EMC students are provided below.

Inclusion criteria

The participants had to be:

- Studying toward a DEMC qualification
- An employee at an EMS
- Have participated in a community engagement activity
- Willing to participate in the study

Exclusion criteria

Participants were excluded if they:

- Were not studying toward a DEMC qualification
- Were not employed at an EMS
- Had not completed a community engagement activity

- Were not willing to participate in the study

To recruit the EMC students, the research assistant sent an email to the programme coordinators requesting assistance in circulating the research information leaflet to the students to inform them of the study. The programme coordinators circulated this information via email and WhatsApp groups to invite the students to participate voluntarily in the study (Annexure B3).

A total of sixteen students from two institutions participated in this focus group. Of the total, nine were males, and seven were females. The focus group consisted of six students residing in rural areas and ten students residing in Cape Town metropole geographic area.

3.8.4 Sample 4: Community engagement partners

To recruit participants for the above objective (Annexure B4), the researcher recruited community engagement partners identified by academics from health sciences, EMC academics and EMC students. A total of fourteen community engagement partners were recommended for the interviews. The inclusion and exclusion criteria used to select community engagement partners are provided below.

Inclusion criteria

The participants had to be:

- Community engagement partners where EMC students conducted or participated in a community engagement activity
- Willing to participate in the study
- Recommended by academics or health science academics
- Have worked with EMS or health care service students

Exclusion criteria

Participants were excluded if they:

- Were community engagement partners, where no EMC students conducted or participated in an activity

- Were not recommended by academics or undergraduate EMC students
- Were not willing to participate in the study
- Had not worked with EMS or health care services

After identifying community engagement partners, the researcher sent an email with the research information and an invitation to fourteen community engagement partners, inviting them to participate in the study. Two community engagement partners who accepted the invitation succumbed to COVID-19 before the set interview dates. The sample population of community partners comprised non-governmental organisations which focus on socio-economic issues, such as poverty, gender-based violence, gender equality, community safety and security. In addition, the population included government departments of health involved in health promotion, social work and community enhancement, as well volunteer organisations from emergency services.

The interviews were conducted from December 2020 to May 2021. Data collection was challenging as this was during the third wave of the COVID-19 pandemic. Despite this, the respondents were enthusiastic, and occupational health and safety protocols were maintained. The community engagement partners sample consisted of four females and eight males. Of the twelve participants, five were from rural districts, while seven were from the Cape Town metropole area, including red zones. These partners were recommended by academics and EMS employees who were full-time diploma students during data gathering. Notably, all the partners were actively involved in community-based emergency care training projects.

3.8.5 Sample 5: Panel of experts validating the framework for community engagement in emergency medical care education

In order to validate the community engagement framework for EMC education, the researcher recruited a panel of experts (Annexure B5) based on their expertise, knowledge and rich experience in community engagement. As part of the purposive sampling strategy, the researcher contacted twelve expert panel participants via email, following recommendations from the interviewed samples. Of the twelve invited experts, nine participated in the validation discussion of the framework.

The definition of an expert sample varies according to the study's goal. Participants are often knowledgeable, representative of the field under investigation, and have hands-on experience.[378] Interestingly, the literature indicates that variety within a panel improves performance, while heterogeneity may have a detrimental effect in some situations by causing conflict between participants.[379] Humphrey-Murto et al.[378] assert that the group size may vary considerably depending on the purpose of the inquiry and the sort of validation required. Nevertheless, a smaller sample is recommended and should not exceed more than 12 participants.[378] The inclusion and exclusion criteria used to select the panel of experts are provided below.

Inclusion criteria

The participants had to meet one or more of the following criteria:

- Academics who are experienced and involved in established community engagement programmes
- Academics who have published on community engagement in academic literature
- EMC academics involved and experienced in community engagement activities for a minimum of 5 years
- Community engagement partners collaborating with EMC or health sciences departments
- EMS managers from Western Cape involved in community engagement activities for a minimum of 5 years
- An employee of the Western Department of Health involved in strategic health-related community engagement activities for a minimum of 5 years

Exclusion criteria

Participants were excluded if they:

- Were not involved in established community engagement programmes
- Have not published on community engagement in academic literature

- Were not involved in community engagement activities
- Where community engagement partners did not collaborate with EMC or health sciences departments
- Were EMS managers not involved in community engagement activities from the Western Cape
- Were an employee of the Department of Health was not involved in strategic health-related community engagement activities in the Western Cape

The expert committee for this study included a total of nine participants, of which five were female and four males. The sample comprised five academics involved in community engagement projects at higher education institutions both nationally and internationally. In addition, a senior manager from the Western Cape Government Department of Health and an EMS chief district manager from the Western Cape Government Department of Health also participated, along with an EMC academic with several years of experience in community engagement. Furthermore, an active community engagement partner participated in this sample which has been involved with EMC students from higher education institutions.

Having established the constituents of the samples in the sub-sections above, the following section focuses on and discusses the data collection instruments used to elicit information from each of the data samples.

3.9 Data Collection Tools

The data collection instruments set the boundaries for the researcher to collect information through semi-structured interviews, establishing a protocol, and recording the information. [349] Figure 2 in Chapter 1 provided an overview of the data collection tools used to elicit data from the samples. These are detailed in the subsequent sub-sections below.

3.9.1 Interview guide

An interview guide is a set of predetermined questions that serve as a scaffold to guide the researcher through the semi-structured interview or a focus group interview, although the researcher typically explores beyond the pre-set questions based on the

participants' responses.[375] The guide consists of main questions linked to the research questions and a set of probing questions to assist the researcher in eliciting clarification and ensuring the completeness of answers.[380] However, the interview questions are not static and can become more targeted as the interview progresses, considering the emanating understandings from prior interviews.[381] Hanson et al.[380] suggest four to eight main well-structured open-ended questions.

The interview guides used for the purpose of this study included:

- Sample 1: A one-on-one interview guide (Annexure C) was used to interview academics experienced in community engagement.
- Samples 2 and 3: The second focus group discussion interview guide was used to interview EMC academics (Sample 2) and students (Sample 3) (See Annexure D and Annexure E, respectively).
- Sample 4: Thereafter, the researcher used a separate one-on-one interview guide for the community engagement partners (Annexure F).
- Sample 5: Additionally, an extra guide was used for the expert group to appraise the framework.

The interview guides are attached as annexures for further perusal.

3.9.2 Pilot interviews

In qualitative studies, the data collection instruments are commonly piloted to strengthen the data collection tool.[382] An interview guide was piloted with people who reflect similarities with the sample of participants interviewed for the actual study.[383] Castillo-Montoya [383] posits that by piloting the interview guide, the researcher gains a sense of the length of the interview and whether the participants would be able to answer the questions. The piloting stage also allowed space to fix any practical issues as well as test, refine, and improve the interview questions. Thus, it assisted in identifying any shortcomings or limitations in the design of the interview questions to allow changes to the interview guide before the commencement of the main study.[350,377] Harding[384] asserted that the requirement for piloting qualitative interviews is not readily apparent as the quality of the interview guide improves as the interviews

progress. However, he emphasised the importance of piloting the interview questions and adjusting the interview guide properly before proceeding with the main study.

The semi-structured questionnaire's content was also developed using the perspectives gained from the literature review. To improve the questionnaire's accuracy, the questions were discussed with the supervisor and pilot-tested to reduce the incidence of non-response to the questions.

The researcher piloted the semi-structured interview guide with two academics experienced in community engagement through one-on-one interviews. Following the first pilot interview, one academic suggested the use of two probing questions, which were subsequently added to the interview guide. To prevent biases, an experienced facilitator facilitated the semi-structured interview guide for both EMC academics and students, as the researcher is an academic and manages an EMC training institution. The sample for EMC academics consisted of five participants. The third focus group interview guide was tested with six EMC students employed by emergency services. Academics and students at EMC found the instrument to be effective and made no additional suggestions. The interview guide for community engagement partners was piloted via a semi-structured, one-on-one interview with one community engagement partner, who deemed the questions pertinent and sufficient and made no additional recommendations for the interview guide. It is important to note that none of the participants from the sample pilot was interviewed during data collection.

3.9.3 Semi-structured one-on-one interviews

The researcher conducted one-on-one interviews to gather data for Samples 1 and 4 as a method of enquiry to explore their views regarding community engagement. Semi-structured one-on-one interviews are common and frequently used data collection methods in qualitative research.[350,381] As a method, semi-structured one-on-one interviews involve conversations under the guidance of the researcher with the aim of learning about the participants' feelings, thoughts, and experiences.[350] Kallio et al.[381] point out that a semi-structured interview is a popular method due to its versatility and flexibility, as its structure can be adjusted based on the study’s aim and research questions.

Moreover, Hanson et al.[380] asserted that a semi-structured interview is a form of interview whereby the researcher is guided by a set of predetermined main and

probing questions. The latter forms a framework for the interview and serves as a checklist to ensure that all relevant topics related to the objectives are covered. A semi-structured interview is a popular tool used in the health sciences to gather information pertinent to the research topic. This concurs with other scholars who affirmed that semi-structured interviews allow researchers to explore in-depth issues where participants provide unique experiences on the phenomena of interest.[385] In this regard, the researcher developed an interview guide to conduct semi-structured interviews with health science academics at higher education institutions to explore their perceptions of community engagement and how it can become better integrated into EMC education.

3.9.3.1 Sample 1 (Academics experienced in community engagement)

Semi-structured interviews were used to gain deeper insight into how health science academics experienced in community engagement conceptualised community engagement and implemented it within the context of teaching and learning through a mutually beneficial relationship. The interview guide was used for the semi-structured interviews with academics experienced in community engagement (Annexure C). The interview guide utilised for Sample 1 comprised of open-ended questions. These questions explored how academics conceptualised community engagement; the role of higher education institutions in promoting community engagement; the challenges and strengths of community engagement; and the role of EMC education through community engagement. This approach captured deep insights and experiences whereby academics provided a rich description and layers of meaning regarding community engagement with higher education.[91] These insights from health science academics further explored what would constitute critical elements for a framework of community engagement in EMC training.

3.9.3.2. Sample 4 (community engagement partners)

The sample of community engagement partners was interviewed using semi-structured one-on-one interviews to obtain their perceptions on community engagement within the EMC Health Science Faculty.[350,377] Each interview was guided by a pre-developed interview guide as per the attached guiding protocol (Annexure F), which contained open-ended questions to explore how community engagement partners understood community engagement. The guide further explored the

strengths or challenges, and gaps regarding community engagement in EMC education. In addition, questions were posed on how community engagement partners and EMC departments could work collaboratively to improve healthcare in communities. Lastly, the researcher requested recommendations for developing key elements of a community engagement framework for EMC education. Questions allowed for participants to express their personal experiences of community engagement with EMC departments.

3.9.4 Semi-structured focus group interviews

Semi-structured focus group interviews are conversations with a dynamic interaction of a small group of participants, facilitated by a moderator, with the aim of eliciting a rich dialogue between the participants.[386] Hanson et al.[380] claimed that, to a certain extent, focus groups allow for comparison but still maintain enough diversity to spark discussion among the participants. Furthermore, a focus group provides the opportunity to explore similarities and differences of opinions or perspectives, thus expanding the participants' views about an idea or topic.[350]

Moreover, in addition to enabling the researcher to interview several participants in a short space of time, the focus group method also allows for further exploration of the dynamics of a conversation among several members of the group; hence it may bring the norms, cultural values, and sensitive topics emanating from the group to the forefront.[349,350,380] Additionally, this method is also useful for investigating people's thoughts because the interaction between the participants may elicit ideas and views which would not otherwise be uncovered through semi-structured face-to-face interviews.[387]

3.9.4.1 Sample 2 (EMC academics)

Focus group interviews were conducted with Sample 2, which consisted of EMC academics who were purposively selected to ensure equal representation of all role-players involved in community engagement (Annexure D). Brink et al.[348] suggested that focus group interviews normally include between 5 to 15 participants that are purposefully selected to gather opinions and experiences simultaneously.

The interview conversation was framed by a set of open-ended questions prepared in a semi-structured interview guide directed at EMC academics. The researcher

wanted to gain an understanding of how EMC academics conceptualise community engagement and the role of higher education in promoting community engagement. Moreover, the researcher explored how EMC departments can engage with communities and promote community engagement. Furthermore, the researcher required EMC academics to provide recommendations to enhance community engagement in teaching and learning for EMC education.

Nevertheless, to avoid possible coercion, the research assistant emailed information letters to EMC academics at the selected institutions to invite them to participate voluntarily in the study. In addition, the researcher recused himself from the interviews with the EMC academics. Additionally, the researcher appointed an experienced facilitator to conduct the focus group interviews.

3.9.4.2 Sample 3 (EMC students)

For data collection with EMC students, the researcher also used the semi-structured focus group method of qualitative inquiry. The focus group interview was guided by a semi-structured interview guide (Annexure E), which provided an outline for the interview and ensured that the interaction was progressively targeted toward the research objective.[388]

The interview questions focused on the students' understanding of community engagement and explored their views of community engagement in the context of EMC education. Moreover, the focus group interview guide sought to obtain recommendations from the students regarding elements for a framework for community engagement in EMC education and contextual projects for potential community engagement student activities. The rationale for using this method was that it allowed students more freedom to explain their experiences in their own words and allowed the researcher to delve deeper into the topics that emerged during the interview.[350] These participants, in addition to being students, were Emergency Services employees and thus could provide rich contextual information.

3.9.5 Expert committee validation (Sample 5)

After completing the draft community engagement framework for EMC education, the researcher used a guide with open-ended questions to appraise the framework. The expert group was composed of academics experienced in community engagement at

higher education institutions, EMC academics, community engagement partners, and representatives from the EMS industry and the Western Cape Government Department of Health. The researcher requested these participants to identify the gaps, weaknesses, and strengths regarding the development of the framework as well as provide recommendations for its improvement.

The purpose of recruiting these experts was to validate the community engagement framework through discussion to make the framework more contextual and sustainable for EMC education**.** The discussions were conducted until a validation consensus within the expert committee was reached. The validation committee comprised nine participants. The knowledge and insight of the expert committee were used to comment on the findings and provide recommendations to validate the community engagement framework for EMC education.

3.10 Data Collection Process

After obtaining ethics approval (Annexure G) from the University of Cape Town, the researcher contacted various stakeholders to schedule interviews. Consent (Annexure A and B1-6) was sought from the participants who were selected to participate in the study. The process of data gathering was of critical importance to the success of the study and was guided by key elements to validate the data.[348] However, initially, there were several challenges encountered, as indicated next.

Data collection was meant to commence in March 2020 after ethical clearance was obtained from the University of Cape Town's Human Research Ethics Committee (624/2022). Permission to access the various samples was obtained from stakeholders from the Western Cape Government College of Emergency Care, MediClinic EMS College, the University of Cape Town, the University of Stellenbosch, and the University of Western Cape. During the initial stages of data collection, access to the participants of Sample 1 was slow and challenging due to the outbreak of the COVID-19 pandemic. In March 2020, the South African government implemented severe lockdown measures, which resulted in the closing of higher education institutions across the country. This, consequently, resulted in a delay in accessing the participants.

Furthermore, during this period, the researcher was actively involved in assisting with the COVID-19 pandemic training of frontline staff which resulted in a further delay in

accessing the study's samples. Therefore, the researcher requested an extension for research ethics approval, which was granted by the Human Research Ethics Committee and extended until October 2022. Subsequently, the researcher resumed data collection in July 2020, following the easing of the National Disaster restrictions level.

Qualitative researchers collect data using a variety of methods. Creswell[349] suggests that qualitative researchers employ many approaches, preferably two or three for data collection. Brink et al.[348] assert that the employment of multiple techniques to acquire data is known as 'method triangulation'. The objective of method triangulation is to acquire a thorough knowledge of the phenomena and to mitigate the inherent disadvantages of a specific data-gathering technique by employing a complementary technique. In addition, it helps create a comprehensive understanding of the topic under investigation.[91] Data for this study were collected through various techniques, namely, semi-structured one-on-one and focus group interviews, as described in the preceding sections.[349]

Data saturation, according to Saunders et al.[389], is the point when no new information comes to the fore; in other words, when additional data collection provides no new insights, themes, perspectives, or information. Saturation is a fundamental concept utilised in qualitative research because it is used to assess when sufficient data have been obtained to develop a solid and valid understanding of the research. Data saturation was achieved when information was repeated by academics experienced in community engagement, EMC academics and students and community partners, reaching a point where further data collection became 'counterproductive'.[88,390] Furthermore, saturation of data was evident when no new information emerged to shed light on community engagement in EMC education, and repetitive themes emerged from participants of the various samples.[389] Therefore, the researcher was confident that the category was saturated empirically.

3.10.1 Interviews with academics experienced in community engagement (Sample 1)

During this stage of data collection, the participants from Sample 1 were invited to participate in the study via email, followed by telephonic confirmation. After agreeing to participate in the study, appointments were scheduled with the participants of

Sample 1 at a time that was convenient for them. Before conducting the interview, information and consent letters (Annexure B) were emailed to the participants to inform them of the purpose and nature of the study, and to confirm their consent, respectively.

Data collection occurred during the COVID-19 pandemic when South Africa was placed under various levels of lockdown. During this period, some of the higher education institutions were closed or had limited staff on campus. Another challenge was that a large number of academics switched to working remotely from home and were therefore not readily accessible.

From the sample of thirteen, only six participants were interviewed in their offices while ensuring compliance with COVID-19 occupational health and safety measures; five requested online interviews using the Microsoft Teams online platform. Two participants were interviewed face-to-face at their residence, based on their request, due to working-from-home arrangements.

The researcher and the participants were fully aware of the challenges and restrictions of the COVID-19 pandemic and therefore allowed flexibility by using virtual one-on-one interviews. Despite some interviews being conducted via Microsoft Teams, the participants provided deep and meaningful information related to community engagement with higher education institutions.[349] However, most of the interviews were conducted face-to-face, which allowed the researcher to converse directly with the participants, giving rise to rich discussions.

Besides voluntary participation and informed consent (Annexure B1), prior to each interview, the candidates were informed about their right to withdraw from the study. Also, with their permission, the interviews were recorded using two digital recorders and field notes were documented during the interview process. Due to the various waves of the pandemic, interviews were conducted intermittently between March 2020 and February 2021.

These in-depth semi-structured interviews ranged from 45 to 90 minutes in duration and were guided by an interview guide (Annexure C). These conversations explored the views and beliefs of academics regarding community engagement using open-ended questions.[346] Through this interview process, academics provided their personal conceptualisation of community engagement.

Audio recordings from the Dictaphone devices were downloaded onto the researcher's password-protected computer. To ensure further protection of the data, the audio recordings were kept in a password-protected folder on the researcher's computer, accessible only to the researcher. Field notes and the Dictaphone devices were kept in a safe in the researcher's locked office. It is important to note that in some instances, the researcher contacted the participants to verify the points that were noted or recorded and confirmed their transcriptions for clarity (which is known as 'member checking').

3.10.2 Interviews with EMC academics (Sample 2)

For Sample 2, the researcher contacted the Head of Department of both institutions (Annexures A and H), outlining the purpose of the research and requesting permission to access the sample population of EMC academics involved in community engagement activities. Once permission was granted, the research assistant aided with the recruitment of the participants for the focus group interview by contacting the EMC academics via email and, thereafter, telephonically. The email invitation briefly outlined the study (Annexure B2). The research assistant provided a timeline of two weeks for the respondents to reply. From the two institutions, there was a large response of sixteen participants out of a population of (n=43) EMC academics that were willing to partake in the focus group interview. As mentioned in section 3.8.2, from the total of sixteen EMC academics, thirteen participated in the focus group interview.

Due to the imposed COVID-19 travel restrictions, the facilitator conducted the focus group via MS Teams. The venue for the focus group was the boardroom at the Western Cape Government College of Emergency Care. In preparation for the focus group interview, the research assistant ensured that the boardroom was compliant with occupational health and safety measures. The boardroom can accommodate up to 30 people and therefore met the social distance measures that were put in place. Prior to the interview, the boardroom was sanitised, and all windows were open, which allowed for adequate ventilation.

The research assistant ensured that the college Wi-Fi was functional and had a backup modem Internet device to ensure uninterrupted Internet connectivity. The advantage of using Microsoft Teams is that this platform offers the option of recording the session as well as videoconferencing, which served as further backup to the

additional two recorders placed in the boardroom. Prior to entering the boardroom, each participant's temperature was screened, and their hands were sanitised in accordance with health and safety procedures implemented to minimise the spread of the virus. In addition, the participants also wore facemasks before entering the boardroom. A number was allocated to each seat, and the participants sat in an oval position.

The focus group was carefully planned and aimed at assessing perceptions relating to a phenomenon of interest in a safe and permissive environment.[91] Furthermore, the focus group discussions allowed for complex issues to be explored through a synergistic interaction with other participants that prompted deeper insights, drawing from their own perceptions, beliefs, and attitudes about the research topic.[391]

Prior to the focus group, the research assistant introduced himself as well as the external facilitator. Thereafter, the facilitator explained the purpose of the focus group and allowed the EMC academics to introduce themselves. The facilitator explained the rules regarding anonymity and reaffirmed that the candidates should not call out their names but rather use the number provided to them on the seat when answering questions. Furthermore, the EMC academics were not allowed to speak over each other and were asked to maintain respect during the focus group interview.

The participants were also encouraged to speak freely. After explaining the interview conduct process, the facilitator requested that the participants read the information letter and sign the informed consent form (Annexure B6). The facilitator thereafter conducted the focus group interview guided by a semi-structured interview guide with open-ended questions framed to elicit the participants' deep understanding and experiences of community engagement in EMC education.

The focus group interview lasted 60 minutes and was recorded onto two voice recorders as well as online using the Microsoft Teams software. During the interviews, the facilitator made field notes. The audio recordings and the Microsoft Teams recording were uploaded into a password-protected file and stored on the researcher's computer. Field notes taken by the facilitator were scanned and emailed to the researcher. These notes were then uploaded into the password-protected file on the researcher’s computer. Additionally, all transcriptions were conducted using computer-aided software and were stored in the same password-protected folder. Prior to uploading the data, the verbatim transcriptions were emailed to the facilitator

for cross-checking.

3.10.3 Interviews with EMC students (Sample 3)

The researcher contacted the heads of institutions as well as the chief director of the Western Cape Government (Annexures A and H), requesting permission for EMC students to participate voluntarily in the research. The research assistant contacted the programme coordinators via email and, thereafter, contacted the coordinators telephonically and requested their assistance in distributing an information leaflet to invite students to voluntary participation in the study (Annexure B3). Prior to data collection, the programme coordinators sent out email notifications to all participants who met the inclusion criteria. The participants had two weeks to respond to the invite.

A total of twenty-three (n=23) students from ninety-four (n=94) students responded to the email. Thereafter, the programme coordinators distributed the information letters and consent forms to the EMC students. The research assistant recruited a large enough sample from the diploma emergency care programmes offered by two institutions in the Western Cape.

The researcher obtained permission for access from the Heads of Departments from two institutions. On the day of the focus group interview, a sample of sixteen students arrived and participated. The students provided data in both contexts until data saturation was reached. To prevent coercion and biases, the researcher recruited an external experienced facilitator to conduct focus group interviews with EMC students on behalf of the researcher (Annexure E). The focus group interviews were conducted in February 2021, during the COVID-19 pandemic, and all protocols regarding occupational health and safety were maintained (see section 3.9.1). Each participant that entered the venue received a unique number, which was used to safeguard the participants' identity.

The focus group lasted 90 minutes and was conducted by an external experienced facilitator at the Western Cape Government EMS College boardroom. The researcher used the same facilitator that conducted the focus group interview with the EMC academics. An interview guide was utilised with semi-structured open-ended questions. Due to the COVID-19 pandemic and travel restrictions, the facilitator used the MS Teams online platform to conduct the focus group interview. The boardroom venue had a projector and speakers, which allowed for effective facilitation during the

focus group interview. The participants were encouraged to speak freely and provided an array of descriptions and experiences.[91]

The rationale for interviewing EMC students was that they provided contextual data relating to community engagement scholarly activities as part of education and training. The focus group interview allowed for the sharing, as well as the comparing, of the experiences of the participants, and the group dynamics, revealed characteristics that would not have been realised in a single interview. Furthermore, the group dynamics enabled the EMC students to recognise and accept one another's perspectives on community engagement. The benefit was that the students felt empowered and supported in the group to discuss their experiences and feelings in front of their peers.

The focus group interviews were recorded on Microsoft Teams, and the research assistant additionally placed two audio recorders in the boardroom to record the entire discussion. The documentation from the focus group interviews, along with the audio recordings and recordings from the Microsoft Teams platform, were safeguarded following the same security procedures implemented in section 3.9.2.

3.10.4 Interviews with community engagement partners (Sample 4)

The researcher performed a series of one-on-one interviews to investigate the perspectives of community engagement partners selected by health science academics, EMC students and EMC lecturers. According to scholars such as De Vos et al.[350], one-on-one semi-structured interviews are characterised as guided interview that is centred on specific areas of interest that the researcher explores, allowing for substantial flexibility and in-depth research of the phenomena. The researcher designed an interview schedule to conduct the semi-structured interviews with community engagement partners to explore their perceptions of community engagement in EMC with higher education institutions (Annexure F).

This step of the study methodology involved interviewing community engagement partners in the Western Cape who were chosen through purposive sampling. The researcher invited the community engagement participants to participate via email, which was accompanied by an information letter (Annexure B4) describing the nature and purpose of the study. The participants were given two weeks to respond to the invitation.

Initially, the email response was low, as most participants were focused on assisting with curbing the pandemic. Within this context, the researcher gave the participants additional time to respond and sent a reminder email. After receiving 14 responses to the email, the researcher contacted each respondent telephonically. Following communication with the community engagement participants, interview dates and locations were scheduled at a time and place that was convenient for them. Although the invitation received a favourable response, few interviews were rescheduled due to the participants isolating or quarantining themselves due to possible COVID-19 infection.

Despite this, the researcher maintained all occupational health and safety precautions, continued the research process, and visited the participants at their official sites. Five face-to-face interviews were conducted in rural areas of the Western Cape, and one participant requested to be interviewed via Microsoft Teams. Furthermore, the researcher conducted six face-to-face interviews in the Cape Town Metropole in marginalised areas. In total, twelve participants completed the one-on-one interview. The participants signed a consent form (Annexure B6) before the interviews. Furthermore, the participants were informed that they could withdraw from the study at any time without facing any consequences. Nonetheless, all community engagement partners voluntarily participated.

The participants were also informed of the voice recording. The interviews lasted between 60 and 90 minutes. Each participant received the interview schedule in the same format. The researcher asked specific questions, as well as prompting questions, to encourage the participants to elaborate on the subject. Prompting questions allowed the researcher to clarify and elaborate on responses in order to produce a deeper meaning and understanding of community participation through the lens of community partners. During the interview, the researcher made notes to highlight important aspects. Transcripts were provided to the participants to confirm the validity of the content of the transcribed information (member checking). In June 2021, the interviews with the community engagement partners were concluded. Security measures for the collected data followed the same process as mentioned in section 3.8.2.

3.10.5 Panel of experts for group discussion (Sample 5)

The expert group consisted of nine participants, including academics active in community engagement activities from higher education institutions and academics involved in EMC community engagement activities. Additionally, the sample included community engagement partners from EMC departments and community engagement partners from Western Cape EMS. The participants of Sample 5 were approached via email with a letter of invitation to serve on the validation committee (Annexure B5). Following the email invitation, the participants were contacted via telephone to submit a consent form confirming their willingness to participate in the study. A week prior to the expert committee meeting, the participants were emailed a draft copy of the community engagement framework for EMC education to review in preparation for the expert committee discussion.

The validation meeting was set after the data analysis and development of the draft framework in November 2021 for the participants to meet. The proposed community engagement framework for EMC education was presented on Microsoft Teams during the appraisal session. The participants were asked to:

1) Indicate the primary strengths of the emerged community engagement framework

2) Identify any shortcomings in the emerged community engagement framework for EMC education

3) Provide recommendations on how to improve the emerged community engagement framework for EMC education

The researcher convened the expert panel meeting to elicit responses from the panel of experts. The responses to the above-mentioned questions are discussed in detail in the next chapter. The data analysis process is discussed next.

3.11 Data Analysis

Data analysis is a complex and time-consuming phase of qualitative research since it requires the researcher to simultaneously analyse and interpret the data as the study progresses.[85] According to Graue [392], data should be transcribed promptly to allow the researcher to identify discrepancies and similarities while it is still fresh in his/her

mind, as well as make constant comparisons. As a result, data coding is critical, with descriptive codes and process codes being applied to the transcriptions.[393] Similarly, researchers such as Polit and Beck[91] and Schurink et al.[394] assert that qualitative data analysis is a constructionist process in which segments are assembled to form meaningful and conceptual patterns that give meaning to data.

3.11.1 Thematic data analysis

Thematic data analysis is a method of analysing qualitative information that begins with searching for broad categories or themes.[392,395] According to Braun and Clarke[395], thematic analysis is a common method applied in social and health sciences research. Almost a decade later, these researchers concur that thematic analysis affords a framework for researchers to conduct rigorous data analysis while presenting the data's conclusions outside the academic community.[395]

Thorogood[396] encourages the use of thematic analysis as a data analysis method for exploratory descriptive qualitative research, which is concerned with identifying generalisations. The thematic analysis identifies the essential aspects at the core of the participants' experiences.[397] It was also used in recent EMC studies in South Africa, further supporting its suitability and relevance for the current study.[29,398]

3.11.2 Process of thematic data analysis

Following the verbatim transcriptions of the interviews with all the participants, the data analysis and synthesis were carried out using the thematic analysis qualitative approach proposed by Braun and Clarke[395]. Both the researcher and the supervisor have prior experience with qualitative research and are acquainted with the thematic analysis method described below. Although Clarke and Braun[85] claim that thematic analysis is not necessarily a linear process, the researcher analysed the data in consecutive stages, following the six steps proposed by Braun and Clarke[395], namely:

3.11.2.1 Familiarisation with the data

The data obtained from all four samples, which included academics experienced in community engagement, EMC academics, EMC students, and community engagement partners, were audio recorded and transcribed verbatim using transcription software. The researcher began by listening to the voice recordings

several times and comparing them to the transcripts. Following that, all the transcripts were carefully read and re-read to immerse the researcher in the data. This was done to obtain a feel of the wider view, which enabled the identification of critical points of discussion.

3.11.2.2 Coding

The next stage of data analysis involved coding by generating labels of important elements of the data which were relevant to the research objectives guiding the analysis. In this study, the researcher coded every data item and thereafter collated all the codes and relevant data extracts. The extracts and codes were then sorted into preliminary related groups and labelled.

3.11.2.3 Searching for themes

According to Braun and Clarke[395], a theme is "a coherent and meaningful pattern in the data relevant to the research question". Following the coding stage, the researcher searched for potential themes within the coded data by searching for similarities in the data and constructing data sets. During this stage, the researcher identified themes related to community engagement and EMC education. All emerging sub-themes were then grouped and categorised according to the specific meaning they represented.

3.11.2.4 Reviewing themes

During this phase, the researcher reviewed the identified themes by checking for their relevance in relation to both the coded extracts and the research question. In this stage, the researcher merged similar themes together into broader themes.[395] In this process, the researcher reflected on whether the emerging themes and sub-themes represented the consistent meaning of the data in a convincing and compelling manner. The researcher examined the themes repeatedly to identify emergent patterns in the data.

3.11.2.5 Defining and naming themes

In this phase, the researcher reflected on the meaning of each theme and how it fits into the data to determine a name for each of the themes.[395] After summarising the

content of each theme, the researcher assigned a name to each one and then double-checked that the names were correct and suitable.

3.11.2.6 Writing up

In the final step, the analysed narratives and related data extracts were linked together in a coherent write-up and contextualised against existing community engagement literature.[395] The analysed data, in turn, informed the emerging framework for community engagement in emergency care education. In addition, existing best practice community engagement literature related to conceptualisation, the process, teaching and learning, collaboration, institutionalisation, and contextual community engagement activities served to further shape the elements of the emerging community engagement framework. The draft framework was then evaluated and appraised by an expert validation panel. Once the community engagement framework for community engagement in EMC education was finalised, the researcher was able to develop the final version of the framework.

Having delineated the data analysis process and steps followed in the sections above, attention now shifts to establishing the trustworthiness of the study. The following section then covers the ethical considerations adhered to during the entire research process, which is followed by a brief conclusion to bring the chapter to a close.

3.12 Trustworthiness

Trustworthiness denotes the establishment of validity and reliability in qualitative research.[91] To this end, the researcher followed Lincoln and Guba's[399] four main criteria, namely, *credibility, transferability, dependability*, and *conformability*, to confirm the trustworthiness of the study. These elements are described in more detail in the sub-sections below under their respective sub-headings.

3.12.1 Credibility

Credibility refers to the confidence and trust that the subject has been accurately identified and described.[91] In order to achieve credibility, key processes had to be followed. Hence, the study was carried out in a way that augmented the legitimacy of its findings. Consequently, the researcher complied with important elements to

demonstrate credibility in the research report.[91] Furthermore, the researcher has confidence in the accuracy of the data and the interpretation thereof.[347]

To ensure credibility during the focus group interviews as well as the one-on-one interviews, the researcher used the same semi-structured interview guide for each sample. This was to maintain consistency in that all the participants were asked the same questions (Annexures C and F). The use of interviews with academics, students and community engagement partners allowed the researcher to explore and understand community engagement in EMC education and clarify any answers that were not clear.

Furthermore, the interviews were conducted until no new data emerged, and information was collected until data saturation was achieved.[89] Data saturation was operationalised in accordance with the research objectives.[389] Additionally, credibility relates to the extent to which the themes were addressed in order to verify that no pertinent data were omitted.[350] As mentioned earlier, member checking to confirm the accuracy of the data was followed to make sure that the participants' views were accurately captured.[400] Triangulation of the data required the use of a variety of approaches, including interviews, focus group interviews, and a panel of experts to ensure that the community engagement framework for EMC education was endorsed by the validation committee.

3.12.2 Transferability

Transferability is the extent to which the findings can be applied in other contexts or in another setting with other participants.[91] Although this may be problematic in qualitative research, De Vos et al.[350] advised the use of the conceptual or theoretical framework as a guide for parameters in the study. The framework for this research was guided by Boyer's Scholarship of Engagement model.[57] Together with this, the researcher provided a dense description of the research methodology, research context, and the participants' background to enable any other prospective researcher to determine whether or not the research findings described can be generalised and transferred to another setting. As mentioned earlier, the data for this research were generated from multiple sources, viz., focus group interviews and one-on-one interviews with multiple samples. Although the study was confined to the Western Cape, in order to assess the extent to which the findings may be true in other settings, similar studies can employ the same methods to achieve an analogous outcome.[400]

For this study, the researcher provided a detailed description of the study context, the criteria and selection of study participants, and the data collection and analysis process to enable another researcher to conduct a similar study and reach a consensus on whether the transfer can be considered viable.

3.12.3 Dependability

"*Dependability* denotes the stability or reliability of the data and is an enquiry to the research process through documentation and auditing".[91] In order to address dependability, the processes followed in the study were recorded in detail, thereby enabling future researchers to repeat the study, although not necessarily to gain the same results. Thus, the exploratory, descriptive qualitative research design chosen for the study was viewed as a "prototype model".[87] Such comprehensive coverage illustrates the level to which acceptable research processes were used for the research report in order to generate a thorough comprehension of the methodology and the efficacy that the results yielded.[400]

Interview material, recordings, transcriptions, data analysis, or any other material relevant to the study was stored in a password-protected file on the researcher's computer, accessible only to the researcher. However, the data were also made available to the researcher's supervisor for the purpose of an audit trail. Moreover, dependability also refers to the stability of the data over time and enquires whether the findings of the study will be similar if it is replicated with similar participants in the same context.[91] The literature review explored many facets of the study's objectives in relation to academics experienced in community engagement, EMC academics, EMC students, higher education institutions, and community engagement partners. While the researcher discovered certain similarities in the results, there were also gaps identified. The researcher was also able to determine whether the findings would be similar to those of this study. This helped to highlight the consistency of findings and to correct any discrepancies.

3.12.4 Conformability

Conformability highlights the potential for congruency of data in terms of accuracy, relevance, or meaning.[348] The concept of conformability is the qualitative investigator's ability for objectivity. The role of triangulation, as mentioned above, in

promoting such conformability was emphasised in this context to reduce the effect of researcher bias.[400]

The data presented in this study were obtained from the interviews with the participants and transcribed in the form of verbatim quotes. Furthermore, the interviews were audio recorded and secured via password protection and stored on the researcher's computer for the purposes of an audit trail. Conformability also refers to the degree to which the researcher demonstrates neutrality and whether the findings of the study can be confirmed by another.[350] Data for this research were gathered from multiple sources, which allowed for triangulation to verify the truthfulness of the findings. Member checking was also used as a validation tool.[401] During this process, the researcher provided the transcripts to specific participants to confirm the accuracy of the interpretation of the data. In addition, the data for this research were presented to the validation committee to ensure that the researcher interpreted and presented the data without any bias or manipulation. The researcher presented segments of the transcripts and the interpretation thereof, which laid the foundation for the guiding community engagement framework in EMC education.

Maintaining and following ethics protocols is a requirement of all academic research endeavours. The following section outlines the ethical considerations followed by the researcher in the current study.

3.13 Ethical Considerations

The term ‘ethics’ refers to preferences that impact human behaviour by adhering to a set of principles, rules of conduct, the researcher's obligation, and the codes of conduct of a certain profession.[363] ‘Ethical consideration’ refers to the quality of the research procedures and processes regarding the adherence to legal, professional, and social obligations to protect the individuals or study’s participants.[348] The following ethical principles guided the study:

3.13.1 Informed consent

The University of Cape Town’s Human Research Ethics Committee provided primary consent to undertake the research (Annexure J). After receiving ethics approval, consent was attained from the Heads of Department and participants from the selected higher education institutions for permission to participate in the research

(Annexures A and B). The researcher provided an overview of the study, which entailed a detailed explanation of what was required of the participants for the study. Participation was voluntary, and the researcher provided a letter of informed consent that stipulated that all information would remain confidential and anonymous. In addition, the letter contained the contact details of the researcher as well as of his supervisor. Moreover, during the research process, the researcher made sure that only his supervisors had access to confidential information**.**

3.13.2 The right to full disclosure

Potential participants were approached and requested to partake in the research study by means of emails, followed up by telecommunication. Involvement in the research was entirely voluntary, and the participants had the right to withdraw from the research at any time with no repercussions.[348] All of the participants were supplied with an information letter that contained specific details of the study, including any potential risks and benefits (Annexure B). Furthermore, the study participants were not exposed to any harm as there were no invasive interventions.

3.13.3 The right to privacy

According to Polit and Beck[91], the participants have the right to privacy and fair treatment, which implies that participants can decline participation at any stage of the study and will not be prejudiced by the researcher. The participants were informed about their right to withdraw from the study as described in the consent form, (Annexure B6). During the research process, none of the participants withdrew from the study.

Privacy covers an individual right to determine the time, extent, and general circumstances under which personal information will be shared or withheld.[386] No names or personal information was reflected on the data collection tools. Number coding, instead of the participants' real names, was used to ensure that the confidentiality of the participant's responses was upheld. In addition, no names or personal identifiers appeared on any of the data sheets that were sent for analysis. All information was managed in a professional and confidential manner, and the participants' privacy was strictly observed throughout the entire research process (Annexure B6).

This research only commenced after ethical clearance was obtained from the University of Cape Town's Human Research Ethics Committee (624/2022). Thereafter, the researcher contacted various stakeholders to conduct the research. As mentioned earlier, the researcher requested an extension for ethics approval due to the delay in accessing participants during the COVID-19 pandemic as well as following health and safety regulations that were imposed during the various stages of the study (Annexure J).

3.14 Conclusion

This chapter provided an in-depth description of the exploratory, descriptive qualitative research methodology that was utilised to collect the data. Five samples of participants were selected to achieve each of the objectives of the study. Data collection instruments comprised various interview schedules to address each sample (and objective). The process of data capturing and analysis, as well as the steps taken to ensure the trustworthiness of the study, was discussed in detail herein. In addition, ethical compliance measures provided the conclusion to the research methodology process. Data analysis and discussions supported by verbatim quotes will be presented in the next chapter.

CHAPTER 4: DATA ANALYSIS – THEMES AND SUB-THEMES

"What counts in life is not the mere fact that we have lived. It is what difference we have made to the lives of others that will determine the significance of the life we lead"
(Nelson Mandela).[402]

4.1 Introduction

This chapter reflects the data and an analysis of the findings made within the context of themes and sub-themes. The data contained within this Chapter provides rich and insightful exploratory and descriptive information from interviews and focus group discussions. The process used for the analysis involved six phases, as detailed in Chapter 3. It followed the method explicated by Braun and Clarke.[395] Five samples were recruited for this study. Data was collected from academics actively involved in community engagement (Sample 1), academics involved in teaching emergency care (Sample 2), EMC paramedic students (Sample 3), community partners involved in projects being implemented in emergency care or other health science disciplines (Sample 4) and community engagement experts (Sample 5), who were used to validate the draft framework.

The data and a discussion of the findings made are presented in the sections that follow.

4.2 Data Analysis

In the context of a study's objectives, a theme captures the essential features of the data and reflects a patterned response or meaning within the data.[395] To this end, thematic analysis was employed in this study to identify the current reality or unravel the surface of 'reality' in addressing community engagement in paramedic education.[403] Additionally, the researcher juxtaposed the most poignant excerpts with descriptions and interpretations, which were supported by literature to validate the data under certain subthemes.[404] Table 1 provides abbreviations used herein to identify the authors of the verbatim quotes presented in this chapter:

Table 1. Sample groups codes

Sample	Description	Code
Sample 1	Academics across health sciences, who were directly involved in community engagement	A
Sample 2	Focus Group 1 – Academics from Emergency Medical Care (EMC)	FG1 AE
Sample 3	Focus Group 2 – Students from EMC	FG2 S
Sample 4	Community partners involved in various engagement projects across health sciences and EMC	CP
Sample 5	Experts in community engagement to validate the draft community engagement framework	E

Table 2 below presents the themes and sub-themes that emerged during the process of data analysis.

Table 2. Overview of main themes and sub-themes

Main Themes	Sub-themes
4.2.1 Theme 1: Conceptualisation of community engagement	4.2.1.1 Mutually beneficial relationships 4.2.1.2 Social justice 4.2.1.3 Societal impact
4.2.2 Theme 2: Community engagement processes	4.2.2.1 Connecting with communities with respect and trust 4.2.2.2 Honouring cultural diversity 4.2.2.3 Accessing communities 4.2.2.4 Understanding the needs of the community 4.2.2.5 Collective goal setting 4.2.2.6 Building community-university partnership 4.2.2.7 Communication 4.2.2.8 Ensuring sustainability
4.2.3 Theme 3: Collaborative practice	4.2.3.1 Utilising established partners to access communities 4.2.3.2 Transdisciplinary work
4.2.4 Theme 4: Teaching and learning	4.2.4.1 Emergency medical care at the interface of communities 4.2.4.2 Embedding community engagement within the emergency medical care academic programme

	4.2.4.3 Community-based teaching 4.2.4.4 Value of community-based learning 4.2.4.5 Student preparedness for community engagement 4.2.4.6 Assessment of projects 4.2.4.7 Reflections on community engagement 4.2.4.8 Community-based research 4.2.4.9 Co-production of knowledge
4.2.5 Theme 5: Institutionalisation	4.2.5.1 Institutionalising community engagement at higher education institutions 4.2.5.2 Institutional preparedness
4.2.6 Theme 6: Contextual community engagement projects	4.2.6.1 Nature of current community engagement projects 4.2.6.2 Potential EMC community engagement projects

4.2.1 Theme 1: Conceptualisation of community engagement

The first main theme that emerged from the data related to the *conceptualisation of community engagement*. The data revealed that community engagement was conceptualised differently across the samples. Theme 1 and its related sub-themes are presented in Table 3 below.

Table 3. Conceptualisation of community engagement

Main Theme	Sub-themes
4.2.1 Conceptualisation of community engagement	4.2.1.1 Mutually beneficial relationships 4.2.1.2 Social justice 4.2.1.3 Societal impact

Academics with significant experience in community engagement expressed that there are differences in how community engagement is conceptualised across higher education institutions locally. This is evidenced in the excerpt below:

> *"There is much controversy on what is community engagement, and it is diverse on campus. So, in other words, at an institution, people have different interpretations collectively in South Africa, amongst the 26 universities, there are different interpretations" (A 9).*

This notion was affirmed by other health science academics, as the definitions offered by them reflect the lack of a clear definition at higher education institutions in the Western Cape Province. The aforementioned lack of a precise conceptualisation of community engagement may have a negative impact on EMC education, which is still in its fledgling stages of embracing engagement in EMC education. This resonates with the views of local scholars who have argued that engagement at higher education institutions remains episodic and that conceptual clarity is lacking.[23,93,94]

Within this context, Bindandi et al.[232] recognised that each community is unique with diverse challenges, and as such, a "one-size-fits-all" strategy for community engagement is undesirable. Despite the diverse interpretations of engagement in the literature, scholars have recognised that the core elements embedded in definitions of university-community engagement include mutual benefits for universities and the community, knowledge co-creation, the interconnectedness of higher education

institutions and communities, knowledge transfer, and sustainable collaborations.[6,41,405]

Moreover, the data analysis reflected that participants conceptualised community engagement through a multidimensional lens. Hence, three distinct sub-themes emerged, viz. *mutually beneficial relationships* (sub-theme 4.2.1.1), *social justice* (sub-theme 4.2.1.2), and *societal impact* (sub-theme 4.2.1.3), which collectively coalesced into how community engagement is defined locally. An analysis of these three key sub-themes is presented below.

4.2.1.1 Mutually beneficial relationships

One salient thread underpinning the conceptualisation of community engagement was that community engagement should be mutually beneficial. Participants described it as follows:

> *"To partner with various communities for growth, prosperity, and well-being … to bring universities and stakeholders together for the mutual advantage…social, cultural, and economic well-being of communities" (A 2).*

> *"Reciprocity is important so that both parties feel that they are gaining something. It's not the university being a parasite on them [communities]... it's got to be a win-win situation" (A 10).*

The data revealed that academics with experience in engagement in health sciences believed that community engagement is predicated on a joint partnership between universities and community partners that will enable the socio-economic and cultural well-being of communities in a mutually beneficial way. Participants emphasised that university-community relationships should not be linear relationships, which results in the university being viewed as parasitic or drawing unilaterally from the community, but rather reciprocity should underpin the relationship.

Mutually beneficial relationships and reciprocity are important elements embedded in definitions of community engagement in the literature.[12,100] In this vein, Starke et al.[405] defined community engagement as a collaboration between universities and communities for "the mutually beneficial exchange of knowledge and resources" based on "partnership and reciprocity".

What was significant was that academics from EMC were unfamiliar with notions of community engagement and struggled to understand community engagement. Most seemed to think that it was a linear relationship as follows:

> "*I wasn't aware of the concept…but I understand it as engaging with the communities out there by teaching them what we do and what EMS is all about" (FG1 AE 7).*

> *"I didn't realise that there was such …term of community engagement or its importance for emergency medical care training, … although we did this as part of primary healthcare as students ourselves before I became a lecturer, but for me I couldn't understand its relevance or importance for mutual relations in EMC" (FG1 AE 12).*

The lack of awareness of community engagement, as the third pillar in higher education, and its salience to teaching and research are important findings and indicate the reasons why community engagement has not been prioritised in emergency medical care. The data highlighted that EMC academics were unaware of the importance of mutuality in the relationship but believed that they somehow were in an elitist position and, by virtue of their status, had expert knowledge that could benefit the community, as opposed to considering the community as an equal partner. These findings are contradictory to those such as Plummer et al.[406], who emphasised the importance of partnership building, goal setting, shared power, and shared resources.

In order to advance the community engagement mandate in emergency medical care, a change in university culture, which values community knowledge and community-engaged scholarship, needs to occur.[407] Despite the findings, it is important to consider the views of Bhagwan[19], who emphasised that to solidify partnerships, communities must be viewed as equal partners to universities. This is captured in the following excerpts:

> *"Engagement means seeing the community not as a separate entity, but as an integral part of how things function and that you need to design plans or ideas not as separate silos" (FG2 S11).*

> *"Community engagement is about the community and the EMC, both of them working together to achieve the goal to help a patient in our townships" (FG2 S4).*

Although EMC students were unfamiliar with the formal conceptualisation of community engagement, they argued that EMC departments should partner with communities so that patients in marginalised areas derive the most benefit. Students understood that both entities should not work in silos but rather as interconnected partners whose mutual purpose is to jointly plan and design health response strategies.

This aligns itself with the views of an eminent scholar, Singh[223], who proclaimed that engagement is a two-way, mutually beneficial relationship with higher education institutions, playing a part in integrating communities into the mainstream of society and putting an end to their marginalisation and thereby providing opportunities for development.

4.2.1.2 Social justice

Social justice also emerged as an important construct in the conceptualisation of community engagement. Those academics with significant community engagement experience said:

> *"You don't want universities to be elite places that are disconnected from the societies, … we want them [universities] to be kind of the engines of social change in our society" (A 3).*

> *"Social justice … because community engagement is all about that; ... You are not going to make a difference in society, whether you're First World or a Third World country, if we don't start bringing back dignity, harmony, and care, by people for people … you look at diversity, social justice and inclusion, and that takes you through a heavy journey because we are all the end result of institutionalised experiences" (A 9).*

> *"Breaking down barriers and also to transforming the division to become more socially responsive, and to find the biopsychosocial aspects that involves patient care" (A 8).*

As evidenced, social justice was viewed as hugely important to the transformation of socially excluded and disadvantaged communities. Participants believed that higher education institutions should not be disconnected from society; rather, they should be the agents of change, particularly with regard to access to health care and better health care for poor communities in South Africa.

Similarly, the literature describes social justice to address issues of poverty, access to social well-being, equality, and justice, primarily for marginalised individuals and communities in South Africa.[47] Moreover, it is affiliated with "the pursuit of the common good through non-hierarchical and democratic processes" and a shared commitment

to servitude.[289] As such, it should be a central aspect, in relation to the conceptualisation of community engagement, in EMC.

Based on the data, EMC academic institutions must make concerted efforts to transform themselves so that they embrace the Constitution's objectives and principles. This requires that all South Africans, including students, develop into justice-oriented, socially responsible citizens with values and abilities to cultivate, protect, and disseminate knowledge about a democratic society.[42]

It was the EMC academics who argued the need for the EMC education sector to become more strongly involved in understanding community needs and ensuring that resources are justly distributed, particularly in disadvantaged communities. This reflects the social justice aspect that must guide how community engagement is conceptualised and implemented.

> *"The role that higher education institutions play is to analyse the situation and the needs in those specific communities, so that the resources can be distributed appropriately and more effectively" (FG1 EA 8).*

As reflected in the excerpt above, equal distribution of resources, particularly a focus on poorer communities, is important as part of social justice. Similarly, the literature emphasised that engagement fostered through a social justice lens not only enhances the university's compassion for marginalised communities but it also provides opportunities to transform communities through a communal, mutually empowering interaction.[408] Paramedic training in the Western Cape should therefore focus on social justice as part of teaching, learning and research and find innovative ways in which students can contribute as agents of social change within their professions. Academics believed that community engagement could improve healthcare through EMC education and by exposing students to social justice issues in underserved communities.

Paramedic students also emphasised that EMC training should focus on social justice, particularly with service to marginalised communities. This supports the need

for social justice to be integrated into a conceptualisation of community engagement, as stated below:

> *"Train students in a way that are equipped to serve communities, particularly where there's a focus on social justice and underserved communities" (FG2 S5).*

Likewise, Jacob et al.[249] expressed similar sentiments to those of the paramedic students and alluded to the complexities of health inequity, the burden of disease, and service delivery in resource-constrained environments. They stated that, through community engagement, students' clinical competency improves because they are critically cognisant of the health care system in which they practice and become responsive to social justice issues. Pratt[409] proposed that community engagement should prioritise social determinants of health that elucidate the complex causal pathways through which multiple social determinants interact to affect health, and students should develop interventions to address them in order to ensure social justice. To repair historical disparities and foster democracy in all spheres of life, students must not only be exposed to diverse types of injustice but also be equipped to propose initiatives that address these inequalities.[5] Some students expressed their sensitivity for social justice from their experience in workplace training as follows:

> *"There's a massive divide in society … because you don't always think about what it's like to be in the position of a patient in a squatter camp …someone who's essentially in need of more than medical help." (FG2 S13)*

Given the historical, socioeconomic, and healthcare distribution disparities in South Africa's marginalised and underprivileged communities, students have shown a desire to acquire the skills necessary to meet community needs. Therefore, EMC training should be adapted to local healthcare challenges, with an emphasis on social justice

and human rights. Notions of social justice are a central thread in the literature, which suggest that this is a core aspect of how community engagement is conceptualised and implemented so that its impact on students and the broader community is strengthened.[379,410] To this end, Bhagwan[23] offered the following understanding of community engagement, as being that "community engagement focuses on social change and social justice and the building of social, economic and cultural capital within and between communities and the academy". Collectively both the data and literature mirror the conceptualisation of community engagement, which should include social justice, reform, and citizenship. The data findings were similar to the literature whereby scholars concluded that higher education institutions should train future healthcare professionals as advocates of social change, who are responsive to locally contextual problems and who become active participants of community engagement programmes whose focus is social justice and human rights issues[19,41] The next sub-theme focuses on the societal impact of community engagement as part of the conceptualisation of community engagement.

4.2.1.3 Societal impact

Community engagement was also described by the participants as having a *societal impact,* which formed sub-theme 3 of Theme 1. This was reflected in the following excerpts:

> *"As a higher education institution, we are in the best place to have an impact to make a change in society" (A 7).*

> *"The community engagement interface is a way to build better societies ... to flatten hierarchies of power that often exists between state actors, politicians, and community members" (A 3).*

> *"Community engagement must be purposeful, and it must be significant … there must be a common goal that you work towards … There must be a shift to bring a change, and so this is why the new*

terms linked to community engagement came about ... It must make a difference in society because we can no longer say we're doing research for the betterment and let it sit on a shelf " (A 9).

"Community engagement needs to have an impact on communities … has to have a social impact and how your teaching, learning and research can transform communities " (A 2).

"Community engagement is about recognising the importance of social participation in health to determine priorities to design programmes and to shape the health system in a range of different ways" (A 3).

As reflected in the excerpts above, health science academics with experience in community engagement believed that 'social impact' or the transformation of society toward purposeful and meaningful development with measurable positive outcomes was a critical aspect in terms of the conceptualisation of community engagement. Farnell[187] defined 'impact' as "the long-term outcome of university activities aimed at addressing a given societal need". The above excerpt from academics implies that societal impact encompasses social, cultural, political, and organisational dimensions to be introduced in EMC education to shape the community engagement interventions to have a positive impact on patient care and the broader health system.

As reflected in the data, health science academics believed that universities were ideally positioned to effect meaningful and impactful change in society through engagement activities. This change was interpreted as the tangible transformation of society towards improved health outcomes and social well-being. A conceptualisation of community engagement in EMC education should therefore be guided by a goal-oriented, purposeful, and collective approach to community participation.

The need to flatten hierarchical power imbalances between higher education institutions and communities was viewed as being important to dismantling the power relationships that have left historically marginalised communities without a voice

within the context of engagement. Hence it is crucial that the conceptualisation of EMC focuses on breaking down barriers between EMC education departments and community partners.

Several community partner participants lamented that whilst universities claimed to conduct research for the betterment of societies, the newly produced knowledge was not translated into tangible societal interventions for social change. Hence such research activities were done in a linear way that reflected more an exploitation of communities, as opposed to research that would transform ills within communities. These notions were reflected as follows:

> *" I am yet to see any impact from these projects" (CP 8).*

> *"They just come in... and then you don't hear from them until another project …what impact are they making..." (CP 10).*

The data from community partners further suggested, as evidenced above, a sense of disconnect between academics and communities, as academics perform research activities and then disengage until another research project is implemented. Hence no tangible interventions that address research findings emerge from such studies. Even Bidandi et al.[232] reported that societal transformation, particularly the measurement of societal impact following engagement remains problematic and evasive in South African higher education institutions.

Internationally community engagement has been lauded for its ability to promote community health and well-being and reduce health inequalities, particularly those interventions that aim at improving the health of underprivileged communities.[411] According to the National Institute for Health and Clinical Excellence, the majority of 'engaged' higher education institutions in the United Kingdom have improved citizens' physical and psychological health, self-confidence, self-esteem, sense of personal empowerment, and social relationships through community-engaged interventions.[412]

Murphy and McGrath[413], therefore, concluded that transformative engagement was more desirable as an interactive process in which all partners apply critical thinking skills to complex community problems in order to effect societal and economic change. In a similar vein, Cyril et al.[333] explored the role of community engagement in improving the health of disadvantaged populations. They recommended that community engagement models can lead to improved health and health behaviours among disadvantaged populations if community engagement programmes are properly designed through effective community consultation and participation with higher education institutions. Correspondingly, the research data and supporting literature affirm that the conceptualisation of community engagement should include tangible societal impact in order to improve health care in marginalised communities in South Africa.

4.2.2 Theme 2: Community engagement processes

The second theme derived from the data focussed on the processes of community engagement. According to Mitlon et al.[411], the community engagement process is a powerful vehicle for bringing about social changes to improve community health and often involves partnerships and coalitions that help mobilise resources and influence systems, which often serve as catalysts for changing healthcare programmes and practices.

The eight sub-themes that emerged under Theme 2 are listed in Table 4 below and will be discussed under their respective sub-headings in the sub-sections that follow.

Table 4. Community engagement processes

Main Theme	Sub-themes
4.2.2 Theme 2: community engagement processes	4.2.2.1 Connecting with communities with respect and trust 4.2.2.2 Honouring cultural diversity 4.2.2.3 Accessing communities 4.2.2.4 Understanding the needs of the community 4.2.2.5 Collective goal setting 4.2.2.6 Building community-university partnership 4.2.2.7 Communication 4.2.2.8 Ensuring sustainability

4.2.2.1 Connecting with communities with respect and trust

The participants stated that *respect and trust* were key elements for connecting with communities, as follows:

> *"It is these connections that build the communities where we feel most ourselves, and in which we belong. It is where we find comfort, security, and happiness" (A 7).*

> *"Finding meaningful ways of connecting with members of the community that you serve, NGOs, community health workers,*

community forums, or leaders and these are more formal structures" (A 10).

"You have to respect the community to engage the community. The other thing is that you not gonna get buy-in if leaders are unaware… communities are much more empowered now, they don't want someone to just come in and walk away ... communities are more aware of their rights. You must get their [community] respect, otherwise you can't work with communities" (A 3).

"Once the community sites see that you're interested in them, and know and understand them, they are more likely to trust you as a system" (A 2).

"Look, this place…has a very bad name all over the world…but when you come here, it's how you treat the people, it helps when you are treated with respect, then they want to work with you" (CP 6).

The health sciences academics with experience in community engagement and community partners contended that connecting with communities was a complex process, particularly the process of building trust and emphasised the importance of developing meaningful relationships, particularly with community leaders, who serve as entry points into a community. According to the data, connecting with communities through formal channels such as non-governmental organisations, community health workers, and community forums was critical because these were the gatekeepers to the community. As a result, respect for such structures was essential.[6]

Community partners from marginalised communities expressed their belief that communities should not be stigmatised because of poverty or gangsterism. They also stated that being treated respectfully facilitates better collaboration with local higher

education departments. Notions of valuing community partners with mutual respect and trust were seen as the most important building blocks for linking with communities in the literature.[47,202] As indicated in the data by the participants, respect and trust are established by being authentic, having the community's interest as the main objective, and empowering communities through collaboration. Scholars have also agreed that mutual respect, trust, and authenticity are fundamental values of connecting with communities.[5,414,415] Beere et al.[281] advised that in cases of distrust, the university should first strive to form a relationship with a single, trusted, and respected organisation in the community and thereafter faithfully deliver their promises to this partnership.

When elaborating on issues of trust, participants expressed the need for academics to dismantle hierarchical power relationships and engage with authenticity and care, as stated below:

> *"We didn't want it to be [a] top-down approach. ... We move at the speed of trust, which means you move really slow, and you need to do that relational work to build trust, to get to know each other, to do sort of different forms of collective sense-making to be on the same page. … It's also about engaging with authenticity ... then taking action together. It's very hard to build trust if you aren't doing something together" (A 9).*

> *"Quite often the ward councillor or clinic committee members aren't trusted members ... It's usually the aunty on the street making koeksister[s] [confectionary] or the woman who looks after the community gardens who's trusted" (A 11).*

> *"Build trusting relationships … even if I'm late, I'll show up and be authentic … I will walk the road with you and listen … that's what you do for your communities" (A 1).*

True engagement is achieved through authentic relationships with ordinary community members rather than through a top-down approach. According to the data, engaged scholars can also benefit from "the aunty making koeksisters" and simple, meaningful activities such as walking down the street with a community member. Similarly, Barker et al.[416] emphasised a "bottom-up approach" in which deeply rooted community members participate in "decision-making processes of planning, design, governance, and delivery of services to improve health and reduce health inequalities". Relationships develop and should be nurtured over time, so it is critical to listen to those voices on the street and to be visible in community spaces in order to strengthen such relationships. In this vein, Gilchrist and Taylor[417] proposed methods of connecting with communities, such as walking through neighbourhoods and engaging in one-on-one conversations, which proved to be effective methods of interacting with the public in the absence of formal networks. These are important strategies for EMC academics and students to consider.

The data also highlighted strategies for connecting with communities in the Western Cape's notoriously violent, criminal, and gang-infested red zone areas. The red zones are deemed unsafe due to gang violence, which prevents communities from receiving emergency medical care. EMC students and academics suggested the following strategies reflected below:

> *"We live in the red zones, so people in the community trust us … they know us for a long time …" (FG2 S8).*

> *"The gangsters knew who we were, and we never had incidences because we actually approached the leaders … we had our liaison person in the engagement unit … there was a connection at the community leadership level, where people knew that it was university students coming into the area to help communities" (A 10).*

The data revealed that EMC students who live in red zones, should be considered as entry points for relationship building and intervention because they are regarded as respected members of marginalised communities during times of health crises or community-related emergencies. In this regard, residents depend on EMC students to respond in these dangerous areas.

Moreover, health science academics stated that a liaison person at the community leadership level was crucial in such red zones. Otherwise, entry into an unsafe area could be both challenging and dangerous. These relationships are essential to the safety of students and staff, who may need to engage in community-based activities in areas of high violence and crime. When such partnerships are nurtured, even with gang leaders, the university is seen as an asset to such red zone communities as opposed to being viewed with distrust. In the Western Cape, gang leaders are often respected members of a community in certain areas classified as "red zones", where an ambulance does not enter without a police escort. Therefore, within the EMC context, when connecting with various community members, particularly those who are regarded as formal or informal leaders, it is important to target the gatekeepers of the communities with trust and respect throughout the process.

Eminent scholars in the field also support the need for forming relationships, building trust and allowing authentic communication across gaps in social rank, education, and culture.[417,418] Given the socio-economic challenges, access to health care and the increasing burden of non-communicable and communicable diseases, university-community partnerships in the Western Cape require unique strategies, as discussed.

One academic involved in community engagement highlighted the effects of merely placing students without regular contact with the community. They said as follows:

> *“Students are placed there, but there's no interaction with the community in that area. To say, how do you feel about students being in your facility or in your community? … it doesn't really happen ... So theoretically, some people would argue that the university should have a more direct engagement with communities… [asking], how students are in your community ... how do we act responsibly in relation to the*

people that live here and expect them [in the community] to trust and respect us? But that doesn't really happen" (A 10).

As evidenced, communities should not be exploited for student placements as a means to fulfil work-integrated learning placements or service-learning requirements, but rather there should be ongoing communication to ensure that community expectations are met during such community-based learning placements. Netshandama[419] also raised concerns regarding partnerships between universities and communities where higher education institutions tend to label any engagement as community engagement, which raises their profile but does not benefit the communities. Therefore, it is essential for academics and students to play their part in the community engagement process in order to prevent mistrust, which can lead to fruitless relationships and community engagement placements. Scholars supported the need for community-based placements to be closely monitored so that both students and communities derive maximum benefit.[420,421]

4.2.2.2 Honouring cultural diversity

Another sub-theme emerged within the context of processes related to the importance of *honouring cultural diversity.* Participants acknowledged the importance of respecting cultural diversity as follows:

"Diversity for me is like a mosaic, if you put it together in the right way, it's the most awesome, bright, magnificent piece of art ... if you put diversity in a positive context, you can experience everything instead of bringing in prejudice and injustice" (A 7).

"Acknowledging and respecting different cultures is key in EMC our profession" (FG1 AE13).

"Having a relationship with particular communities that you're working with gives you an idea of what kind of cultures there are and to respect

the kind of cultures that you're working with and community traditions as well" (FG2 S7).

"When students come here, they get to understand our local culture … they actually become fascinated and want to get involved in helping…" (CP 3).

As reflected in the data, participants expressed that respecting diversity, particularly diverse cultural groups was critical to breaking down prejudices and adopting a non-discriminatory approach to serving marginalised communities in order to improve health and emergency care. Academics emphasised that community-based placements provide an important opportunity for students from privileged backgrounds to be exposed to diverse cultural groups, understand local traditions and practises, and gain insight into how diverse communities view health through the lens of their particular cultural traditions. It creates opportunities to understand various cultural treatments that may be used to treat various illnesses and how they respond to health emergencies through their specific cultural practice. As such, as Muller and Couper[45] argued, engagement with diverse cultural groups exposes hidden opportunities for engagement with a rich and deeper understanding of health science education. Grobbelaar[42] further stated that with exposure to diverse cultural groups, students and academics learn valuable lessons from communities, such as honouring traditional values and viewing communities through a different perspective.

Community partners emphasised that once students become involved and comprehend the local culture, a paradigm shift occurs, which is crucial for locally contextualised paramedic training. Students themselves believed that they would gain an appreciation and empathy for marginalised communities, as it would expose them to multicultural dynamics and provide better patient care while respecting individuals from specific communities. Bhagwan[5] added that such a close interface at the community level provides a fertile opportunity to negotiate entry respectfully with community members or leaders. Reflecting further on engagement processes, accessing communities is discussed next as the third sub-theme that emerged under Theme 2.

4.2.2.3 Accessing communities

The third sub-theme, under Theme 2, focused on the process of *accessing communities*. The following health science academics described ways of accessing the communities:

> *"The connecting person plays that important role; she [connecting person] connected us to the leadership of the community ... It was very easy for us to work in Delft, people knew who I am and drove the [university] Venture [mini]van, [which] was [the university's] vehicle" (A 10).*

> *"A community liaison person is extremely important because community entry is extremely important. You can't just go into a community if you don't have somebody that goes out and connects you with the leaders and follow their protocols" (A 2).*

> *"Identify community leaders because they are influential ... [as] the community leaders are also conduits that can reach the community" (FG1 EA 11).*

> *"You need to connect with the leaders, the educators, and the principals in that community forum and organisations … So the organisations knew who were we, and were informed that these students are coming into the area ..." (A 1).*

The data from health science academics and emergency medical care academics illustrated that a crucial element in accessing communities was that a community liaison person was vital to connecting EMC departments with the community. Such a

liaison person can serve as a conduit to inform the leader of the community and also inform academics from the Health Science departments on how to proceed with community engagement activities. Given the challenging nature of marginalised and under-resourced community contexts locally, participants emphasised that if protocols of local communities or a trusted community liaison person are absent, engagement interventions are likely to fail. Academics cautioned EMC departments that following the right channels of connecting with leaders to get community buy-in was essential for the success of community engagement.

Although this was highlighted in the previous theme, the participants reaffirmed ways of community entry as follows:

> *"One of the keyways of entering a community is through organisation like the community policing forums or any other trusted organisation in the community" (CP 2).*

> *"I cannot enter a community, with me being me, but I can enter a community through activists because activists can take me and introduce me to the group of people. And this is basically how all these engagements have started" (CP 4).*

> *"There are multiple forms of accountability that guides your practice … positions that are flexible to allow you to be connected to social networks, activist networks, the university and the health department" (A 4).*

> *"We have a field coordinator in our communities … this is our liaison person and connects with the communities … This is our connection with the community organisations. So that it [connection with community organisations] exists and will always be sustained" (A 10).*

"I'm part of the CANs [Community Action Network], we have a footprint in most communities in the Western Cape, it's a phenomenal way in which we [academics] work in the communities with the local residents so they see us as part of the community and not a university coming in … telling them what to do" (A 9).

The data revealed that community partners, such as community activists who could assist EMC academic departments, also provided ways of accessing local communities through community policing forums or any other trusted organisation and provided valuable insights into the way EMC faculties could access communities. Academics, on the other hand, emphasised the importance of relationships between key community stakeholders, such as community leaders, ward councillors, and faculty coordinators, as critical enablers in negotiating community access buy-in. Academics emphasised the importance of having a field coordinator or liaison person who connects local health science faculties and maintains access to local communities for long-term relationships.

Of critical importance, health science academics highlighted access to communities via CANs at local levels with the university, which link health departments and other social networks to provide a larger-scale community-university partnership. The CANs have established a strong presence in multiple local and national communities. Access to these networks creates fertile opportunities for EMC departments to promote health in a variety of rural and urban communities. Moreover, these organisations permit the fluidity of partners ranging from nutrition and dietetics to other allied health partners in order to provide comprehensive healthcare to patients in local communities through multidisciplinary teamwork with a network community that responds to contextual issues in communities. The data exemplified the plethora of community access methods, all of which must be considered appropriate during the engagement process. To this end, Singh and Wassenaar[422] argued that accessibility is a complex, layered process involving multiple gatekeepers, and hence conscientious and well-informed negotiations with community leaders, and mutually respectful access agreements which consider the needs and vulnerabilities of both

the community leaders and faculties, are required to improve the quality and sustainability of community access.

Similarly, several scholars in the South African context have emphasised the need for community buy-in and support to obtain access, arguing that without community support and proper engagement interventions are likely to fail.[423–425] Community engagement is thus a strategy for gaining access to communities and facilitating buy-in from community leaders and residents who can benefit from community interventions.

4.2.2.4 Understanding the needs of the community

The fourth sub-theme, under Theme 2, highlighted the importance of *understanding the needs of the community.* Health science academics said as follows:

> *"We did a profile of the area and left a small information booklet in the library ... you connect with the librarians, healthcare workers, and the teachers. You're also connect with the school system or the school nurse… that's how you get to know people's needs" (A 2).*

> *"We have proper community entry; we do the needs assessment and situational analysis with the community … [and] as a collective, we decide where the projects are going to be, where the focus must be, which group of students will address the needs that ha[ve] been expressed by the community" (A 10).*

> *"Structured follow up meetings with our stakeholders … we could share with them what was happening, and they could share with us what their needs were…we could then align what we were doing to their needs" (A 11).*

> *"All you need to do is link up with a few people and start taking action ... there is tremendous power of doing sort of community engagement*

in this way ... I would argue that the way that the CAN [Community Action Networks] do it is a really good example of how you are led by community priorities and not coercing community need" (A 9).

The data from academics reflected that local communities have their own social structures and assets that may be used to determine their requirements; consequently, a community needs assessment is essential for gaining a deeper knowledge of the most pressing issues in a community. The findings indicated that local higher education institutions and communities collaborate to identify the priorities of a community, which involves organised meetings with community partners, and then perform a collaborative needs assessment to help local communities with the most urgent need to improve healthcare or interventions.

These results indicate that EMC faculties must first understand the needs of a community and then work with communities to address problems identified by community members. The data further revealed the importance of prioritising needs identified by the community, through CANs, as opposed to imposing needs determined by the university. This network is valuable because it provides insights into the needs of the community, allowing multiple stakeholders, including the community, to identify solutions to meet these needs. To this end, Groulx et al.[426] highlighted that community voices guide the vision of initiatives and their foundational principles to understand community needs through a network of partners. Hence engagement processes can be strengthened through community action networks.

The data implies that structured meetings with stakeholders provide a platform for community interests and needs to be shared, allowing EMC departments to align health interventions to help meet community needs. EMC academics further highlighted that EMC students could assist with identifying the needs of communities as follows:

"We [College] have a variety of students who come from a variety of communities … what we are all missing is actually asking students what their needs within their community are" (FG1 EA 5).

Some EMC students live in disadvantaged areas and could be of great assistance in identifying community needs within the EMC context. The data revealed that understanding the needs of communities required students and academics to collaborate with and through groups of people affiliated by geographic proximity, to address issues affecting the health and well-being of local communities. In this vein Schlake[427] stated that community members must be given the platform to identify the challenges they face with their causes and develop the solutions and action plans for addressing their needs.

Paramedic students also emphasised the importance of students themselves understanding community needs as follows:

> *"If you understand your community, the... most of the communities are underprivileged ... if you hear them, and what is needed from their side, that they would like [to] have from EMS" (FG2 S5).*

During ambulance placements, EMC students are often dispatched to a variety of calls in marginalised areas. These form opportunities for them to be aware of the most pressing health needs in such communities that may warrant interventions through collaboration with EMS. Students expressed deep concern for patients in marginalised communities. As mentioned, based on the low ambulance resources versus the high call volumes in marginalised communities, it was important for students to identify and understand the needs or challenges experienced within such communities. Thus, it is vital that a thorough investigation to gain insight into the pressing needs and expectations of communities is required before offering academic input into societal challenges.[223,428] Ramsbottom et al.[429] assert that prioritising community health needs can be achieved by mapping existing networks and planning resources whereby all aspects of a community are considered through the lens of community members.

It is evident from the data presented thus far that EMC departments should begin engaging by first thoroughly assessing the community's needs and issues through a

suitable platform where community members and partners are able to discuss their challenges. Only then can EMC departments determine the appropriate resources, information, and services to respond to the needs. The following sub-theme focuses on collective goal setting.

4.2.2.5 Collective goal setting

Collective goal setting, the fifth sub-theme under Theme 2, was seen as an important part of the community engagement process, as evidenced in the following extracts:

> *"We [university] connect with the communities … it is also part of the relationship building [and] goal setting. It is very important to set your goals with the communities. We do it individually with each department or each project … we include them in the planning" (A 8).*

> *"We [university] invited them to be part of the curriculum design. We had many round table discussions to see how we can fit them in and managed to get buy-in from the schools and educators after numerous meetings with them [educators] to take collective ownership of the programmes … people in the community got to know the university because we had a very good relationship with them" (A 2).*

Academics reported that mutual goals should be established in collaboration with communities from the onset. According to the data, collective goal-setting ensures that communities are involved in all aspects of decision-making, including the formulation of alternative strategies and the development of solutions. Several round table discussions were held to determine how academics contextualise and align community engagement activities with community goals, as well as numerous meetings with communities to gain collective buy-in for programme ownership. Bedson et al.[199] made a similar case for collaborative planning to ensure a successful partnership and equity, as well as to guarantee that mutually beneficial outcomes underpin agreements between all partners. Another crucial strategy proposed by

academics in the aforementioned excerpt is that community members be involved in curriculum design, emphasising the importance of teaching locally relevant content. Moreover, the continuum approach could be used in paramedic programmes to ensure ongoing collaboration through sustained face-to-face engagements, as suggested by one participant who stated that collective goal setting had the following effects:

> *"Improving the relationship between the NPOs, community health workers and facilities because they had to work very closely together for a common goal… the community to a large extent really appreciated that service ... it raised the value of the community health workers in the eyes of the community" (A 10).*

The academic sample highlighted the role and value of community health workers in the Western Cape, not only as members of the healthcare team but also as co-facilitators of learning, particularly when it comes to students' exposure to and understanding of the community. Collective planning improves and builds relationships because all community members are recognised as valuable and legitimate contributors to student learning outcomes as well. Intimate collaborative goal setting improves relationships. As McGrath[385] said, genuine collaboration occurs when several organisations and communities and higher education institutions work together to define challenges, generate solutions, design, and execute strategies. The next sub-theme discussed deals with establishing collaborative partnerships.

4.2.2.6 Building community-university partnerships

Building a *collaborative partnership*, as presented in sub-theme 6 of Theme 2, was seen as crucial to the process of engagement. The study's participants reflected on this as follows:

> *"Partnerships was always very collaborative in nature and mutual… the ways in which I've been welcomed into spaces that maybe I*

wouldn't have been otherwise, ... trust begins to shift the way people engage … you need to be authentic" (AC 9).

"It comes back to the principle of building relationships, establishing good communication channels which comes back to solving of issues…" (AC 7).

"Every year we maintain our partners … having stakeholder engagement meetings, inviting them for out for lunch at the end of the year … we have a social, we build relationships with them" (A 2).

"Every year we have a community partnership function where our students present projects with members of the community ... they must present jointly with them because we've tried to emphasise that it's a partnership – it's a relationship – and that's what engagement is about" (A 4).

"We had clinic committees, the mobile clinics, the tribal council ... it's engaging with structures like that, that enables one to then start developing partnerships" (A 4).

"It needs to sense of value…partnerships should have agreements with communities otherwise there is no sense of sustainability" (A 7).

The data from academics revealed that building collaborative, authentic partnerships emerged as crucial to the process of community engagement. Academics highlighted the importance of having a voice within clinic committees, mobile clinics and tribal councils. Moreover, the importance of regular stakeholder meetings was exemplified. Similar to literature partnerships, that are created in the context of democratic

engagement, are characterised by commitment and grounded in an asset-based and "generative" conception of reciprocity that positions all partners as co-educators, co-learners, and co-generators of knowledge with a purpose of mutual transformation and social change.[430]

One interesting way to ensure collaboration and strengthen the community university dyad was through having university functions where community partners could jointly share in student presentations. As Saltmarsh[431] wrote, it is the collaboration of academic knowledge and resources with those from both the public and commercial sectors that serve as the foundation of community engagement. These relationships must be leveraged to deepen scholarship, research, and creative activity; enhance curriculum, teaching, and learning; develop informed, active citizens; reinforce democratic values and civic duty; address major social concerns and contribute to the public good.[113]

Furthermore, the data highlighted forming a partnership agreement with goals and a mission, governance, an activity plan, and resources. Similar to literature, sustainability tools, and a schedule with decisive roles and norms, activity implementation conflict and shared credit and dissemination was a significant approach to achieving a trusting and lasting community-university relationship.[106]

The sustainability of these partnerships was further identified as crucial to the process of engagement in the data. Most engagement projects tend to be episodic and sporadic, without giving consideration to building sustainable long-term projects. The key to partnerships, then, is for EMC academics to design sustainable projects within the EMC Department. The next sub-theme of Theme 2 deals with communication.

4.2.2.7 Communication

Participants discussed the importance of *communication*, which emerged as sub-theme seven of Theme 2. Academics stated that it was important to have transparent communication skills to build a strong relationship with communities as follows:

> *"I have social relationships with them [community] … I make it a point to go and visit schools and the principals to find out what are the*

issues … visibility of communication is also important to community people" (A 10).

"*To ensure that [the] relationship is strong, you need to nurture it all the time; … you must be real, you can't act, you need to communicate with transparency" (A 1).*

"If a community knows that you're there for them, on what basis can you be there for them … people have very high expectations ... when you don't communicate then expectations are not met, then comes disappointment" (A 8).

According to academics, visibility and face-to-face personal contact allows for transparent dialogue with community partners, thereby allowing them to express concerns or provide feedback without fear. Furthermore, the data revealed that visiting stakeholders in local communities, such as schools and principals, was crucial to ensuring interpersonal and relational communication. Similarly, Khalaf[327] described the importance of honest conversations with community members. Such transparent communication that is representative of community needs must be impactful and ethical.[432]

As reflected in the data from academic's active participation and two-way communication with feedback and addressing community issues provides a platform for authentic and sincere community-university partnerships. In this vein, Denny[433] described an authentic relationship as a symbolic partnership designed to serve a purpose other than building relations to establish trust and empower communities. According to Olowu[434], authentic partnerships should be a "transformative process" that entails more than simply listening to the community and entails hearing and appreciating what you hear. Additionally, a distinction must be made between knowledge transfer and knowledge exchange, with the latter defined as authentic engagement action that encourages public inquiry, as well as listening and involvement on the part of the faculty and students.

Hoyt[435] detailed the stages of university-community partnerships, stating that some collaborations reflect 'false' or 'tentative' engagement, whereas more truthful endeavours result in 'stable', 'authentic', and finally,' sustained' engagement. Nevertheless, only an authentic commitment to community engagement (and, conversely, an authentic commitment to community engagement) can result in “purposeful innovative practices that transform epistemology, revitalise curriculum, modify pedagogy, and reframe scholarship”.[254]

Describing the importance of communication further in the engagement process, one of the community partners stated as follows:

> *"A lot of it has to do with how you communicate and treat the people; how you treat the people is very important in emergency care situations" (CP 1).*

Disrespect within the context of poor communication influences the highly fragile nature of emergency care situations. Data indicates that interpersonal communication skills should be developed alongside clinical learning during community engagement placements to ensure that communities are treated with dignity and respect during critical situations. Treating communities with humility and empathy is a crucial aspect of the paramedic profession. Through communication, the concepts of inclusion, participation, task sharing, reciprocity resolving problems, and equal regard for skills and experience are ingrained, ensuring that everyone contributes to education to improve the community.[436] Additionally, community engagement enables students to communicate with communities to better understand and tackle the concerns that communities face.[47] Sustainability is discussed next and forms the next sub-theme of Theme 2.

4.2.2.8 Ensuring sustainability

Sustainability emerged as the eighth sub-theme under Theme 2. In this regard, academics stated that community engagement should be sustainable and act as a catalyst for positive change within communities. The following excerpts reflect the views health science academics and community partners.

“Relationships are built over time…this is what I tell people when they want to come and do community engagement projects with us. You can’t just come and tell me what you need to do and leave. ... It’s about building sustainable relationships” (A 3).

“We've been able to sustain working in 22 different NGOs around Worcester for 7 or 8 years now, and our students are placed in the same place, working with the same communities … It's a long-term investment” (A 11).

“Community engagement activity needs to be ongoing, needs to be meaningful … depending on the kind of research group in the university. There's some groups that have had long-term meaningful engagements with colleagues working at the community level” (A 9).

As reflected in the data, building meaningful relationships over a period of time and ensuring long-term projects were crucial to gaining credence in the eyes of community members. Participants argued for a cyclical process with long-term established partnerships as opposed to “experts,” who come in and leave as they wish. Describing the importance of long-term investments in communities, one participant mentioned a long-term partnership over eight years with students in 22 different NGOs. This suggests the need for the institutionalisation of community engagement, which will be discussed in subsequent sections, which has been identified as a critical driver of sustainability within higher education institutions.[19,311]

Academic participants also cautioned EMC departments, who exit a community after the completion of a project without fulfilling agreed partnership goals or obligations. Likewise, CBR studies should not end abruptly without ensuring that community needs have been addressed or a community's concerns regarding the fulfilment of possible expectations.[6]

Within the above context, community partners from rural and metropole communities in the Western Cape concurred with the health science academics regarding sustainability:

> *"It's dynamic ... It changes over time; you have to work on it to maintain that state of equilibrium; you need the right people who play that role" (CP3).*

> *"We have a good relationship with EMS College that helps us to ensure sustainability of our community service because of resources as well a common purpose for helping patient, so they (community) won't necessarily wait for the ambulance service … our approach is patient centred…" (CP 6).*

As reflected in the data, the dynamic nature of community needs, conditions and partnerships influence sustainability, but EMC departments should strive nonetheless to work on maintaining equilibrium. Moreover, sustainability is nurtured when good relationships exist between the EMS College and community partners based on common goals.

Rooney[437] similarly affirmed that sustainable community engagement should include ongoing participation and empowerment of community members in progressing community development strategies, allowing its systems, structures, culture, and traditions to continue for future generations. Furthermore, community buy-in for sustaining partnerships provides beneficial partnerships when the health and well-being of the community and higher education institutions share a common goal.[438] According to Adekalu et al.[439], it is critical for institutions of higher learning to act as change agents in order to promote economic and socio-cultural development by involving communities in their scholarly research and ongoing sustainable projects. Such participation provides communities with the necessary skills and shared knowledge to improve their quality of life when higher education institutions have a vested interest in local communities.[439]

From the above analysis, it is pertinent that EMC departments and programmes establish a continuous cycle of reflection and evaluation of completed engagement projects to ensure that all objectives have been met and whether further interventions are required in terms of sustainability. The following sub-sections focus on Theme 3 (collaborative practice) and its two related sub-themes.

4.2.3 Theme 3: Collaborative practice

Table 5. Collaborative practice

Main Theme	Sub-themes
4.2.3 Collaborative practice	4.2.3.1 Utilising established partners to access communities 4.2.3.2 Transdisciplinary work

The collaborative practice emerged as the third theme in the data. Collaborative practice recognises the value of multidisciplinary collaboration amongst faculty at higher education institutions that enable academics to work beyond disciplinary boundaries to address contextual health challenges. Muller and Cooper[45] concluded that collaborative practice enables key competencies to be developed in the future workforce and requires multi-disciplinary work with health and technical disciplines or sector-specific skills. Students must be instilled with a mindset that enables them to work collaboratively and optimise their technical skills through partnerships with other disciplines and professionals. Academics described the collaborative practice as follows:

> *"I'm a very strong advocate of interprofessional, collaborative practice … I think we are moving beyond the silo model that we all go out on our own and do things … we must collaborate" (AC 10).*

“When we think about collaborative care or interprofessional care, our attitude of the way we look at things … the more participants, the more stakeholders that we have on board … there's no space for exclusivity … we've been running interprofessional workshops which makes total sense in sharing resources” (A 7).

It's collaborative … home visits, but actually it's made up [of] a group of students from different professions and disciplines who will go together and do some community health work” (A 2).

“Interprofessional collaboration adds another dimension of how we engage with communities, and I can very easily see how EMS is fitting into that type of discussion” (A 10).

"To work beyond their [universities] institutional boundaries and beyond their institutional mandates, which I think was very important, we must have a multisectoral approach (A 3).

“We don't have your discipline … So if your discipline [Emergency Medical Care] can be part of our team, it would be fantastic” (A 3).

As evidenced in the data, there was strong support for multi-disciplinary or interprofessional care approaches within the context of engagement. Participants believed that academics and students should move beyond their silos and disciplinary boundaries to enable a holistic approach to community engaged initiatives. This also cultivates improved technical skills and competencies, which can better prepare graduates to respond to health challenges in their communities to work beyond their boundaries.

This is linked to the views of eminent scholars such as Buregyeya et al.[296], who argued that "health education cannot be achieved by one discipline or sector alone, necessitating collaboration across sectors".

The WHO[4] defined ‘interprofessional education’ and ‘collaborative practice’ as a system in which multiple healthcare workers collaborate with patients, families, and the community to provide comprehensive, high-quality services in all settings. This means that EMC students should collaborate with the community they serve as well as work in interprofessional teams. This aligns with Frenk's[440] recommendations for future workforce multidisciplinary and professional interdependence training to form effective cross-disciplinary teams and effect transformative change.

Both local and international authors have highlighted how interprofessional education is a necessary building block for an integrated healthcare system which provides holistic quality patient care.[45,188,441] Interprofessional education enables students not only to learn about each other but glean knowledge from other disciplinary fields. This also creates opportunities to develop skills in working in an interdisciplinary team for better patient outcomes. McManamny et al.[188] therefore called for the transformation of paramedic practice through interprofessional education to ensure that paramedics are able to practice effectively outside of the traditional paramedic role across healthcare disciplines. Brightwell and Bange[441] claimed that in order to achieve interprofessional practice, paramedics must be involved in governance at policy, advisory, and operational levels.

Armien[200] described the advantages of collaborative engagement work, saying it enables students to possess technical skills and competencies that enable them to work effectively within their discipline and sector and cross-sectoral skills and competencies that enable them to collaborate across sectors.

The subthemes derived from Theme 3 are discussed next.

4.2.3.1 Utilising established partners to access communities

Utilising established partners to access communities was identified as the first sub-theme. In this regard, participants stated the following:

“Use established partners because one always has to be careful of just putting students into community” (A 2).

“We have students who do contextual home visits and other contexts alongside community health workers, and the community health workers become the guide for the students in the community” (A 7).

“EMS students could actually piggyback on some of the experiences that are already happening … they could do home visits … we have meetings with our district health partners every six weeks … That may become a stakeholder engagement with the same vision and mission for what we want for students and them [community partners] want our students to do … so I think partnering with different institutions is one way” (A 11).

“Utilise existing partners with established universities as an entry point …” (A 3).

“I think that these are ways that we can get out of our silos and work collaboratively … I think that this is the disconnect in terms of continuity of care” (A 11).

“So I think there [is] a great need for emergency medicine to come on board for physios, OTs [occupational therapists] and nurses … I think it would be great if your students be in contact with my team in the Interprofessional Education unit … we are the ones that organise this interprofessional stuff, so I can connect you to the team for the next outreach programme” (A 10).

"It can also enhance collaboration between the different components of that health system … making them understand that we are part of one holistic system … break down barriers" (FG1 EA 4).

Academics expressed that the EMS college should use established partners as their experience was crucial in terms of ensuring students derived maximum benefits from such community placements. Based on the data, the complexity of developing partnerships and the diversity of regions, local higher education institutions, such as the University of Cape Town, the University of the Western Cape, and the University of Stellenbosch, have developed longstanding partnerships with communities in the Western Cape and offered the Western Cape Government College of Emergency Care opportunities to partner with their current community engagement programmes.

Furthermore, participants highlighted how community contexts could transform themselves into rich learning spaces when students undertake home visits with other community health workers and can serve as guides for the students in the community. This is the richest source of learning contextually relevant local knowledge.

Health science academics experienced in community engagement and EMC academics highlighted the importance of community stakeholder meetings, which could serve as a platform to entrench student placements and develop community-engaged initiatives that emerge from genuine community-identified needs. Wilson[47] suggested that formal agreements be drawn up to guide such partnerships or student placements.

Within health education, strong intersectoral partnerships, as evidenced in the data, place a high value on effectively addressing healthcare needs within the South African context. This multidisciplinary approach contributes to the development and enactment of different skills and knowledge, which may help develop strategies that address the community's issues from all angles.[45] Hansen and Clayton[430] emphasised the importance of intersectoral collaborations, coordination, and management, all of which are grounded in an asset-based and "generative" conception of reciprocity that

views all partners as co-educators, co-learners, and co-generators of knowledge, with the goal of mutual transformation and benefits to society.

EMC education in South Africa is still in its infancy stages; therefore utilising established partners to serve as “co-educators” provides a great opportunity to advance community-based teaching and learning opportunities in EMC education. The next sub-theme focuses on transdisciplinary work.

4.2.3.2 Transdisciplinary work

Collaborative practice lends itself to *transdisciplinary work*, which is the second sub-theme that emerged under Theme 3. This was expressed as follows:

> *"Building relationships between the institutions, such as our college and the specific communities where our students work and bringing the context of those communities back into the classrooms [so] that our learning is relevant, and it also prepares students better for practice once they graduate" (FG1 EA 8).*

> *“They [paramedic students] could connect with the NPOs, the community health workers, the primary care facility to be perceived as part of that team for that community, and that would give them [a] very valuable role … educationally, one could prepare them for that role” (A 3).*

> *“There's no reason we can't work across institutions and collaborate” (A 10).*

> *“Sending students as interprofessional groups into the community to work together ... we've got what we call collaborative care” (A 7).*

"I find it helpful to think about interprofessional education … is preparing people for collaborative practice" (A 13).

"How do we plug you into this community orientated primary care approach because you are part of the primary care system in that community ... so that what you are seeing and understanding, is fed into the whole planning of primary health care, both at a community level response and an individual patient level response" (A 13).

Health science academics with experience in community engagement felt that paramedic education should extend beyond the confines of the EMC profession into other disciplines together with communities by sharing knowledge, skills, and decision-making. Transdisciplinary work moves beyond the realms of interprofessional collaborative practice to include the voices of the community in the research or learning partnership. Hence it does not focus on merely multi-disciplinary collaborative work amongst varied health professionals but includes the views of non-experts such as community partners deliberately into the relationship.[442]

As one academic in EMC highlighted, it was essential to foster relationships between local higher education institutions and collaborate across disciplines with communities on research, contextualizing teaching and learning and finding solutions to improve healthcare. Transdisciplinary work promotes involving the non-experts in teaching so that learning is relevant and prepares students for practice in real-world contexts once they graduate. More importantly, paramedic students can extend their collaboration beyond the boundaries of EMC education by sharing knowledge, skills and decision-making.

Despite the acknowledged difficulty of working collaboratively across disciplines in South Africa due to the silo mentality, bureaucracy, and hierarchies, several authors highlight the benefits of the inter-professional practice.[19,45] Accordingly, the mutually positive effects of interprofessional interaction within paramedic training programmes

have also been reported. In the next section, attention now turns to teaching and learning under Theme 4.

4.2.4 Theme 4: Teaching and learning

Table 6. Teaching and learning

Main Theme	Sub-themes
4.2.4 Theme 4: Teaching and learning	4.2.4.1 Emergency medical care at the interface of communities 4.2.4.2 Embedding community engagement within the emergency medical care academic programme 4.2.4.3 Community-based teaching 4.2.4.4 Value of community-based learning 4.2.4.5 Student preparedness for community engagement 4.2.4.6 Assessment of projects 4.2.4.7 Reflections on community engagement 4.2.4.8 Community-based research 4.2.4.9 Co-production of knowledge

The next theme that emerged from the data was teaching, learning, and its interrelatedness to community engagement. Both local and international community engagement scholars alluded to the changing nature of teaching, learning and research in higher education due to the pressures of economic globalisation and the need to address social responsiveness and social justice. As Nuuyma and Makhene[332] pointed out, universities must design their teaching and learning activities and research around community needs. Furthermore, universities must develop

students who have a sense of commitment to service and social responsibility to communities.[79,332,443]

Despite the mandate for social responsibility through community engagement, the challenges of embedding community engagement within teaching and learning are still prevalent. The data reflected the contexts within which EMC practitioners ultimately practice. In this regard, one participant stated:

> *"Especially poor communities, we have a number of domestic, accidental injuries, ... So the poorer [communities] have more domestic injuries like fire, burns, and all that's happening in those communities" (FG2 S 8).*

Given the contextual reality of the EMC environment, the curriculum is too narrow to reflect the turbulent and complex context within which paramedics practice in South Africa. Participants alluded to decolonising current teaching content and making EMC education relevant to the current local context, and community engagement must inform EMC teaching content. In fact, the literature from the Western Cape affirms that medical education, including paramedic education, does not address the social determinants of health adequately.[39]

The following sub-sections contain a discussion of the sub-themes that emerged from the main theme of *teaching and learning*.

4.2.4.1 Emergency medical care at the interface of communities

Both participant samples of health science academics and EMC academics recognised EMS as the first point of contact between communities and health services and therefore suggested the need for an expanded role of the paramedic within the context of community engagement. This was evident in the following excerpts.

> *"I think part of it is a reframe to recognising that as EMS, you are rooted in the society which we're trying to serve … a lot of your work*

is not only medical [but] almost acknowledge the work that many people are already doing ... that is all sorts of different kinds of community engagement" (A 9).

"We don't necessarily recognise the role that we could be playing as paramedics, and EMS more broadly" (FG1 EA3).

"Students tend to get involved with what's happening in the health services. So if the health services have a strong element [of] community engagement, then the students would have the opportunity to participate" (A 13).

"There are other ways in which in emergency care can get involved. We sometimes don't think like that because it's only the emergency that we see. But if our diabetics are better managed, we're not going to have so many DKAs [diabetic ketoacidosis] ... It is important to recognise, from a life course perspective, the ways in which students should contribute to health more broadly" (A 9).

The data revealed that emergency medical care, as a profession, has the potential to expand its influence on public health through community engagement because paramedics, by the nature of their daily professional roles, are deeply entrenched within communities.

As participants said that paramedic roles do not only entail the emergency care response and treatment of patients but also extend to advising patients on chronic conditions, medication compliance and educating patients and their family members on disease prevention. This aspect of paramedic practice was seen by participants as potentially significant in order to reduce the various burdens of disease in communities, such as the prevention of diabetes. Due to the daily engagement with communities, the data further revealed the potential role of paramedics in terms of

becoming instrumental in determining accurate community health needs and health-related causalities. This was raised by participants as a missed opportunity.

In line with this view, the participants further expressed that students cannot adequately participate in community engagement practices because community engagement has not received the priority that teaching and research have received. Again, this was viewed as an impediment to the involvement of EMC students in community engagement initiatives.

Some EMC academics commented on this as follows:

> *"Community engagement is missing in our curriculum … this should be a formal activity structured in the programme, and it can be embedded in foundations of practice in primary healthcare" (FG1 EA2).*

Despite the critical role that paramedic students and academics can play in transforming and addressing societal ills, community engagement has received little attention in EMC education or the EMC discipline. This could be attributed to the limited understanding and awareness of the scholarship of engagement that Boyer[57] conceived. Hence most EMC academics probably focus on teaching and research as the key aspects of higher education. Community engagement has received little attention in the higher education landscape in South Africa until recently, which may have contributed to a lack of understanding with regard to its philosophy and implementation in EMC education. Nevertheless, the academics from EMC firmly believed that community engagement should be embedded into the EMC curriculum as a part of the primary healthcare module.

These findings are significant, as community engagement contributes to the development of graduate attributes, particularly that of social responsiveness. More recently, the Council on Higher Education included social responsiveness as part of graduate attributes.[140] The DEMC qualification, as mandated by the Council on Higher Education [140], is in the process of being revised from a 240-credit two-year qualification to a 360-credit three-year qualification. However, implementation strategies are under discussion with various stakeholders for offering the revised

DEMC qualification. The restructuring and credit allocation of the programme, therefore, allows for the incorporation of social responsibility attributes through community engagement learning in EMC education.

The need to strengthen community engagement in health science disciplines, particularly social responsibility amongst graduates, is reflected in the international literature, particularly in relation to developing countries, which face challenges such as access to health care due to geographical distances and health workforce sustainability.[188,443]

Brittain et al.[444] described a community paramedic programme in British Columbia, Canada, that was created in response to the growing demand for primary healthcare services. This programme formalised the paradigm shift from traditional paramedic practice to a more holistic EMC practitioner within Canada's broader healthcare system. Paramedic students were trained in primary healthcare, chronic disease management, health promotion, prevention, screening, and patient monitoring as part of this programme. [444]

Similarly, the call for a new model with an extended scope of paramedic practice gained momentum in Australia as the link with improved health outcomes began to emerge. McManamny et al.[188] proposed to include activities such as health education and promotion, primary health care, and management of chronic conditions in the paramedic scope of practice to improve the well-being of communities. They further recommended the inclusion of this extended scope (health promotion, primary health care, and population health education) as a critical learning component within university paramedic curricula.

According to the data and the literature, the role of a paramedic in South Africa should go beyond what is traditionally thought of as professional paramedic practice, similar to other countries. Within the context of engagement, aspects such as primary health care, health promotion, and chronic condition management should be introduced into EMC curricula in South Africa. The design of the extended paramedic DEMC curricular outcomes should take into account South African realities, such as the socioeconomic divide and access to health resources.

4.2.4.2 Embedding community engagement within the Emergency Medical Care academic programme

The next sub-theme that emerged from the data was concerned with embedding community engagement within the EMC programmes. This was supported by the following quotes:

> *"Educational programmes need to have that curriculum alignment; so, the learning outcomes of the educational programme must represent competencies and roles that the person actually has to play in the real world. if you're teaching people competencies that don't exist in the real world, then it becomes problematic" (A 13).*

> *"I do not believe that all engagement activities at the university should be curricular based ... some institutions see that it as… credit-bearing. For me, I feel that the student experience needs to have a form of engagement; what it means to be an engaged citizen, and what social justice and social responsibility is all about. It could be service learning, experiential learning, or any credit-bearing activity, but then there's also a component of volunteerism, and that's where a social justice component comes in. This is where people realise they need to be active citizens and that they got to find a way of ensuring that whatever experiences they have had, they must share because getting an education is a privilege" (A 3).*

> *"In our institution we offer students the opportunity to volunteer…And then there's opportunities where they can do it in a credit bearing form, and then … the possibilities where they develop their own community engagement activities in their communities, and in certain ways the university supports that in terms of the learning and teaching" (A 10).*

"Community-oriented curriculum, meaning that you will do the concepts such as community, community health, and prevention … You need to expose students at [an] early stage of the curriculum by working with the communities … let them do a community profile of their own community. You slowly start getting them to think about those things early, then getting them to start doing, for example, the situation and analysis …" (A 9).

"You need to have skills in determining what the community health needs are, how you would prioritise those health needs with the community" (A 8).

"Curriculum needs to have a primary healthcare approach to health … your paradigm needs to shift in terms of health care in South Africa ... to bring health closer to the community … The one thing in curriculum, learning outcomes need to be developed that [are] linked to community engagement" (A 9).

As reflected in the above excerpts, health science academics experienced in community engagement believed that embedding community engagement into EMC programmes was a starting point to ensure that teaching and learning were not disconnected from the contextual realities of poor socio-economic communities. They emphasised that EMC curricula should prepare EMC graduates to be competent in addressing real-world societal ills and not remain aloof from the problems that plague disadvantaged communities.

Health promotion can be achieved through the EMC curriculum, with a specific focus related to learning outcomes related to community engagement, which include concepts of social justice, social responsibility, and community health. Social justice was emphasised as a key aspect of nourishing values of active citizenship in EMC students.

The data findings are consistent with Albertyn and Daniels'[79] recommendation that social equity and justice be integrated into any community-engaged curriculum in order to prepare students to deal with these issues in the communities where they will eventually practice. Some health science academics experienced in community engagement suggested the need to incorporate credit-bearing modules that focused directly on service learning but also stressed the importance of having a non-credit-bearing volunteerism module in the EMC curriculum as an elective option. Others more overtly expressed the need for a community engagement module.

Volunteerism was also supported by Ross and Kabidi[9], who claimed that incorporating volunteer activities into paramedic education is an effective way of nurturing a wide range of paramedic attributes which are required for the job. In some paramedic programmes, volunteerism already forms part of the curriculum, where students need to complete minimum community volunteer hours in strategically selected health settings.[9]

Finally, academic participants argued the importance of interweaving notions of community and community health into the curriculum and deliberately creating opportunities to learn in the community as early as possible so that students understand community problems through community profiling. Most importantly, a participant indicated that students require skills to identify community needs; this should be prioritised as niche areas to embed in teaching and learning.

4.2.4.3 Community-based teaching

Community-based teaching emerged as a further sub-theme under Theme 4. The following excerpts reflect this sub-theme:

> *"Our approach is that we basically integrate community engagement work in our teaching and learning and research" (A 10).*

> *"Community engagement must be driven by the university; it was curriculum driven in terms of learning outcomes. Students must gain a*

good understanding of health promotion and how to apply it to health …" (A 3).

"So, we need [the] community to make sure that our students get that transformative learning experience" (A 12).

"I think that modules that must somehow enshrine this idea … recognise the immense community-based teaching power that social participation in health systems brings when you recognise the knowledge that people in communities have, and that you shape your health interventions around that" (A 12).

"[The] idea is that students go out into communities and either perform basic medical examination or education" (FG2 S 6).

Most of the participants agreed that community-based teaching was a critical pathway to strengthening engaged scholarship. Many believed that the community context formed the richest space wherein transformative learning could occur. In this vein, Cené et al.[445] advocated for a public health approach to medical education in order to teach health disparities more effectively by shifting teaching into a community environment. Other writers have also called for a change in teaching and learning strategies as one of the core activities of higher education institutions to bring students' learning experience closer to real-world issues, as opposed to focusing on theory and skills.[40,79] As elucidated in the data, communities are custodians of knowledge not to be found in textbooks. Hence, participation in health systems exposes students to new knowledge, which can better inform health interventions. This relates to the knowledge democracy project that scholars have argued for in the literature.[6]

The data reflected that community-based teaching has immense power and through social participation, students recognise the knowledge that people in communities have to better shape their learning and shape the health system to the contextual needs of communities. Valuing community-based knowledge as a valid form of contemporary knowledge and the idea that universities can no longer claim monopoly over knowledge production has also been advanced in the literature.[5,79,92,406,445]

In addition, the South African higher education agenda placed community involvement at the centre of teaching and learning activities, thus extending teaching and learning beyond the boundaries of a university.[79]

Bender[40] claimed that there is mounting pressure on educators to develop outcomes and learning activities which also benefit local communities and society at large.

Therefore, community engagement should permeate into teaching and learning, and likewise, teaching and learning should inform community engagement.[40] In a similar vein, Chandramohan[446] stated that community-based teaching is "a variety of institutional methods and programmes that academics use to connect what is taught at universities to local communities, and to share such knowledge with such communities".

Academics made further suggestions regarding a field coordinator as follows:

> *"Appointing a field coordinator, field coordinator being part of the forums, and then feeding in the issues that the communities are finding challenges, that they need some assistance with, and that gets fed through to my office or the departments via the field coordinator" (A 10).*

> *"We have employed a field coordinator that coordinates activities in those designated sites" (A 7).*

Aside from providing feedback from the field to the academic departments, field coordinators can co-ordinate community-based teaching sessions, thus establishing

a strong link between the formal education space and the community teaching space in the field to ensure that learning outcomes are achieved, and community partners are able to provide timely feedback.

EMC academics also identified the importance of regular feedback as an important element of community-based teaching, as follows:

> *"One way of getting into community engagement and teaching or creating the environment for the students is the methodology of sending various groups and creating that feedback system where students can express in front of a group and say what was their experience" (FG1 EA 13).*

> *"Bringing the context of those communities back into the classroom, so that learning is relevant and also prepares the students better for practice once they graduate" (FG1 EA 8).*

As evidenced, participants expressed that EMC students needed opportunities to reflect and learn, about their learning experience in the field, as part of the teaching process. This strengthens the learning experience as the community context is revitalised within the classroom as part of teaching and learning. EMC academics also drew attention to the pitfall in current EMC teaching, which prioritises clinical skills acquisition as follows:

> *"In work-integrated learning, there are certain skills that need to be attained … students are hunting for skills and then write a medical or a trauma report of the patient, but there is nothing with regards to steering the student to get involved in community engagement in our learning programme" (FG1 EA 12).*

The strong focus on emergency care services distracts EMC students and academics from the broader public dimension of health because students are pressured to obtain clinical skills competencies over social and soft skills, driven by the registration requirements for independent paramedic practice set by the professional body. Cené et al.[445] identified a similar gap in the medical field, which stated the need for community-based teaching because medical students were becoming less concerned about the social context during their studies and focusing more on healthcare service delivery.

4.2.4.4 Value of community-based learning

The next sub-theme that emerged from the data was the value of community-based learning. The following excerpts reflect the nature of the South African context as follows:

> *"The biggest thing that I've learned is that, all the things that people call the ambulance for aren't necessarily medical, especially in under-resourced communities ... the first point of help for any issue, whether it be psychological [or] sociological, it's usually to get out of that situation … for example, where people are undernourished or something like that; but the idea is to get out of the home, go into the hospital and receive the meal" (FG2 S13).*

Within the South African context, EMS provide the first point of contact for communities in a crisis. Therefore, understanding the contextual needs of patients is an important aspect of paramedic education. Ohta et al.[447] claimed that community-based learning is a practical educational method where medical students are placed in communities to learn about comprehensive healthcare beyond the walls of universities and tertiary hospitals to address patients' needs in collaboration with specialised help from citizens in the community. These authors postulated that students' involvement in community-based learning had a positive impact on medical students, which in turn influenced their perceptions and improved their knowledge and attitude towards communities. Thurman et al.[448] agreed, stating that community

paramedicine is an emerging way of providing community-based health care in which paramedics function outside of their traditional emergency response roles to improve access to primary and preventive health care, as well as basic social services.

Health science and EMC academics emphasised the value of community-based knowledge and learning as follows:

> *"We became a very rich source of knowledge that was being generated from what we called 'community level intelligence' or professors of the street generating this in real time, very sensitive COVID information about how people in different parts of the city were responding to the pandemic and the lockdown" (A 9).*

> *"We wanted to give lots of lectures, yet one experience in the community would teach more than 20 lectures" (A 2).*

> *"That made us realise the value a of community engagement ...You're dealing with the person within a family, within a community ... there can't be clinical training without community engagement because you're doing it in an experiential education model" (A 11).*

> *"They can give the students [a] sense of purpose, values, meaning for a community engaged learning" (FG1 EA 8).*

> *"You put them in a situation where they are exposed to something unsettling and that is where they feel discomfort, where they're actually in a position where they have to just listen, which gives experience, because they don't necessarily have the answer" (A 11).*

"I know that social determinants of health is something you can learn in a book. I don't think you really understand it until you see someone and the effect of that on their experience. We could ask them [students] to live with a family for the period of time, so that they can be in sort of immersed in the community ... to expose them to the bitter truths of healthcare in our country" (A 8).

"I think sitting with people and working through that process or getting a bit of an insight into the challenges of addiction or the challenges of psychopathology will help the students cope better" (A 7).

One participant aptly described the transformative power of learning in a community, saying that one experience of community immersion could surpass twenty lectures, whilst another recognised the rich source of knowledge within these communities, describing certain community members as professors in their own right. Moreover, they argued that it enables an experiential model of learning, as students can actively learn within a family or community space as opposed to receiving theoretical knowledge within a classroom.

One practical example of doing this was as follows:

"We had this learning network, with co-learning sessions three or four times a week. Some of us were going around and visiting all the different Community Action Networks … we were generating knowledge about how to build … this set-up of a COVID safe kitchen, how to use a kitchen as a space for doing social mobilisation awareness raising ... In the lines of the kitchens, people were also handing out flyers about COVID about how to keep themselves safe. We developed all of the public health guidance faster than the health department. The Health department used a lot of the Community Action Networks' guidance initially, because much of what was available, was from a different setting … we worked

with a range of different virologists and scientists to figure out how to make a virucidal solution from the contents of your own kitchen" (A 9).

Other benefits that could be derived from community-based learning included that students could understand various cultural groups as well as understand rural contexts and red zones such as those in the Cape Flats.

"The benefit for that life experience where the students obviously got and learn tolerance, based on different cultures, religion ... if you're being brought up in a different society, meaning if we have to compare [the] Cape Flats with a rural, maybe you grew up in a very violent society ... then you need to be tolerant" (FG1 A 9).

"They need to learn to adapt to the cultures, the background, as well [as] the lingo [language] of the certain communities that they enter, because what they are lacking are their soft skills ... That can be a great benefit for learners" (FG1 EA 12).

Other benefits related to how interaction and communication with patients could be improved through immersion within these contexts are as follows:

"They're [students] in the community from the beginning … we've had feedback about this from colleagues in some of the hospitals that they've gone in. They're so much better at communicating with patients than the medical students, because they used to doing it from the beginning" (A 2).

"You gain life experience with different communities ... you get to see, feel the patients and their circumstances ... we don't normally see or deal with people in a more human sensitive fashion" (FG1 EA 6).

Through these responses, the participants acknowledged the value of community-based learning experiences, which cannot be derived within a classroom setting. The data particularly reflected that community engagement provided valuable real-world experience, which exposes students to uncomfortable situations.

Beere et al.[281] wrote that the community also recognise the value of their knowledge and, likewise, wants to gain knowledge from the partnering university. The authors concluded that communities "should be seen in terms of their strengths, wisdom, knowledge and experience assets".[281] Ross and Kabidi[9] expressed that community engagement provides valuable ways of developing paramedic students' skills that are critical for their future roles as practising paramedics. They found that the community engagement process taught students assertive communication skills, broke down their misconceptions, raised awareness of prejudices and stereotypes, and alerted students to particular community health problems such as alcohol abuse or mental health disorders. In the same study, students reported that the benefits of learning in community spaces included increased self-confidence in communicating with members of the public from different backgrounds, better rapport, and increased confidence in managing cases related to mental health disorders, alcohol and drug abuse, and aggressive patients.[9]

In addition, exposure to the difficult and turbulent realities of life within communities is thought to evoke a sense of social responsibility and active citizenship among students.[79,232] According to the data, community engagement allows students to apply their newly acquired skills and knowledge to problem-solving in a real-world setting where accountability and relevance necessitate more introspection than what is taught in the classroom. The data demonstrated the importance of teaching and learning in community engagement that promotes critical thinking, innovation, capacity building, and reflection.

The analysis above showed that community engagement can certainly add value to paramedic students' experiences, and, at the same time, it can instil greater social responsibility amongst them.

4.2.4.5 Student preparedness for community engagement

Student preparedness emerged as a further sub-theme under teaching and learning. The academic sample identified the following ways to enable student preparedness for community engagement:

> *"Community engagement must have a purpose, [students] need to have skills in determining what the community's health needs are, how you would prioritise those health needs with the community, and how you would develop interventions. So, you're preparing people [students] in the training for the role that they will have to take" (A 13).*

> *"You prepare them to understand the roles of these other people, and to be able to work in a collaborative way with them, and to understand what they do; they understand what you do. That would very much be part of that teaching about how do you engage with and enter communities. Part of teaching students is preparing them how do you enter and engage with the community …" (A 8).*

> *"But we used to have a function which we called 'introducing the students to the community', where we actually had representatives from the police services, the municipality, the education department, and social welfare, and they would all come, and we would introduce the new students to the community" (A 2).*

One of the participants expressed that students must be prepared for engagement through an introductory function called "introducing students to the community" where

they are introduced to various stakeholders. The participants said that part of the preparedness should include preparing them for entry into the community, as well as how to identify community needs and develop interventions.

Scholars in the field concurred, saying that vision, planning, goal setting, and resources should be integral to student preparedness.[281] The data concurs with the literature by Armien[200], who claimed that successful interventions require early planning with students as well as community partners and effective communication.

Without engaging with community key stakeholders, through preparedness, those intervening are at risk of identifying problems that are not important to the community and can subsequently plan inappropriate interventions that may be unsuccessful due to a lack of community participation.[424]

Moreover, the academics raised specific strategies that can be used to prepare students for community engagement. They said as follows:

> *"They are in contact with patients from the first year, because we want them to be comfortable engaging with patients ... They learn the anatomy, physiology, all of those things on patient encounters and linking [knowledge] to patients … we get them out into the community early" (A 3).*

> *"They can interact with the people of the EMS as students, or as mentors or educators. So that way they can build a relationship on how people get access to the EMCs, the EMC people can actually see how the community's point of view is structured" (FG1 EA 5).*

> *"We have a facilitator, an interprofessional group of students, and then they've got to collaborate on how to solve this issue" (A 1).*

“We've developed a starter pack that CAN would use for those who don't have community organising skill[s] and are a little bit uncertain of words to use, when to start or where to start, and how to go about it” (A 9).

“They go into patients' homes with the community healthcare worker, and they use a biopsychosocial framework to assess the household. They use the international classification framework to assess for function, disability and health around environmental factors, personal factors, access to care, and then you get those students to come back from that experience and reflect” (A 11).

The data further revealed that faculties and EMC departments should immerse students as early as possible in their first year in communities. They argued for students to become involved with all those at the interface of EMS, particularly EMS staff who can act as mentors. Moreover, a starter pack to enable such preparedness could inform students of where and how to start. These starter packs include clinical equipment to assess patients, as well as a booklet to guide students on how to communicate with community members.

These findings are reflected in the literature, which indicates that community engagement should be an integral part of patient care and clinical education and not be seen as an add-on or considered as part of the “hidden curriculum”.[45] Local scholars have also supported the importance of preparing students for community engagement.[19,240] Wilson[47] stressed the importance of trust, mutual respect, and respect for diversity and culture as critical aspects to be included in preparatory learning modules for community engagement.

Ramsbottom et al.[429], in particular, concluded that preparation should equip students with an understanding of the purpose of community engagement, as well as guide them on how to establish relationships, build trust, and listen to communities.

4.2.4.6 Assessment of projects

Assessment of projects was another sub-theme that emerged under teaching and learning. This was evident in the excerpts that follow:

> *"It is important to give students a certain number of hours for community work" (A 9).*

> *"There's much space for reflections, especially among the allied health students … As part of their assessment, they've got to submit reviews of how they've experienced it … it could be informal reflections, write-ups, or interviews … how they experienced it [community engagement], what it means for them and how they will do things differently in [the] future" (A 2).*

> *"Getting more students to reflect, trying to find even graduate attributes by assessing them using a scale so that you can see the value of something" (A 11).*

> *"When we are doing some simulation or creating a storyboard for our students ... I experienced and created that scenario for the student … one way of actually getting into community engagement and teaching is sending various groups and creating that feedback system where students can say what their experience in different cultures was" (FG1 EA 13).*

> *"The other challenge with which we'd like to sort out is that the way the community engagement projects are assessed, [as] the report or the presentation does not capture the interaction that takes place … most students like it, some love it, and then others don't engage" (A 2).*

The academics argued that it was important that community engagement be part of a formal assessment process. One participant called for ensuring that students served a specific number of hours in community spaces, whilst another expressed the importance of ensuring reflections, both written and verbal following engagement. This could serve as an important way of documenting how to engage with different cultural groups. Another participant called for a formal assessment of community engagement projects as some students proceed to community engagement placements and demonstrate no meaningful learning.

Bhagwan[19] argued service learning necessitates systematic and regular reflection, reporting, and assessment of service experiences, with the faculty and students, for example, through reading assignments or oral presentations that combine service learning and the impact thereof. Additionally, service learning, should demonstrate reciprocity and reflection prior to, during, and after service by connecting service-learning objectives to the learning objectives and goals of community partners.[446]

Although reflection is a fairly common method of assessment in paramedic programmes, the method may not be necessarily aligned with specific community engagement evaluation and assessment guidelines and tools. Therefore, EMC community engagement champions will have to review current reflective assessment tools and rubrics and align these documents with local community engagement related guides, and internationally acclaimed assessment tools.

Mandernach[449] argued that the dynamic nature of engagement activities necessitated a multifaceted assessment approach that reflected the interactive personality of students' behavioural, affective, and cognitive dimensions. Moreover, Benneworth et al.[6] expressed that assessing student engagement provides critical data that can inform teaching and programme initiatives and issues related to students' psychosocial growth, cognitive understanding, and professional development by reflecting on knowledge from informal and formal sectors.

Within this context, the Council on Higher Education and the HEQC in South Africa established guidelines for assessing service-learning community engagement projects, stating that stakeholders and community partners should be involved in the

assessment of students and that assessments must be aligned with service learning outcomes and that students should receive feedback.[119]

Community engagement projects should therefore be evaluated using formative and summative strategies. Correspondingly, the Work Integrated Learning Good Practice Guide[37] emphasises using a variety of methodologies, including formal and informal assessments, problem-based learning, and collaborative project development with communities. These resonate with the data, despite the fact that such strategies are yet to be explored in paramedic training.

International community engagement benchmarking and evaluation tools, such as the Carnegie Foundation's Community Engagement Classification Framework, can also be applied to the assessment of local community engagement projects. The Furco[287] self-assessment rubric also holds potential as an assessment tool. The rubric is structured along five key dimensions, which encompass the philosophy and mission of community-engaged service learning, faculty support, student support, community participation and partnerships, and institutional support. Since the inception of the Furco rubric, several other assessment tools for community engagement at universities have evolved, which have explicitly modified or referenced the Furco rubric, mostly in the USA and the United Kingdom.[6,340]

The participants' views on reflections on community engagement practice are discussed next under sub-theme 7 of Theme 4.

4.2.4.7 Reflections on community engagement

Participants raised the importance of *reflections on community engagement practice*, which was expressed as follows:

> *"There is space for reflections, especially among the allied health students … As part of their assessment, they've got to submit reflections of their experience. Medical students do more informal reflections … we get them to write up patients and they are assessed with interviews, and then often it comes out how they experienced those home visits and what it meant for them and how they will do things differently in future" (A 11).*

“After engagement activity you do a course evaluation and review … I realised there's certain things in the curriculum that to need change or revise … and put it back into teaching” (A 10).

“Exposing our students to that reality and coming together to reflect gives students insight … there's a better understanding, less self-doubt, and a bit more compassion for themselves and for their patients” (A 2).

“They need to provide information as to what value they could add to the home-based care worker knowledge, and anything they can improve” (CP 1).

“Just have a round table talk about your experience. What was your expectation, what have you learned?” (CP 6).

“Walking with the community healthcare worker to somebody's house. then you get those students to come back from that experience … the patient doesn't just have HIV. This patient is being molested by their father ... it gets more complex. In the reflection, students have experienced a little bit broader what the patients are exposed to” (A 11).

“It is very important to do an evaluation with your stakeholders in the community and have [a] one-on-one with them [stakeholders]” (A 10).

Academics and community partners highlighted the importance of reflection for multiple reasons. Reflective feedback with students, academics, and community partners is crucial for teaching, learning, and student placements. It is thus important to provide a space for reflections with key stakeholders of community engagement

partners. Evaluation of community engagement within programmes' curricula, which also surfaced from the data, closes the loop of community engagement processes and determines areas for improvement.[6] As discussed previously, past community engagement projects often form a basis for new partnerships. Therefore, evaluation and reflection on past and current community engagement activities should be a dynamic and continuous process.

Similar sentiments were echoed by Muller and Cooper[93], who reflected on academics who voiced that teaching students to adopt a collaborative inquiry approach to patient management as part of reflection to provide possible strategies which allow for a cycle of decision-making group inquiry, reasoning and planning, where members of the team adopt a self-correcting dialogue as part of their advocacy to improve patient care.

Furthermore, the study's participants also echoed that reflection encompasses longitudinal engagement of higher education institutions and communities, which is essential for brokering partnerships and planning for synergies with other universities. Of further importance is that all stakeholders need support through dialogue, discussions around the value of activities, and opportunities for reflection and feedback. Along the same lines, Al-Rawahi and Al-Balushi[450] advised that reflective journal writing shares critical processes such as evaluation, monitoring of self-efficacy, self-reflection on activities, and judgements and feelings related to such activities. These reflections provide a feedback loop in addressing both the positive and negative impacts on the engagement process.

There is considerable literature on these dimensions of reflective learning which indicates their value and discusses ways of introducing and developing them in practice.[143,179,451] The facilitation of self-reflection and faculty reflection is not without its challenges. Nevertheless, it is vital for Health Science programmes to produce reflective graduates because reflection, especially in community engagement, boosts students' understanding of the programme content, increases obligation to the discipline, and promotes a greater sense of civic responsibility.[41] The theme of reflection was mainly derived from experienced health science academics involved in community engagement and community partners that collaborate with higher education institutions. This was perhaps the concept of community engagement that

has not yet been implemented into the DEMC curriculum. The importance and relevance of CBR form the topic of the next sub-theme.

4.2.4.8 Community-based research

CBR emerged as sub-theme eight under Theme 4. Participants said,

> *"Being involved with communities has many spin-offs: it does influence the way we teach; it does inform our research; [and] it impacts society in a much more meaningful way" (A 9).*

> *"They [communities] don't want universities to come in and do research all the time, because that has been the main focus of the university, to research your problem, but I'm not doing anything towards your problem. Very few times we go back as researchers, and we go back and transfer the knowledge that we've gained in our research with recommendations that were made in our research" (A 10).*

> *"I am yet to see from the research projects that I have supervised, whether any of those projects have actually gone and developed maybe a prototype and taken it back to the communities" (A 8).*

> *"If you look at the broader community as an African community ... research should be in the direction of informing patient care and contribute to health systems" (A 6).*

The data reflected that whilst community-based research can add value to improving the lives of disadvantaged communities, many are still not fully benefiting from research projects being implemented by the universities. One participant noted that

community-based research could create knowledge that can inform current teaching, thereby making it localised and more contextually relevant. One academic rightfully highlighted that universities impose their own research agendas onto them, and once the study is over, they do not use these findings to create strategies that will address their social, economic and health ills and improve community well-being. Another participant emphasised that community-based research should be used to inform and improve patient care and the health system.

The sentiments expressed in the data resonate with the views of Strand et al.[305], who expressed that *"c*ommunity-based research is research conducted with and for, not on, members of a community*".* This implies that CBR is a methodological practice that places community partnerships at the forefront. Moreover, Wade and Demb[452] argued that CBR is a type of scholarly work that addresses social issues while enabling academic employees to perform their research functions and can be described as a collaborative, research-oriented activity that accomplishes educational goals while also improving the community's welfare. Wilson[47] concluded that CBR is distinct from traditional research in that the study's purpose is to generate knowledge that helps the community and incorporates student participation. Marullo et al.[453] concluded that CBR is based on empowerment and seeks to democratise knowledge by recognising and valuing all participants' unique strengths and perspectives in the research process; its ultimate objective then is to foster positive social change. Despite the benefits of CBR, literature supports some of the data excerpts where communities are exploited when they participate in research without receiving fair benefits.[454] This implies that the potential for exploitation of communities exists when communities participate in health research and researchers gain from their participation.

Based on their exposure to diverse communities served by EMC, the students provided examples of potential CBR projects as follows:

> *"In the poor communities, a lot of stuff that they're doing is alcohol abuse. Maybe there is a specific reason why most of the youth are abusing alcohol. So I think it is vital for us to do research about it" (FG2 S 8).*

"Communities that are still making beer … they're also making a homemade beer out of toxic components and contributing to all the sickness taking place" (FG2 S 11).

"They're [communities] using sugar to stop the bleeding … they just put sugar on the wound … they think it stops bleeding. They don't know it causes more bleeding" (FG 2 S4).

"Then I went to a child that was nine months old who took a medicine which was given by the old ma from the house, [who] mixed something from the garden. So they needed to flush the things out, and what happened at the end the child had liver damage…., HGT [hemo-glucose test] was 0.1. We tried our best to get the child back, but the child was declared dead later, he had the liver failure because of the medicine that was given was too strong, which is dangerous" (FG2 S 8).

"Most of the time people instead of going to the doctor, they make their own medication. I believe that we can make research about those things. Because most of the time we go to fetch people who are sick because of those medications …" (FG2 S 11).

The data reflected the contextual realities that paramedic students work in the Western Cape Province and reflect the local or indigenous ways that community members use to treat illness or approach health-related challenges. As one participant said, some local communities make their own medicines which is an example of a local problem that can be explored through CBR, as some patients further deteriorate with the use of such local medicines. This was affirmed in the data where a child died from herbal medicines used for treatment. Other examples from the data included the consumption of home-brewed beer and the use of sugar for bleeding, both of which students reported as a cause for adverse reactions.

Whilst some indigenous practices and beliefs are beneficial, not all practices improve patient outcomes. CBR projects in EMC should focus on the indigenous cultural aspects of health care. With a view to better understanding these cases as they are encountered during the transport of patients. In South Africa, specifically in the Western Cape, paramedics respond to multicultural and diverse communities.[29]

Despite the hallmarks of effective CBR, as asserted by Israel et al.[455], such as mutual respect and trust, commitment to long-term sustainable relationships built on the existing strengths of the community, and methodological rigour and sound ethical practices, academics from local higher education institutions perceived such researchers as exploiting local communities.

Duke and Moss[456] noted that CBR engages community members in identifying specific community-based challenges through a collaborative approach of data collection, analysis, and policy formulation between university researchers and community members to apply the findings in ways that benefit the local community effectively. In this vein, Bedson et al.[199] discussed the potential of CBR in curbing disease outbreaks, thereby decreasing patient mortality.

Given the potentially dangerous effects of traditional medicine, Abdullahi[457] concluded that to alleviate current mistrust between modern and traditional medicine and achieve cooperation, both traditional and registered medical practitioners must recognise their respective areas of strengths and weaknesses and work collaboratively to achieve effective patient care. Although the data from paramedic students reflected the negative impact of traditional medicine, the WHO[4] recognised the value and strengths of traditional medicine within community settings which should be incorporated into EMC education. Within this context, academics, paramedic students, and community partners must work collaboratively to identify contextual emergency care issues within local communities to conduct CBR to promote positive social change and improve health care. The final sub-theme of Theme 4, which looks at the co-production of knowledge, is discussed next.

4.2.4.9 Co-production of knowledge

Participants also felt that the process of community engagement should lead to the *co-production of knowledge*. This was expressed as follows:

> *"If we can get academics to understand that community engagement is part of an institution of higher learning and that we [university] sit with all the expertise … so there is limited co-production of knowledge" (A 8).*

> *"I guess you're not trying to like to solve a problem as an outsider. Instead, you are very much in a bottom-up way, working with different ideas, different forms of knowledge, and doing the research or the policy engagement. So that's kind of been the experience with students" (A 9).*

> *"In the community of practice, you are working with … students, and that is your community … Your learnings from students can be brought into research and into teaching and learning in undergraduate programmes … we also co-create knowledge with our partners" (A 2).*

> *"… Mode 1 – it's basically just disciplinary focused. I'm a provider of knowledge in a very specific discipline, so it's very boundary focused ... Mode 2 is the distribution of knowledge to the broader society" (A 8).*

> *"I think part of what's needed is to recognise that the very local knowledge that community members have is an incredibly valuable source of information. And it's as important as a professor of epidemiology. So, in the CANs we use this phrase 'professor of the streets', and we've definitely seen it with the COVID response" (A 9).*

"For me, the learning and teaching is with the community … in [an] academic sense, a form of co-creation; the work has to be accessible to communities ... research must be useful and should contribute towards some improvement in the community" (A 3).

"Community engagement must be for the betterment; it's definitely a co-creation of knowledge, [and] must cut both ways because your community actually sits with the answers" (A 8).

"It is our paradigms, it's the way higher education academics think ... we haven't shifted our mindset to seeing the huge need to do knowledge transference, that we must transfer our knowledge into communities. That knowledge is sitting in our theses, in our dissertations, in our publications ... [if] we really want to call ourselves the community-engaged universities ... we need to start thinking and having a strong focus on our social impact and our knowledge … focus on how it is impactful, but also taking what we have done back into the communities" (A 10).

The aforementioned excerpts from academics involved in community engagement reflect the value of different forms of knowledge that exist outside of the university boundaries and affirm the need to co-create knowledge with community partners. One participant believed that a professor of epidemiology had the same knowledge as that of a 'professor on the streets', who are community members with vast community knowledge, who are a valuable source of information, and co-produce knowledge to improve community health issues and education together with academics.

Academics asserted that knowledge production should not be limited to the university and should instead extend to communities. Another participant described (Mode 1) knowledge as didactic, disciplinary focused, and limited to the boundaries of

theoretical knowledge, whereas (Mode 2) knowledge can be produced through community engagement exposure in local communities and allows for the distribution of new knowledge to the broader society for health improvement given the health challenges in marginalised communities. These findings are consistent with Gibbon's[224] review of the literature.

Bhagwan[23] asserted that thriving community engagement partnerships consider all parties as both teachers and learners in the search for solutions to address societal issues. Thus, higher education institutions have begun to relinquish ideas regarding whose knowledge matters and have begun to co-produce knowledge with communities.[79] Likewise, the framework of democratic civic engagement, proposed by Saltmarsh et al.[436], emphasises the process and action of community engagement based on the sharing of experience and expertise.

Under the democratic engagement paradigm, stakeholders construct knowledge in a collaborative manner by merging academic and community-based knowledge throughout the stages of problem identification, designing, implementing, and evaluating the targeted interventions. Therefore, engagement aims to serve the community not just by working *for* the community but rather *with* the community.[436]

When contemplating knowledge production and its value, EMC departments, programmes, and community engagement implementors must consider communities as equal partners during the creation of new knowledge for EMC practice to remain valuable and contextual to the South African health system realities.

The above section discussed Theme 4, which focused on teaching and learning, along with its nine related sub-themes. Attention now shifts to the topic of institutionalisation as presented in Theme 5.

4.2.5 Theme 5: Institutionalisation of community engagement

Table 7 presents an overview of Theme 5 and its two related sub-themes. These are discussed in further detail.

Table 7. Institutionalisation of community engagement

Main Theme	Sub-themes
4.2.5 Theme 5: Institutionalisation	4.2.5.1 Institutionalising community engagement at higher education institutions 4.2.5.2 Institutional preparedness for community engagement

The next overarching theme that emerged from the data was *institutionalisation* (Theme 5).

According to the data, this transformative process can be achieved by entrenching community engagement within the policies and daily practices of the institution, as discussed under the sub-theme of *institutionalising community engagement* (sub-theme 5.1) and by establishing structures and resources within institutions for community engagement as discussed under the subsequent sub-theme of *institutional preparedness* (sub-theme 5.2).

4.2.5.1 Institutionalising community engagement at higher education institutions

The academics in the sample interpreted the *institutionalisation of community engagement* in the following ways:

> *"The MoU [memorandum of understanding] helps the institution clarify the expectations and it is clear what the students and the lecturers will be doing to address the needs of the community" (A 3).*

> *"Community engagement must be institutionalised in the university and there should be guidelines of how it's done" (A 11).*

"The key things to make it happen is [to] have [a] vision. And you need people at the grassroots level who catch the vision … those are the two things that make a big difference" (A 2).

"If your mission is to incorporate community engagement into the training of paramedics, you also need to articulate a vision of how that is incorporated into their real-world role" (A 10).

"You must have memorandums of understanding, partnerships cannot be person-centred, it must be institutionalised" (A 3).

"Community engagement has activities that can be integrated into teaching and learning and research ... the university or high[er] education [h]as three main missions or four main missions, and that is: teaching and learning, research, community engagement, and administration" (A 10).

"Make sure that people involved know the mission and vision and the institutionalised community engagement … Hire the right people passionate about community engagement … Always have [a] back up plan for engagement to be effective; ensure that your databases and your infrastructure is able to accommodate people leaving. So [that] when people leave, they don't take the information and resources with them. So make sure people use institutional equipment, and it's not on personal laptops as it is shared intellectual property" (A 10).

"The more you do that, the more you raise the profile of what it means to be engaged; then more people get involved, as we are a big

institution. So people need to know that there is always going to be some reward for engaging with communities" (A 7).

"It needs dedicated resources, and the person must have a passion for [the] community and energy for community engagement" (A 11).

"We have a database of all community engagement projects at the university, so we update[e it] yearly … The database allows people to develop partnerships so that everybody knows what everyone else is doing" (A 10).

"It gets framed as social responsive work in the university ... It's like a score sheet, which is how they determine who gets promoted and who doesn't ... You have to break down the ivory tower walls of the health system and of the university" (A 3).

"The way we get promoted is that we give staff members and students awards, and you have to apply for it and provide a portfolio" (A 9).

"We started with community partnership functions ... on an annual basis; we have this celebration of community projects, so it's a collaborative case. Students are also expected to do projects in the community, to write them up, and to report about them. I think it's at the community partnership function. We invite all the stakeholders, the NPOs' members from the community, and the department of health. We celebrate what's being achieved…" (A 7).

Health science academics experienced in community engagement agreed that community engagement must be institutionalised and given equal priority alongside the pillars of teaching and research. In fact, it can be argued that community engagement should not be seen as a discrete entity but integrated into teaching and research. Participants expressed that community engagement could only be advanced through embedding it within the mission and vision of the university. Furthermore, participants affirmed that formal Memorandums of Understanding or agreements with community partners and guidelines on how to interact with community partners should be aspects that reflect the institutionalisation of community engagement. These formal agreements should have clear goals, objectives, and roles for emergency care educators and students to implement community-engaged initiatives. Hence the aforementioned participants said that community engagement must be embedded within the institutional vision and mission in order for it to translate into core university activities.

To strengthen institutionalisation, the participants also expressed that a rewards system that enables the promotion of community engagement work, based on a documented portfolio of community engagement activities, must be in place. The latter should also be built into key performance areas. Moreover, as reported by the participants, institutionalisation is also reflected by the establishment of a community engagement database, which can serve as a resource for maintaining established partnerships and for building new partnerships. In addition, participants expressed that the recruitment of staff who are dedicated and passionate about community engagement is critical to institutionalisation.

Similar to data, scholars such as Netshandama[419] and Bhagwan[19] also highlighted the significance of embedding community engagement within the mission and vision statements, of the university, in a way that reflects community engagement as the university's core purpose. These mission statements should also contain the purpose and objectives of community engagement.[283] Similar to the data, the writers have argued the importance of financial support in the form of approved budgets to promote community engagement.[21] Albertyn and Daniels[79] argued that the establishment of community engagement as engaged scholarship could be achieved by infusing community engagement into institutional policies. Sandmann and Weerts[458] added that institutional policies determine the extent to which academics get involved in community engagement and how they infuse community engagement into their

teaching and learning. However, the authors claim that guidelines for good practice may be more suitable for the institutionalisation of community engagement as opposed to policy directives. In essence, the institutionalisation of community engagement hinges then on the development of agendas, structures, policies, and guides to enable and encourage the involvement of faculties, individual educators and students, together with communities in community engagement.[236]

Singh[459] cautioned that one must guard against narrow understandings of engagement and that universities and their contexts should negotiate the terms of engagement. Guidelines for good practice may thus be more appropriate than policy imperatives. The definition of the community should also be flexible and open to interpretation based on the discipline and context in question.

Albertyn and Daniels[79] further pointed out that the incentivisation of staff, either financially or through offering development opportunities and linking community engagement research to promotion and reward performance systems, was a further feature of its institutionalisation. Ensuring this requires situating community engagement within academic disciplines and interdisciplinary programmes, providing incentives (monetary and staff development opportunities) for academics to engage in community engagement, and linking the research outputs of community engagement activities with staff reward structures.[415]

Furthermore, recognition and reward for community engagement are key enablers for the institutionalisation of community engagement, which, through formal ceremonies, give prominence to community engagement as a key activity within a university.[19] More importantly, promotion policies which recognise community engagement must be developed alongside awards to draw greater recognition to community engagement work.[19] Similarly, academics asserted that community engagement educators express their passion by being advocates of change within teaching, research, or service for the collective good of society.[460] This expression can be achieved through continuous reflection on their daily practices, priorities, and commitments to transform the faculty towards community engagement.[461]

The academics also alluded to systemic transformation strategies for university-wide institutionalisation, which reflects literature, that suggests that this transformational process requires significant time and buy-in from key university staff from the ranks

of leadership, management, educators, and administrators through a change in the institutional culture of community engagement.[19,420]

EMC academics also need to be cognisant of the time required for deep and meaningful institutionalisation of community engagement. Some authors proposed that the institutionalisation process can take several years to accomplish.[462,463] However, for it to be successfully nurtured in EMC departments, there must be a transformation of institutional culture related to community engagement throughout the institution.

4.2.5.2 Institutional preparedness for community engagement

The next sub-theme relates to *institutional preparedness.* Participants said as follows:

> *"Social accountability is instituted in the accreditation of programmes in most countries, including in South Africa … it's has been incorporated into the accreditation with [the] Health Professions Council, in the medical programme as part of the accreditation process" (A 2).*

> *"You need somebody to coordinate the students' access in the community … it can be [an] administrative position where somebody with insight into relationships and partnerships can identify sites where students can get engaged, and then coordinate when those students will be there and what they'll be doing, and whose responsibility is what" (A 11).*

> *"The community engagement unit that's responsible to empower do[es] capacity building, do[es] skill[s] transfer, [and] do[es] facilitation of community engagement to students, academics, and also communities" (A 8).*

Institutional preparedness was identified through the establishment of a community engagement component office with dedicated staff within the university to drive the transformation of the institutional culture towards engagement, as well as coordinate teaching and learning and research between the higher education institution, community partners, and community members. This community engagement unit then can also assist with compliance in relation to HPCSA's accreditation criteria in terms of integrating social accountability within EMC programmes.

Similar to data, some scholars argued that institutional preparedness in the form of an established community engagement office is perhaps more crucial than management support.[19,419] The community engagement office, according to them, should coordinate, support, and spread awareness about community engagement activities. As revealed by the audit conducted by the HEQC, institutionalisation of community engagement efforts varied to different degrees among the audited South African universities.[79] The key HEQC recommendation to the universities included the development of policy frameworks around community engagement and strategic plans and procedures to reach the full potential of the approach to community engagement.[12]

Community engagement units served as vital role-players in facilitating community engagement partnerships, and additional community engagement units can be established to coordinate a decentralised community engagement system in response to the HEQC audit reports.[12] community engagement and CBR offices are also commonly found in international universities that support the institutionalisation of community engagement.[92] Departments of EMC must strive towards the alignment of their core activities with local institutional community engagement units in compliance with the quality assurance criteria of accrediting bodies, namely the HEQC and HPCSA.

Having focused on institutionalisation in Theme 5, contextual community engagement projects form the subject under discussion in the final main theme of the study.

4.2.6 Theme 6: Community engagement projects

Contextual community engagement projects emerged as a key theme and were regarded as an important component of EMC education. As mentioned earlier, the paramedic profession requires comprehensive knowledge of the challenges faced by

marginalised and diverse groups and the specific healthcare issues encountered by the communities they serve.

Table 8 below summarises Theme 6 and its two related sub-themes.

Table 8. Community engagement projects

Main Theme	Sub-themes
4.2.6 Theme 6: Contextual community engagement projects	4.2.6.1 Nature of current community engagement projects 4.2.6.2 Potential EMC community engagement projects

Participants were interviewed during the COVID-19 pandemic, which was a time when health science academics and students were involved in a significant amount of community engagement. Reflecting on the pandemic, one of the academics shared that:

> *"Innovation is important to come up with ways of improving health within the communities, whether it's by improving access or preventative interventions" (FG1 A 8).*

Despite the challenge of face-to-face engagement, due to lockdown regulations, online tools created the opportunity for students and academics to maintain contact with their community partners. As described in the sub-sections below, the pandemic provided significant opportunities for engagement through social networks. It demonstrated that online engagement has its own possibilities for establishing and developing relationships, the dynamics of which lend themselves to educational and health outcomes through a multitude of these online platforms. Some scholars have argued that key institutional challenges are around the capacity to explore and develop solutions specifically in low-resource communities, namely funding for data, infrastructure, and resource devices.[19] Under the main theme of community engagement projects, two sub-themes emerged. These are discussed further in the sub-themes that follow.

4.2.6.1 Strategies to enable collaboration in health sciences and with community partners

Participants supported the notion that paramedic students should be included in existing community engagement projects across the various Health Sciences departments at higher education institutions in the Western Cape. The excerpts below reflect the ways in which paramedic students can become involved in community engagement projects:

4.2.6.1.1 Extending medical services from hospitals and clinics into the communities

Health science academics experienced in community engagement stated that EMC academics and students should continue to promote ways in which healthcare is driven by a community-orientated primary healthcare approach, which can be done by a local university together with the Department of Health. They further emphasised the importance of working more out of their facilities and in their community, as represented by the following excerpt:

> *"Looking at how can we actually move almost all of those sorts of things that group need in terms of follow-up and investigations, and check-ups and medication, I think out of the facility, more into the community" (A 13).*

4.2.6.1.2 Health promotion through outreach projects

Other participants reported that health education could be implemented through various outreach projects as follows:

> *"Integrate community engagement in schools with the teachers to empower them about what a health-promoting school is …" (A 3).*

"We organise outreach as a faculty … outreach is mainly around education and prevention ... As a faculty, we go out with all the disciplines ... we stay at the hostel, set up [a] kind of a clinic situation as well as engage with the community ... we do educational programmes, health promotion programmes, curative programmes ... I can see your [paramedic] students engaging with them at that level" (A 10).

Participants indicated the significance of collaborating with local community high schools to encourage health promotion. Another commented on the advantages of establishing a clinic in hostels to conduct health promotion through educational programmes in marginalised communities. This initiative was suggested as an ideal opportunity for EMC students to participate with other health science students in community engagement as part of outreach projects.

4.2.6.1.3 Health education during patient transport

Participants also reported that paramedic students are at the forefront of the healthcare system and are best suited to provide health education to patients during transportation.

"During patient transport ... if there was more of an intentional engagement, you can give them medical advice to benefit the patient and ultimately the health system .... you're not just a sort of a transport system…" (A 13).

Participants believed that the transport process provided opportunities for engagement. McManamny et al.[188] agreed saying that paramedics are seen to be very accessible and should be consulted for general health care information, not just for emergencies. Academics perceive the paramedics' role during patient transport of non-emergent cases as being focused on health education, and illness prevention work should be targeted to fit the needs of local communities. Communities should therefore see paramedics as a valuable health information resource.

4.2.6.1.4 Substance abuse education

Academics further suggested that paramedic students be placed in substance abuse rehabilitation centres. The following excerpt encapsulates the key findings from most academics:

> *"The drug and alcohol rehab centre … our students work there … students gain an understanding of why people keep taking drugs and why they [public] keep drinking and driving" (A 11).*

Substance abuse fuels violence, which increases trauma-related injuries, resulting in increased demand for EMS and further healthcare resources. Hence engagement with community resources and placing health science students in rehabilitation centres provide meaningful learning and understanding of the causes of addiction from a psychosocial perspective.[464] Moreover, it prevents stigmatising patients as it can aid the recovery process from substance misuse, and healthcare students can map resources that are pro-social and afford access to meaningful activities. In addition to providing a platform for personal development, these student placements can trigger a social contagion of positive behaviour, as well as improve connectedness within communities.[6] As mentioned in the literature, unique student placements ignite Mode 2 knowledge through applying theoretical knowledge and problem-solving that encourages transdisciplinary learning and social accountability.[107]

4.2.6.1.5 Using technology to access communities for health promotion

Academics also stressed the importance of using technology and developed application systems for health professionals to communicate with patients. The following excerpt expressed the view of most health science academics experienced in community engagement:

"During COVID, when it was lockdown, we didn't access the community … you got to think outside the box, what project you going to do to make a difference … they [students] came up with an emergency click and response that they ran on WhatsApp [communication application] and Instagram [social media] … they used it as a tool to distribute chronic medication" (A 8).

The healthcare sector in the Western Cape is reliant on various types of media to provide health information to patients. The collaboration of local higher education institutions with Health Science departments served to deliver public health information that assisted with chronic disease prevention control. Social media, patient portals, phone applications, and websites are often utilised more frequently to provide health information to populations focused on health information and practices to encourage behaviour change.[465] Despite there being health promotion barriers to the use of technology to deliver public health messaging, Budd et al.[466] noted that challenges with the use of technology to provide general health messaging, there was a need for training marginalised communities and to provide the infrastructure to support the use of technology.

4.2.6.1.6 Delivery of medication will reduce chronic illness

During the pandemic, local universities collaborated with healthcare workers to deliver medication to patients in marginalised and 'red zone areas in the Western Cape. This collaboration created greater connectivity with communities and improved the respect and appreciation of students and healthcare workers. This forms another potential avenue through which students can engage. One academic said:

"The home delivery of medication by community health workers that's happened over the last year with COVID ... seriously raised the profile, and the appreciation of community health workers and students has led to a much greater appreciation of them" (A 13).

During the pandemic, community health workers, students and academics discovered opportunities to improve healthcare by employing alternative strategies, such as those outlined in the excerpt above. As a result of these opportunities, there was a greater level of collaboration between health science faculties and marginalised communities.

4.2.6.1.7 Volunteer activities during the COVID-19 pandemic

During the lockdown, EMC academics and students were requested to volunteer their time to assist with the COVID-19 vaccine roll-out and provide input on the vaccination campaign. This gave EMC academics and students a sense of purpose and social responsibility towards the public. Participants shared:

> *"We've been invited to sit on the Social Mobilisation Steering Committee for the vaccine roll-outs, and this is where students can get involved in the VAXI TAXI project" (FG1 EA 8).*

> *"The vaccination campaign ... I'm hoping that EMC students will also get involved" (A 6).*

> *"We are from these communities … we understand their fears and we want to help them … these deaths must stop" (FG2 S5).*

The above excerpts reflect the rich opportunities for paramedic students to engage as part of the vaccination programme. Volunteer work is non-compulsory, unpaid, externally oriented and formal activities that take place inside or outside the university but can develop greater social responsibility amongst students.[19,452] Based on paramedic students' abilities to provide intramuscular injections[28], academics and students assisted with the COVID-19 vaccination drive. This was an important aspect for paramedic students as it strengthened professional preparedness and helped them to demonstrate empathy and care whilst enhancing their humanitarian values. Scholars have also written that volunteerism allows students to express empathy and

compassion with the purpose of serving community members in a respectful and non-discriminatory way.[468,469]

4.2.6.1.8 Utilising community networks to access communities

Community engagement projects during the COVID-19 pandemic provided unique opportunities for greater university-community partnerships. Participants reflected that some of the local universities were responsible for disseminating knowledge related to the coronavirus (COVID-19) to communities and taught them how to prevent the spread of the virus. Hence, health education was necessary for communities, and in line with this, joint projects were developed. Furthermore, existing community networks were able to reach out deeper into marginalised communities to provide nutrition and chronic medication to decrease the burden of disease. In this regard, the academics stated the following:

> *"What we did for COVID, is we've got women in the community to sew masks, which we've supplied to the community and students and to the patients that the students see … this became sustainable, and they make money from making these masks, which we [the university] bought from them. Now they can buy more material and then continu[e] to make more masks and sell them to different groups" (A 2).*

> *"My colleagues in Khayelitsha, the CANs have been mobilising around access to water in the Langa. They got access to a whole bunch of bicycles, and they were delivering medicine, delivering food to the elderly who couldn't leave their homes, and helping our pensioners" (A 9).*

As evidenced, there was tremendous potential to empower community members to use them to develop resources such as masks and the delivery of essential medicines at the grassroots level. The data also highlights the importance of using established

community engagement partners to access communities, as they are the gatekeepers of such communities for mutual benefit and health promotion.

The data emphasised the use of using community networks and social mobilisation through community-university partnerships. In line with this Van Ryneveld[420] argued that the COVID-19 pandemic exposed the huge challenges that South Africa encountered, particularly for those poor and who were unemployed. In Cape Town, a movement of self-organising neighbourhood-level CANs contributed significantly through their community-based response to the COVID-19 pandemic. The pandemic provided the opportunity to recognise and understand the power of informal networks and collective action for academics during times of unprecedented crises to engage in meeting community needs.[470] Murphy and McGrath[413] (2015) asserted that when participants take personal responsibility for processes and outcomes for the purpose of genuine collaboration, organisations, together with individuals, are able to define problems, develop strategies, and implement realistic solutions.

4.2.6.1.9 Summary of the current projects within the Health Science departments

The key projects that emerged from the data focused on vaccinations to prevent transmission of the coronavirus, delivery of medication to patients with chronic illnesses, interdisciplinary collaboration for health promotion and education, exposure to rehabilitation centres for students to have a contextual understanding of substance abuse, and mobilising health care practitioners from hospitals and clinics into the communities to treat patients. Furthermore, using technology to develop application systems as a means of communication with chronic patients. In this regard, academics provided rich information about potential projects and suggested interdisciplinary collaboration with paramedic students be involved in projects related to health promotion and social justice.

4.2.6.2 Potential emergency medical care community engagement projects

Exposure to community engagement projects allows students to explore issues relating to the professional practice of paramedics and the unique challenges faced by paramedics as their role and scope of practice evolve to meet the changing healthcare needs of culturally diverse communities. The data reflected that paramedic students, together with academics and higher education institutions, should be

involved in potential emergency care community-engaged projects. For the purpose of analysis in this chapter, the excerpts were grouped into related projects as follows:

4.2.6.2.1 Primary injury prevention

Participants reported that EMC projects could be implemented through various primary injury prevention projects, and health science academics, students and community partners stated:

> *"Burns is a big issue for us in the townships ... there's a step before the intervention ... the curative health promotion and health prevention, that is where the emergency medicine students and the curriculum can also focus on those aspects, and it has a big impact on the health system" (A 10).*

> *"We do about 300 fires a year in rural areas. if you want to build a society, we must take away that huge gap … the students can get involved as part of their training modules" (CP 3).*

> *"There are a lot of mountain fires … we have good collaboration with the fire department. This could give students a sense of involvement with assisting ... [and the] Fire Department [can] teach the rescue modules [in] the Diploma" (CP 8).*

> *"… teach the children how to swim, prevent drowning ... [the] need is different in each community…" (FG 2 S 12).*

The data highlights contextual issues in marginalised communities, as most households lack electricity and cook meals with paraffin or mobile gas cookers. Furthermore, because communities use candles, these appear to be major root

causes of shack fires in informal settlements. The Western Cape is also notorious for mountain fires, which affect a variety of communities, resulting in burns, smoke inhalation, and, in some cases, fatalities.

In addition, people in marginalised communities wash their clothes in rivers or buckets. A common call for paramedics involves children drowning in buckets of water. In addition, the majority of local municipalities lack swimming pools. Consequently, most of the local population cannot swim. Thus, the data provides essential information for incorporating contextual realities into the EMC curriculum about local social justice issues that impact health.

Stirling et al.[471] study linked primary injury prevention to information and education by paramedics who were seen as having credibility within communities. Thus, paramedics are uniquely positioned to provide targeted injury prevention based on local needs and the frequency of incidents.[471]

4.2.6.2.2 Health promotion

Other salient health promotion projects expressed by participants was stated as follows:

> *"As you know, COVID hit us all very badly … Most of the cohort of students are from EMS operations and these clinical skills are on their scope. We can get them involved in the vaccination drive, and we plan on going to the poorer areas, using the ambulance as a mobile clinic, so we can reach people who don't have money for public transport. We will run a workshop to teach them how to engage with communities [be]cause this can't be taught in [the] classroom" (CP 7).*

> *"Students can go to the waiting room and share information with people [patients] in there about compliance with medication because the HIV medication is a big issue" (FG1 EA 1).*

"… workshops with the teachers to empower them on what a health promoting school is" (A 10).

"We used to do a lot of work in the primary healthcare clinics ... make posters, educate people, and that's what I don't see any more in the clinics. This is why higher education institutions should ideally place students which can make a big impact" (A 8).

The data suggest that paramedic students can participate in health promotion activities, as the majority of the cohort of students from EMS operations are registered with the HPCSA and have clinical skills to assist in the vaccination drive utilising the ambulance as a mobile clinic in marginalised areas. As part of the preparation for service in underserved communities with limited access to healthcare, paramedics should receive training not only in the pre-hospital setting but also in primary healthcare facilities. As discussed in the previous section, health promotion and primary injury prevention are interdependent. Moreover, the literature asserted that health promotion is an acceptable and vital component of care to be considered within the paramedic curriculum and scope of practice.[472]

In addition to delivering emergency care, paramedics are viewed as reputable sources of health knowledge by academics. The credibility of paramedics may be enhanced by providing primary health care, including not just clinical skills but also health education at local schools. Consequently, it is essential that paramedic students be able to function in a variety of situations, not only in traditional EMS settings or organisations.

4.2.6.2.3 EMC Education and training

"We had to come up with innovative ways for community engagement with EFAR [emergency first aid response] because we could not do face-to-face training; we also had to reteach a lot of things, like how to do CPR [cardiopulmonary resuscitation] and keep safe with PPE [personal protection equipment], so we are using WhatsApp as a blended learning approach. We basically teach these critical life-saving skills to the lay

communities, and this is where students can assist us, because you can use a student from that area to provide training to the same community they stay in" (FG1 EA 12).

"And there have been some attempts at simple first aid engagement, and these initiatives have been going for a few years already and are gaining momentum in terms of the number of students involved and the spread of the engagement across the community" (A 6).

"The community is getting better service delivery ... by educating the community, we might reduce the number of unnecessary call-outs just by increasing the knowledge level of the community ... it's mutually beneficial and sustainable … that's the idea of the engagement" (FG1 EA 1).

Equipping local communities with basic life-saving skills has also been strongly expressed by the study's participants as a potential project for the involvement of paramedic students. Teaching community members basic life-saving skills can also have a knock-on effect of mutual benefit of improved service delivery, as expressed by some participants.

In a similar vein, Jones [473] coined the term 'health literacy' as an umbrella term for strategies in the public acquisition of health knowledge skills, which includes "education targeting individuals and health professionals, ensuring consumer needs are met". WHO[7] reported that low health literacy is associated with "individuals who experience lower education and socioeconomic status; riskier health choices; diminished capacity to self-manage health conditions; and increased hospitalizations". This description is often associated with rural, impoverished, and marginalised communities in South Africa, where education and training in these communities can be challenging.[333] Therefore, these projects can provide students with insight into the unique community environments, relationships between limited

health systems, and community networks and potential while at the same time empowering communities.

4.2.6.2.4 EMC student outreach projects

Participants highlighted that outreach projects should be integrated with EMC education and stated as follows:

> *"Outreach project for students to engage in community about the chronic diseases that they are being treated for" (FG1 EA 2).*

> *"The students can go into the field and actually show the people of the community what we do, …, they have a better understanding as to why you need an ambulance. What goes into calling an ambulance and how to prioritise the use of EMS personnel" (FG2 S 2).*

> *"It needs to be stuff that they feel inspired by, so I think of our community garden ... that's become this wonderful hub of activity. So, it's a little bit about people having the freedom to choose the sorts of things that they love, that they are good at" (A 9).*

> *"A simple project like gardening impacts the well-being of people. If we feel more connected to others, and it has a direct nutritional value" (A 8).*

According to the findings, EMC students can assist in community health promotion by disseminating knowledge about chronic illness conditions. Participants presented suggestions for paramedics to perform road shows and educate community members on ambulance services and delays in responding to calls due to abuse, as well as the significance of calling an ambulance in the event of an emergency.

The data reflected that projects do not necessarily have to be clinical in nature in order to achieve reciprocal knowledge between the students and communities. Furthermore, other projects, such as gardening, have an influence on people's well-being and make them feel more connected to others, as well as having a direct nutritional health benefit. The data mirrored similar findings in literature asserted by Hawe[474] that community literacy and educational engagement should be focused on "the development of civically informed and socially-accountable health personnel and systems to enhance capacity and responsiveness to community needs, priorities, and expectations" The knowledge and skills gained by the students through community-based interactions were discussed under sub-theme 4.4.

4.2.6.2.5 Addressing community needs

Given the healthcare context in the Western Cape, participants provided the following suggestions for addressing the community needs and stated as follows:

> *"It's possible to do a project addressing social issue[s] in their neighbourhood and working with people in their neighbourhood that could be structured as part of the community police forums and the neighbourhood watch groups, if it's around safety, or it can be with people's church groups" (A 3).*

> *"It would be good if they could do a profile of our community and teach common health issues" (CP 4).*

> *"The overcrowding of long waiting times and trying to … understand exactly what those experiences are, what the limitations for their care have been, and then opportunities to improve that care" (A 6).*

> *"To follow the patient or to accompany the patient as they do a visit to a clinic, now you sit in the queues with the patient and wait [for] five hours*

just to get the packet of pills and, just get a better understanding of what it's like" (A 7).

"It's pretty phenomenal ... they often go out to farms, and engaging with communities and crèches, and just making sure that they are giving adequate nutrition to the kids in crèches" (A 10).

"Community safety forum has a caravan at certain hotspots where somebody can come to them and seek help and that's where paramedic [students] can get a better sense of the trauma and violence, the challenges that people in the community face" (A 11).

"Women on far[m] projects which focus on health rights, gender-based violence … a youth programme, capacitating young boys and girls" (CP 2).

"We came up with this idea called a Community Action Network ... [We] wanted the word 'action' to be in the name, and [we] wanted the word 'network' to be in the name because we want it to be clear that it isn't an organisation ... especially during the lockdown. It just took off, like it spread faster than COVID, you know, so we had 170 different CANs across the city and about 20,000 people involved in the response" (A 9).

"So, it became this powerful, almost capitalistic social response to the pandemic that was very community-led and very adaptive, responsive, and flexible. So, when lockdown happened and many people suddenly had no access to food, thousands of community kitchens popped up and we had a co-learning team that allowed CANs to learn from each other' (A 9).

The data highlighted several projects concerned with the potential inclusion of paramedic students. The purpose of the projects identified by the participants was to assess and design a response to a myriad of interlinked social and health issues faced by communities. Based on the paramedic student profile in the Western Cape, these projects can be in both rural and urban areas with a specific focus on gender-based violence, nutrition, health emergencies, and preventative healthcare. These projects are contextual to improving social justice and improving the health impact to reduce the burden of disease.

According to the data, determining community needs and adjusting the EMC response is critical for meeting the needs of communities addressing social justice and health care issues via community partners and community networks. The participants highlighted potential projects that can be integrated into EMC education. Similarly, McManamny et al.[188] provided an example of a project to show the relevance of extended paramedic roles in addressing community needs, which involved the implementation of basic healthcare monitoring as well as injury and illness prevention programmes in remote, rural communities.

Internationally, where traditional models of paramedic service provision have proven problematic owing to challenges with health care resourcing, staffing, and service provision to provide non-emergency alternatives to '... low risk, low acuity patients'.[188] Involvement of EMC academics and students from the data above will provide rich information, as well as the purpose of paramedic practice in the South African healthcare system context.

Theme 6 above, the final theme that emerged from the analysis of the data, discussed the topic of contextual community engagement projects. This section also focused on the nature of such projects (sub-theme 6.1), as well as potential EMC community engagement projects (sub-theme 6.3) and concluded the discussion of the study's themes. Attention now shifts to a summary of the results. These are dealt with in terms of the main objectives of the study as formulated in Chapter 1.

4.3 Summary of Results

This chapter aimed to interpret and discuss the data. As a result, the researcher needed to determine whether the research objectives were fulfilled. Five objectives were established for the study. Each objective was individually reviewed to determine the level of achievement.

4.3.1 Objective 1: Establish the views of health science academics at higher education institutions regarding best practices on community engagement within health science education

The health science academics that participated in this study agreed that there are differences in the way community engagement is understood and defined in the local context. They confirmed the need for conceptual clarity to guide how community engagement will be implemented in EMC education locally. The data reflected that EMC education could be guided by a definition that supports a collaborative partnership between EMC academic departments and community partners and that the partnership should be characterised by mutual benefit and reciprocity.

These academics felt that higher education institutions must be flexible in their community engagement approach and adjust to specific community contexts and needs while considering cultural diversity. In the study's results, the health science academics pointed out that higher education institutions must take a structured and deliberate approach towards accessing communities, considering existing or established community partners and influential community members and leaders. Health science further maintained that university-community engagement partnerships must be built on transparent and honest communication, balanced power dynamics, and consideration of communities' interests and needs. Such partnerships, according to academics, can be achieved by valuing community-based knowledge and working together with communities as equal partners through ongoing engagement by means of face-to-face dialogues.

Academics' views showed that university-community collaborations must be empowering and meaningful, having the community's interest at heart throughout the community engagement process. In the view of academics, it is best practice to dedicate enough time to building relationships and preparing for a sustained and cyclical process during and after the formation of a university-community partnership.

The cyclical process, according to the study's results, must include an element of evaluation to ensure that a community's needs have been addressed after a community engagement activity is completed. As expressed by experienced health science academics, community engagement partnerships should be cemented into formal agreements which outline common goals and standards. Moreover, academics also emphasised the importance of collaboration across various health disciplines, faculties and universities for resource and knowledge sharing, but more importantly, for a more holistic and rich student learning experience.

Academics were also of the view that community engagement must be integrated into health science education through teaching, learning and research in a structured manner and by designing specific learning outcomes. Furthermore, the placement of students in community engagement projects and activities should be preceded by a community engagement introductory module, in which students are familiarised with the necessary skills to engage with communities effectively and to be able to reflect on their experiences. Deep reflection, in the view of health science academics, plays a critical role as part of the student's assessment of learning and for the assessment of departmental community engagement activities. According to academics, universities should strive toward the institutionalisation of community engagement within their faculties and departments as part of best community engagement practices. The process of institutionalisation should start by embedding community engagement into the institutional mission and vision and lead to the establishment of a community engagement office with dedicated staff. The institutionalisation of community engagement should then reflect the adoption of community engagement into everyday academic practice. In this regard, it is also vital, according to academics, to link performance management, reward systems, and the promotion of community engagement at faculty and departmental levels.

Lastly, academics referred to a number of projects within the Health Department in the areas of primary injury promotion, health promotion, education and training, community education and addressing community needs, which hold the potential of a rich learning experience for EMC students.

4.3.2 Objective 2: Ascertain how EMC academics conceptualise community engagement and implement it within the context of teaching, learning and research

EMC academics were unable to conceptualise community engagement as successfully as academics with extensive engagement project expertise. This was attributed to their insufficient experience with community engagement in EMC education's teaching, learning, and research. Notwithstanding, a few EMC academics were able to provide a wide conceptualisation of community engagement from their previous experience, highlighting mutually beneficial relationships for health promotion and social justice facilitated by EMC projects

The most effective method highlighted by the EMC academics to assess community engagement activities and learning was reflection and feedback, which considered EMC teaching and learning as more relevant for the preparation of the real-world environment. The results further confirmed that community engagement, as part of EMC education, offers students a unique opportunity to develop various social skills, communication skills, and new paradigms, which improve EMC graduate attributes.

Despite the fact that community engagement was not yet fully and formally embedded into the diploma in the EMC programme, the EMC academics embarked on various community engagement initiatives as part of the Foundations of Practice and primary healthcare modules. These initiatives, to a large extent, were conducted in the form of volunteerism and community outreach; therefore, the individual community engagement projects were only carried out outside of the official programme timetable. In addition, the recent COVID-19 vaccination initiative implemented by Western Cape EMS and the EFAR programme was pointed out by the EMC academics as a salient example of the involvement of EMC students in volunteerism and community outreach activities.

4.3.3 Objective 3: Explore the views of EMC students about their experiences of community engagement

Through their experiences, the EMC students understood community engagement as a mutually beneficial partnership in which both the university and community work together to achieve quality patient care and service delivery. Even though the EMC students' conceptualisation contained definitional dimensions of community

engagement, they lacked sufficient skills to engage in communities for social justice and to facilitate mutual knowledge transfer.

Conversely, where an established relationship existed, the EMC students experienced a sense of trust and respect, which allowed access even to Western Cape communities, which are notorious for a high incidence of gang-related violence. Reflecting on their experience, the EMC students emphasised appreciation and respect for cultural diversity as being key to access to poor and marginalised communities in the Western Cape.

Additionally, the results affirmed the value of community engagement experience for EMC students in gaining a deeper understanding of daily challenges and community needs, particularly after placement in impoverished and marginalised communities of the Western Cape. Hence, the EMC students identified assessment of community health needs within the broader social and health system context as a priority knowledge area for inclusion into paramedic curricula.

Despite the lack of formalised community engagement curricular outcomes, the EMC students participated in various outreach projects, such as the COVID-19 vaccination drive and the EFAR training offered to communities with poor access to healthcare. Aside from the two highlighted community engagement initiatives, the EMC students recommended several potentially beneficial projects for paramedic students in the areas of primary injury prevention and health promotion. Interestingly, none of the projects included in the findings formed part of a formal paramedic learning programme.

4.3.4 Objective 4: Investigate the experiences of community engagement partners with regards to how they engage with EMC students and academics from higher education institutions

Contrary to expectations, notions of mutuality and partnerships, social justice, and community health education were key areas highlighted by the community partners. Most community partners, students, and some academics had misconceptions about the communities that the students were placed in. Through community engagement, the students and academics understand and respect the local culture and assist with health promotion and injury or disease prevention.

In the current study, community partners connected higher education institutions with community leaders and activists and provided a means of accessing and connecting with communities. As a result, they believe that Health Science departments should collaborate with key leaders so that they can gain support and commitment from communities. The community partners also discussed the importance of communication as crucial for the engagement process. Another key finding was that trust and honesty were essential for sustaining relationships. Community partners highlighted the importance of community-based teaching to strengthen community participation. In addition, the community partners highlighted the importance of the university providing resources for assisting with the community engagement process of student placements. In particular, the community partners stressed that students should come prepared for community-based activities as well as assist community members by empowering and sharing knowledge. Unsurprisingly, reflections on community engagement practices were essential in strengthening community partnerships. It was encouraging to note that community partners from allied health programmes offered cross-collaborations with a multidisciplinary approach to include EMC students in projects that can be incorporated into paramedic education.

4.3.5 Objective 5: Develop a framework to guide community engagement in EMC education as an emergent health profession to effect positive change in its professional response to community engagement

After the draft framework was developed to guide community engagement in paramedic practice, the research assistant scheduled dates and times in November 2021 to validate and appraise the data, which formed key elements to structure the framework. The participants comprised five academics experienced in community engagement from Health Science faculties at higher education institutions that published research related to community engagement and higher education institutions. In addition, the sample included a representative from the Western Cape Government from the Department of People Development, responsible for community engagement projects within the province. Participants also comprised a community partner experienced in community engagement who coordinates EMC and health science student placements in communities. The sample also included an EMS chief district manager and an EMC academic involved in community engagement projects.

Given that the drafted framework was validated during the COVID-19 pandemic and a novel variant was detected in South Africa, occupational health and safety measures were stringent, and face-to-face engagement was limited. Following consent, the research assistant scheduled a Microsoft Teams meeting for November 2021. The sessions lasted an hour, and core topics and sub-themes were presented with expert quotes that created framework elements. The framework was validated in stages. Based on the richness and depth of the data, the researcher convened three sessions, one week apart, in November 2021, using Microsoft Teams.

During the facilitation of the sessions, the participants were asked to identify the framework's strengths and weaknesses and offer suggestions for its improvement. The participants concurred that the framework provided guiding elements for community engagement in paramedic practice. The participants responded as follows:

> *"It's really great that we can finally have a structured framework which could be used by EMC departments within the province as well as externally" (E 4).*

> *"This is unique given the current challenges we have and the demands that communities require, communities will feel appreciated and involved which will reduce our emergency care demand" (E 2).*

> *"With the 2030 health care plan for [the] Western Cape, this framework will definitely help us improve our strategy specifically within emergency medical services" (E 9).*

> *"I like the idea of a collaborative approach with other higher education institutions that have established programmes … it's great to see this has been incorporated in the draft" (E 5).*

Additionally, a participant recommended the use of EMC examples in a rural context based on long distances and waiting timeframes for ambulance services in rural areas. In this regard, a participant suggested the following:

> *"We should not make it too complicated as it should encompass our rural patients, and probably add in rural projects" (E8).*

Based on the overall recommendations from the expert group, community engagement projects related to EMC were incorporated into the framework. The researcher incorporated the suggestions into the draft framework, which was presented and validated in the final session. The framework is presented in chapter 6.

4.4 Conclusion

This chapter presented a discussion of the findings, which revealed six main themes and 26 sub-themes. The themes and sub-themes were presented together, along with a discussion of each under their respective headings. A model for community engagement provided in-depth discussions and was supported by the literature. The preceding section analysed the data findings, which culminated in elements for developing the framework. These findings contributed significantly to the development of a framework to guide community engagement in emergency care education. The latter is presented in the next chapter.

CHAPTER 5: SUMMARY, LIMITATIONS & RECOMMENDATIONS

"A sense of concern for others gives our lives meaning; it is the root of all human happiness"
(Dalai Lama).[2]

5.1 Introduction

The current chapter summarises the preceding chapters along with the pertinent findings within the context of each research objective. Thereafter, the limitations of the study are acknowledged, and recommendations are made for further research on community engagement and its implications for EMC education. Finally, a short conclusion highlights the key points and brings the chapter to a close.

5.2 Summary of the Study's Chapters

To briefly recap, chapter one introduced the topic under investigation and outlined the main elements of the research process. Chapter 2 presented the literature review, which focused on community engagement in higher education. Thereafter, Chapter 3 discussed the research design, strategies for data collection, and the data analysis procedures. Chapter 4 provided a comprehensive analysis of the data and contained a discussion of the six themes and 26 sub-themes that emerged through the thematic data analysis. Chapter 5, the current chapter, briefly recaps the preceding chapters; summarises the findings of the study in relation to the research objectives as set out in Chapter 1; acknowledges the limitations that were encountered during the project; and identifies recommendations for future research. The pinnacle of the study, which was the fifth objective to develop a framework to guide community engagement in EMC education, is presented in Chapter 6.

A summary of the research findings follows next discussed within the context of each objective.

5.3 Summary of the Main Findings of the Study

Paramedic practice has evolved rapidly in EMC education, with increasing responsibilities in terms of its contributions to healthcare in local community settings. These dynamic changes have created porous boundaries between EMC education and the clinical context, enabling the advancement of community engagement in paramedic education, teaching, and research. A framework to guide how paramedic education can advance community engagement is, therefore, timeous.

Within the above context, this study sought to investigate how community engagement is conceptualised and implemented in health science and EMC departments at higher education institutions in the Western Cape. It also endeavoured to understand the current processes used for community engagement and the nature of some of the best practice engagement initiatives. Through this, the primary aim of the study, which was to develop a framework to guide community engagement in EMC education, emerged.

Both the findings and the literature review reflected and supported how EMC academics and students can be optimised to meet community needs in under-resourced and disadvantaged communities. The strength of EMC education can be effectively utilised to co-partner with communities not only to produce contextually relevant health education that can improve health care delivery through CBR approaches but also through community outreach and volunteer projects that can improve the well-being of disadvantaged communities. Moreover, the knowledge, expertise, and resources within EMC education through various forms of community engagement can be used to identify problems in communities that students can address within the context of various placements in the community. In order to accomplish the aim of the study, the following objectives guided the research process.

5.3.1 Objective 1

The first objective of the study was to establish the views of academics in health sciences involved in community engagement regarding the best practices related to community engagement.

The health science academics that participated in this study agreed that there are differences in the way community engagement is understood and defined in the local context. They confirmed the need for conceptual clarity within EMC education to guide how community engagement will be implemented in EMC education locally. The data reflected that EMC education could be guided by a definition that supports a collaborative partnership between EMC academic departments and community partners and that the partnership should be characterised by mutual benefit and reciprocity. Another significant finding related to the conceptualisation of community engagement was that engagement activities should focus on social change and social justice issues. As such, community engagement within the context of EMC should focus on contributing to improving the health of communities and preventing disease and illness.

Best practices, as discussed by the academics, related to the need for local universities and colleges to focus on disease burden, health care, and social justice issues in local communities surrounding these training institutions, particularly marginalised communities such as those riddled with high crime and violence and deep rural areas where communities have limited access to health care. According to the data, one of the important best practices involves careful consideration of how to access communities and community partners. The data reflected that the best strategy is to connect with existing and well-established community-based organisations, community forums, police forums, and local neighbourhood watch forums, as these were viewed as critical community gatekeepers.

Furthermore, another salient practice to access communities is to connect with a community liaison person who is well-trusted and respected in the community. Given the context of the Western Cape with high gangsterism, gang leaders were also considered as the gatekeepers of communities. The liaison person would then be able to connect academics with leaders for the clear purpose of identifying relevant community needs in a way that a mutually beneficial reciprocal partnership could be created, one that would provide health services and other interventions as well as

prioritise social ills as identified by the community. These leaders would then not only provide access to communities but, in some instances, gang leaders, for example, could protect academics and students who are conducting community engagement activities in these socially excluded areas characterised by high violence and crime.

Additionally, another form of good practice, as suggested by the academics, especially to understand the needs of the community, could be to participate in walkabouts, where conversations could be held with, for example, informal traders, such as the lady that sells the “koeksisters”. These academics also identified teachers and librarians, as well as nursing sisters in local clinics, as those who could give access to a community and who would be aware of the health, social, and economic ills challenging the community. Some of the academics within the sample were members of CANs, which are neighbourhood-based groups made up of volunteers, community members, and community organisations that respond to the various needs of local communities. Partnering with these neighbourhood groups reflects an important good practice as it indicates the power of transdisciplinary research, where academics and non-academic experts partner to identify problems. They then jointly co-design solutions, and the community partners become both co-researchers and part of joint initiatives to address community problems. During the COVID-19 pandemic, the CANs were widely recognised for addressing local communities' health and social needs.

Another best practice that emerged was that of partnering academics and students with community health workers because they have direct access to communities caring for chronic, palliative, and terminally ill patients. In this way, students and academics are exposed at a grassroots level to local contextual realities amongst patients and can learn effectively within community contexts how to treat and care for patients.

In addition to the above, the data from the academics also recognised the importance of nurturing relationships, namely university-community partnerships, as this is important to entrench community engagement in the institutional culture. Hence, one good practice is strengthening and maintaining these relationships on an ongoing basis through regular meetings and open communication. The data reflected that health science academics believed that it was best to establish partnerships with

communities using formalised agreements or memorandum of agreements which outline the specific roles and responsibilities of each stakeholder.

The participants further shared that sustainability was a good practice in community engagement, as it was discovered that some universities maintain partnerships for many years because they provide crucial healthcare services that are welcomed by marginalised communities and have created and maintained relationships over time that are respectful of community needs and priorities. Hence, further good practice is that in such collaborative partnerships, EMC academic departments should treat communities as equal partners who actively participate in and contribute to community engagement activities. Essentially, there are no power hierarchies within such relationships, which is important for historically marginalised communities. Emerging from this, then, is that EMC departments should focus on maintaining authenticity and a genuine interest in meeting community-identified needs. Hence, within the context of best practice, community partnerships should be enduring, long-term, cyclical initiatives that continuously integrate fresh student cohorts over the years. Additionally, they should focus on implementing solutions to identified problems as opposed to using communities as sites for research projects without developing interventions to address the same.

Another best practice gleaned from the academics was embedding community engagement in the curriculum. However, the latter should be shaped by inputs from community partners during its design and assessment. The data also advocated for the inclusion of community engagement within foundational modules in order to expose students to community engagement early in their studies. Also of importance was that the academics recommended the integration of multidisciplinary service learning community engagement projects into the curricula of various disciplines within the health science faculty so that different disciplinary student and academic teams can work together collectively within the context of the service learning projects to address the health and social needs of communities.

Moreover, the academics identified that another good practice was for academics from different disciplinary health science homes, such as physiotherapy, medicine, dietitians, psychology students, and students from other disciplines in other faculties, to work collaboratively to provide holistic services to patients in marginalised communities. In this way, a multidisciplinary lens is foregrounded to provide

comprehensive patient care. Nevertheless, there is not only strength in offering comprehensive biopsychosocial services to communities, but students and academics can learn from other disciplinary groups. Hence, local academics from higher education institutions extended an invitation to EMC departments to collaborate with them on community engagement projects and interventions to facilitate co-learning and contribute to the improvement of health care. In addition, the data revealed that reflections are an important practice for students and that they should include collaborative presentations with community partners and key stakeholders as part of a reflection on completed projects. Other best practices reflected in the data included the incorporation of community engagement into the research agendas, as discussed earlier under transdisciplinary research. In addition to the above, the academics also identified CBR as an important community engagement practice as it can influence teaching content, shape the research agenda, and have a substantial impact on society for improved health care.

Another noteworthy point to mention is that the academics highlighted that EMC students are often the first point of contact for people in the community. This provides fertile opportunities for students to participate in community engagement and disease prevention. Hence, another emerging best practice or example of using community engagement was the utilisation of technology to develop apps (applications) for patient information about common chronic diseases such as diabetes, hypertension, myocardial infarctions, basic first aid information for health promotion, as well as community education on gender-based violence, nutrition, and preventative healthcare.

Also of significance is that the academics perceived the institutionalisation of community engagement as a crucial best practice at higher education institutions. Their argument was that if it was not embedded in the institutional culture and in the mission and vision of higher education institutions, which would ensure a dedicated community engagement office, human resources and field coordinators, and community engagement facilitators, then there would be no supporting context to strengthen university-community partnerships and all the community engagement practices that were identified. Lastly, another good practice advocated for was that institutions must have a dedicated community engagement database of community partners, a record of initiatives that have been undertaken, and monitoring and evaluation reports. In terms of institutionalisation, they recommended that community

engagement should be reflected in academic staff job performance, promotion, and incentive policies and practices.

5.3.2 Objective 2

The second objective was to determine how EMC academics conceptualise and apply community engagement in the context of teaching, learning, and research.

In terms of the second objective, the data revealed that EMC academics could not conceptualise community engagement as effectively as those academics who had a wealth of experience in engagement projects (Sample 1). This was due to their limited exposure of community engagement in teaching, learning, and research within EMC education. Nonetheless, some of the EMC academics were able to offer a broad conceptualisation of community engagement based on their current experience, identifying mutually beneficial partnerships for health promotion and social justice through EMC activities. These resonated with definitions of community engagement in the literature.

A key finding in the data reflected that community engagement was not formalised in the Diploma EMC curriculum. Despite the absence of community engagement within the EMC curriculum, the EMC academics acknowledged the importance of community engagement and agreed that it should be applied in EMC teaching, learning, and research. Furthermore, the EMC academics also highlighted that community engagement should be incorporated into the foundations of practice and primary healthcare modules within the Diploma EMC curriculum. More specifically, they asserted that community engagement should be incorporated into the curriculum to promote civic and social responsibility; additionally, it should be structured in service learning to promote social justice and health promotion.

In order for community engagement to entrench itself into the EMC teaching context, the EMC academics indicated that they required a chance to reflect on and learn from their community engagement experience. Doing so will also allow the community context to be given the attention it deserves in EMC education. In addition, the data from the EMC academics also emphasised the need for space in the Diploma EMC curriculum to reflect on field-based community engagement experience as part of teaching and learning. According to the data, reflection should take place immediately

after an engagement activity either through a written or verbal format. The EMC academics further contended that reflective teaching and learning activities could be an important tool for documenting community engagement initiatives and engaging with various communities in the Western Cape to improve EMC education.

To continue with the above discussion, the EMC academics also underscored that health promotion and social justice should be applied in teaching and learning. One way of doing this is by placing students in primary health care clinics in more marginalised areas, where social problems can be understood and addressed along with health issues. One example provided was that students could educate patients in waiting areas on emergency treatment for trauma injuries and chronic disease prevention for health promotion.

The academics also highlighted that while students are placed at primary health care clinics to achieve clinical skills, these are no doubt rich sites that could provide the opportunity to advise patients through direct contact about chronic diseases such as diabetes, hypertension, or any other chronic disease that were taught as part of the EMC students' curriculum and scope of practice when treating patients at facilities. Furthermore, the EMC academics recommended HIV clinics as sites for student learning. In their view, such contexts would provide the EMC students with a better understanding of HIV from a patient and clinic nurse perspective and equip them to be able to conduct community engagement projects on health education regarding HIV and the importance of antiretroviral medication compliance. Recommendations were also made for EMC academics and students to conduct outreach and volunteer activities to assist with the COVID-19 pandemic. Possible ways to do so included providing communities with information about the transmission of the virus as the pandemic progresses.

Another interesting point that emerged from the data was the examples that EMC academics provided of exemplary research projects. These showed that, due to the high levels of substance abuse and violence that prevail in the Cape Flats and townships, EMC research should focus on prehospital emergency care trauma-related injuries within marginalised communities in the red zones of these areas. Moreover, the data highlighted that research should focus on preventative health care to decrease the morbidity and mortality of patients, which include obstetrics and maternity cases; gastric flu to prevent unnecessary deaths of babies; common core

morbidities, such as cardiac disease, strokes, hypertension, and diabetes; and asthma-related emergencies. Moreover, the community health effects of traditional medicine were another point highlighted for the EMC research agenda, along with innovative strategies for access to EMC in communities in rural areas to address social justice and health promotion.

Of significance is the need for collaboration with established health science departments at higher education institutions and their community partners. This was affirmed by the EMC academics, who acknowledged that EMS colleges should use established university partners as their experience is crucial for ensuring that students derive maximum benefits from such community placements. Given the complexity of developing partnerships and the diversity of regions, some primary higher education institutions in the Western Cape have developed longstanding partnerships with communities in the Western Cape. They were thus perceived by EMC academics as ideal partners for collaboration as part of service learning within EMC programmes.

Although EMC as a health sciences discipline did not formalise community engagement within its curriculum or within the teaching, learning, and research practices, the researcher was able to draw an understanding of community engagement through the lens of Sample 1.

5.3.3 Objective 3

The third objective was to explore EMC students' community engagement experiences.

As evidenced by Sample 2, community engagement was not formally introduced into the EMC discipline; therefore, the Diploma EMC students were unable to leverage the experience from a service learning perspective. Nonetheless, the data revealed that some EMC students were able to describe community engagement experiences through the volunteerism and community outreach activities they had conducted.

In addition to the above, the data also reflected that the EMC students gained community engagement experiences through the EFAR community outreach activity. As evidenced, the EMC students were exposed to cultural diversity and received an understanding of the importance of EMC knowledge, which they were able to impart

to community members so that they could deliver emergency care training to community members who were waiting for an ambulance.

The EFAR training is conducted in community centres that are situated in neighbourhoods which are sometimes notorious for violence and gangsterism. As experienced by the EMC students, initially, they had preconceived notions of fear; however, after returning to those neighbourhoods, they learned about the socio-economic and historical causes of violence and gang activity, which allowed for a shift in their paradigm and also eliminated their anxieties and fears of entering these neighbourhoods. This reflects the richness of learning within such contexts.

As indicated by the data, some of the EMC students resided in the communities identified by the EMS as a ‘red zone’ where increased violence exists. Consequently, they were able to gain a deeper understanding of the daily realities in these communities, and, more importantly, they were able to value using EFAR as an outreach to communities. This resulted in a positive social impact as well as health promotion.

It also came to light that some EMC students live in rural areas and thus volunteer in the Women on Farms Project in the Western Cape during their free time. Women as leaders in their local farming communities were recognised and valued by the EMC students. The data revealed that this experience exposed the EMC students to the realities of women who are victims of domestic violence, which the EMC students identified as an important area of experiential learning required in EMC education.

Moreover, the data also reflected that the EMC students had volunteered in nursing and palliative care homes. It was evident that these students developed a sense of gratitude and gave back to their communities by performing tasks such as taking vital signs and monitoring blood glucose levels at these facilities. During such activities, the EMC students described their appreciation for their EMC knowledge and their recognition of its application in the real world, thereby encouraging them to complete their studies. Furthermore, while volunteering at old age homes and completing building repair work at these organisations, the EMC students witnessed the detrimental social and economic effects of poverty in marginalised communities.

Interestingly, some of the EMC students' experiences in rural areas of the Western Cape province were derived from farming areas through the Farmers Association

community outreach initiative, which is linked to the seasonal migration of workers to wine farms during harvest season. Interpersonal violence rises during harvest seasons due to the increased recruitment of farm workers, which leads to an increase in the prevalence of trauma. The EMC students were able to offer community training in the form of fundamental first aid and cardiopulmonary resuscitation, which they described as critically lifesaving because ambulances cannot access injured farm workers at night. These EMC students described a deep sense of understanding of the specific health needs of such diverse communities, particularly where alcohol abuse was the main contributing factor to interpersonal violence on the wine farms. Through training farm workers and speaking to such community members, the EMC students could learn respect for human life, empathy, and compassion for patients in disadvantaged communities.

Lastly, the EMC students also volunteered at the local fire departments. During this time, they were exposed to the power of community mobilisation in times of crisis or catastrophe, which in turn fostered their sense of social and civic duty.

5.3.4 Objective 4

The fourth objective was to investigate the experiences of community partners with regard to how they engage with EMC students and academics from higher education institutions.

In terms of Objective 4, the community partners were of the view that the partnerships between the universities and the communities were not always optimal. In this regard, the data indicated that, in most instances, the universities did not consult or engage with their partners collaboratively. The community partners lamented that although the universities claimed that their intentions were to conduct research for the betterment of society, often such newly produced knowledge was not translated into societal interventions that enabled social change. Consequently, research activities were conducted in a linear manner, which amounted to the exploitation of communities as research sites that would meet university needs rather than conduct research that would address social problems and generate solutions for these.

Additionally, the community partners also experienced poor coordination and sustainability of such relationships, as they believed that the universities do not communicate timeously and effectively with regard to planned community

engagement health-related activities. Some universities used community sites for research without there being sufficient coordination and support from the university. In some instances, the community partners reported that they were required to assist the students in carrying out community engagement activities. However, post such activities; they did not hear back from them.

To add to the above, various community partners also observed that students at some institutions were ill-prepared for community engagement. For instance, university students were assigned to impoverished communities where they were required to deal with large groups in order to conduct a first aid health promotion intervention that was not properly planned by the institution. Due to the lack of preparedness, the students could not conduct such community service initiatives effectively. Moreover, the community partners expressed that the trainee ratio was insufficient to educate the vast majority of communities.

Furthermore, the community partners also urged academic institutions to send facilitators with students because they lacked the resources and capacity to manage the students themselves. The community partners viewed the students as a burden because they were placed in communities without any preparation or support for the activities, and they had no idea what they were expected to do.

Additionally, the community partners expressed that the preparedness of students should focus on their attitudes and behaviours. The data indicated that some students view community engagement as a tick-box exercise with no consideration for the reciprocity of such a relationship. Hence there was no “give back to communities” as experienced by some partners. The community partners emphasised that a paradigm shift occurs when students become involved in and understand the local dynamics and culture, which is essential for paramedic training to be localised and contextually relevant. As such, the students and academics should not be reluctant to pursue such engagements but rather seek to access socially excluded communities. The EMC academic departments should consequently reach out to establish broader community networks in order to expand opportunities for community engagement access.

Moreover, the community partners emphasised that respectful and trusting relationships between EMC departments and communities were important to building

partnerships, as disrespect and authoritarian relationships based on power could hinder the fragile power-based nature of such relationships.

In addition to the above, another salient point raised by the community partners was the importance of reflection within the community engagement process for multiple reasons. They expressed the opportunity for reflective feedback with students, academics, and community engagement partners, which was crucial to informing teaching and learning from the community. Of significance, though, is that they believe that student placements should create avenues for reflection with community engagement partners. The input of community partners on the evaluation of community engagement within EMC curricula also surfaced as a noteworthy point, suggesting the importance of closing the gaps in the community engagement processes so that areas for improvement can be addressed. Importantly all stakeholders need support through dialogue, discussions around the value of activities, and the opportunity for reflection and feedback.

5.3.5 Objective 5

The fifth objective was to develop a framework to guide community engagement in EMC education.

Based on the data from all the samples, which included academics involved in community engagement, EMC academics, EMC students, and community partners, a framework that was validated by a committee of experts was developed. Boyer's[57] model on the scholarship of engagement and the literature review also supported the framework. The framework to guide community engagement in EMC education was built on three pillars, namely: the conceptualisation of community engagement within EMC context processes to enable engagement with communities; and the methodologies that could advance community engagement in EMC education. The structure is discussed in the next chapter.

In light of the above discussion, it is evident that the objectives of the study were achieved, and the research questions were answered through the research process. However, as with all research endeavours, there are possible limitations that may be encountered along the way. With this in mind, the following section acknowledges the limitations of the current study.

5.4 Limitations of the Research

There were various limitations to this research.

During the process of collecting the data, the researcher experienced a few constraints. The COVID-19 pandemic resulted in the researcher having to schedule interviews around the availability of participants following stringent lockdown restrictions. During the pandemic, some participants declined, and two community participants succumbed to COVID-19. These participants would have increased the sample size and thus may have been valuable to the study.

The research was specific to the context of the Western Cape Province of South Africa. Although the study was context-specific, the framework has naturalistic and interferential generalizability which could be transferable to EMC academics or allied health professions training in similar settings.

Experienced academics from five established higher education institutions in the Western Cape replied favourably to the request to participate and supplied rich qualitative data; however, one institution declined to engage in the project. Notwithstanding their lack of participation, the sample provided rich information.

Another limitation was that the student's experience revolved around volunteerism and outreach projects. Thus, given that DEMC has not yet formalised community engagement, and other community-based teaching and learning approaches, the student's knowledge may have been limited regarding such formalised community engagement activities.

Although the exploratory descriptive qualitative design used in this study is less common in EMC research than other qualitative approaches, it has been used by allied health scholars as a validated research method to uncover insights in health education that have received little or no attention.

The researcher acknowledges these limitations and thus provides recommendations for future research.

5.5 Recommendations for Future Research

In light of the above research, the following recommendations are made for future research, namely, to:

- Review the proposed framework for community engagement after EMC departments have implemented it. Research should be conducted to explore how the framework will guide EMC academics' implementation of the various community engagement initiatives embedded within the framework.

- Explore EMC collaborations and partnerships between higher education institutions, academics, community stakeholders, NPOs, EMS, and the government, and how these bring mutual benefit to both entities and improve health outcomes.

- Explore how academics and students from diverse disciplinary health science fields such as physiotherapy, medicine, nursing, and EMC work collaboratively to provide holistic services to patients in marginalised communities.

- Explore the relationship between learners' experience in community engagement and the health of a community through the social-ecological model.

- Research in local universities and EMC colleges should focus on the burden of disease, health care, and social justice issues in local communities surrounding these training institutions. This would mainly include marginalised communities characterised by high crime and violence and deep rural areas where communities have limited access to health care.

- Explore strategies for implementing community engagement, as mandated by national policies and higher education legislation, for health promotion, social justice and social responsibility.

- Measure the impact of community engagement activities in areas with a high volume of emergency calls, red zones, and rural communities with limited access to health care.

- Assess the preparedness of EMC academics to facilitate community engagement within the EMC programme.

- Develop a policy to implement the community engagement framework at EMC colleges and faculties to comply with legislation and ensure financial and human resources are allocated to sustain community engagement at EMC faculties.

5.6 Conclusion

In South Africa, the paramedic profession is undergoing a transformation that is appreciative of the unique and complex local contexts and the challenges related to health and social ills that paramedics are confronted with in their daily clinical environments. It is, therefore, crucial that paramedic training in EMC education includes community engagement for students so that they develop greater social responsiveness, reflective practice, and a focus on social justice in a way that meets the needs of communities and supports the health care system in achieving health care plans.

Although the theoretical discourse on community engagement in South Africa is growing steadily, and several higher education institutions have progressed in implementing community engagement in their respective disciplines, the study found that community engagement in EMC education remains in its infancy. The purpose of this study was to explore how community engagement practice is conceptualised and operationalised within health science disciplines and paramedic education, with a view to guiding how it may become firmly entrenched in EMC education.

To contribute to the advancement of community engagement, the researcher developed a framework for EMC education that could be useful for EMC academics, departments, and health science faculties, where community engagement can become integrated into the teaching, learning and research agenda of the programme. This framework is also expected to contribute to producing paramedic graduates whose knowledge is firmly rooted in the socio-economic realities of South Africa, such that they practice social justice at a grassroots level and can therefore engage with communities in a mutually beneficial partnership. EMC academics and students can become active contributors to the role of universities as agents of social change by implementing community engagement in EMC education in a structured

and deliberate manner. The final chapter that follows next introduces a framework to guide community engagement in EMC education.

CHAPTER 6: A FRAMEWORK TO GUIDE COMMUNITY ENGAGEMENT IN EMERGENCY MEDICAL CARE EDUCATION

"In every community, there is work to be done. In every nation, there are wounds to heal. In every heart, there is the power to do it"
(Marianne Williamson).[475]

6.1 Introduction

The emphasis on advancing community engagement in higher education is synergistically intertwined with broader and more determined efforts to prevent disease and improve healthcare through EMC education. EMC training institutions situated in communities are natural entry points for community engagement initiatives. To achieve better health outcomes through collaborative community relationships, EMC faculties must prioritise inclusion, social cohesion, and trust-building. This chapter presents the community engagement framework developed to guide EMC academic departments and their students in focusing on their roles as change agents in local communities, advocating for better health care, and enhancing service delivery while co-producing contextually relevant knowledge to inform EMC education.

The comprehensive community engagement framework was derived from the data and provided conceptual clarity and identified the processes to enable engagement with communities and methodologies that will advance engagement in EMC education in the context of prehospital emergency care. The framework does not prescribe a single approach to community engagement in EMC education but rather a set of approaches or engagement activities that may be used to engage communities. In addition, Boyer's[57] scholarship of engagement served as the backdrop for the study. The framework described in this chapter was validated by health science academics with experience in community engagement from higher education institutions, EMC academics, active community partners, senior managers from emergency services, and strategic managers from the Western Cape Government Department of Health with expertise in community engagement.

6.2 The Rationale for the Framework

Although there has been much discourse about the salience of community engagement in higher education in South Africa, a framework to guide community engagement in EMC education is non-existent. In paramedic education, community engagement has received little scholarly and empirical attention despite the fact that EMC is at the forefront of the South African healthcare system and serves as the first link in the chain of survival within a community context. Consequently, the purpose of this framework is not only to guide community engagement as a central activity, alongside teaching and research, in EMC programmes but also to promote community engagement within EMC departments at health science faculties and EMC Colleges that provide undergraduate paramedic training. The framework provides guidance to EMC health science departments, EMC Colleges, and EMC academics for the implementation of engagement activities and emphasises the need for community-based teaching and learning in conjunction with CBR approaches that focus on the co-production of knowledge.

6.3 Relational Depiction of the Framework

The relationship between the three fundamental pillars of the framework that emerged from the data is presented in Figure 10. The first pillar of the framework represents the conceptual dimension; the second pillar represents the processes that can be used in community engagement in EMC; and the third pillar describes relevant community engagement strategies. Each pillar of the framework interlinks with each other, reflecting the interdependent nature of the framework. These porous boundaries suggest that EMC academics and students must understand what community engagement is and its various strategies in order to engage effectively and authentically. Hence, the relationship between the community and the EMC training institutions is a dynamic, cyclical one that is premised on the reciprocal nature of both entities. The three pillars as part of the holistic guiding framework are further detailed in the following sub-section.

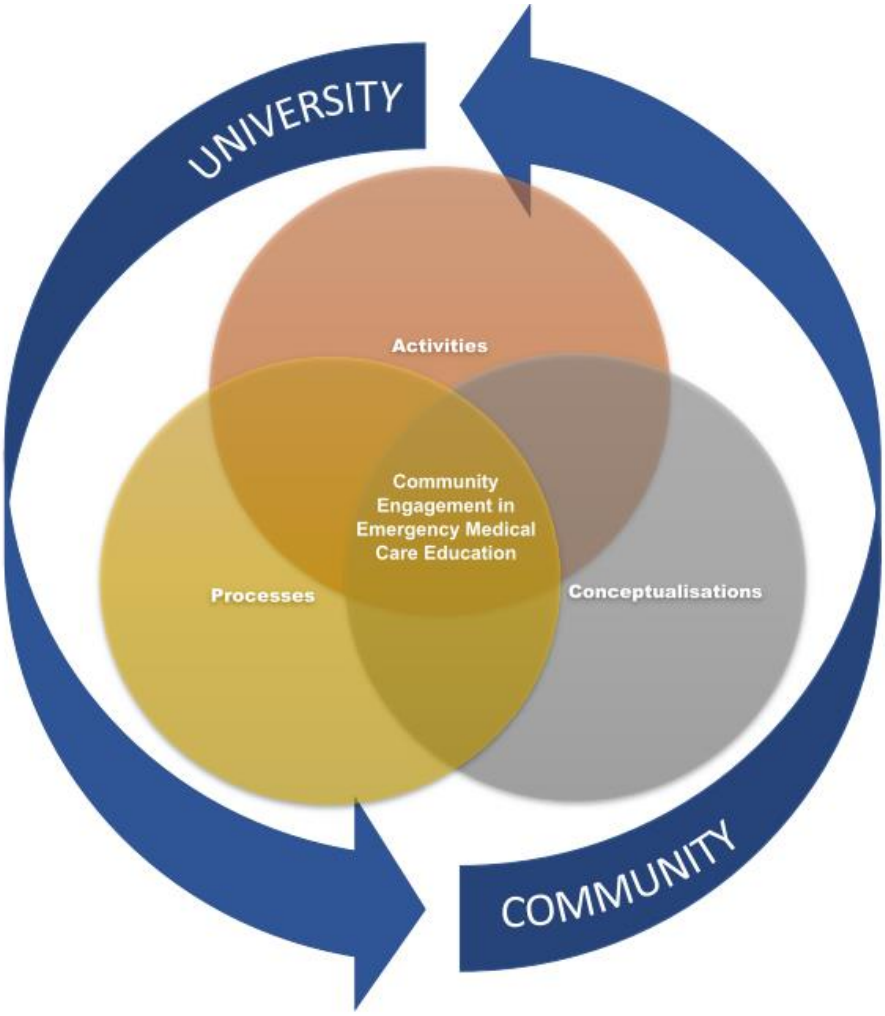

Figure 10. Relational depiction of the framework

6.3.1 Framework to guide community engagement in EMC education

The framework of the study, which is presented in Table 9 below, illustrates the three pillars that underpin the summary of factors that shape the framework in order to provide a deeper understanding of community engagement in EMC education. Each pillar is discussed in more detail in subsections under its own respective heading.

Table 9. Framework to guide community engagement in emergency medical care education

Framework to guide community engagement in EMC education		
Pillar one	The conceptualisation of community engagement	Mutually beneficial reciprocal relationships
		Social justice for marginalised communities
		Collaborative partnerships
Pillar two	Processes to enable engagement with communities	Connecting with communities through emergency medical care education
		Building relationships through trust and respect with communities
		Understanding the needs of the community
		Collaborative practice in emergency medical care education
		Transdisciplinary research, strengthening university-community partnerships
Pillar three	Methodologies that will advance engagement in emergency medical care education	Service learning
		Community outreach projects in emergency medical care
		Volunteerism in emergency medical care education
		Community based research in emergency medical care
		Community-based teaching and learning initiatives

6.3.2 Pillar one: The conceptualisation of community engagement

One of the objectives of the study was to secure conceptual clarity on community engagement within an EMC context (Objective 2). The framework for community engagement emphasises the human architecture and everyday encounters that affect the perceptions, decisions, and behaviours of EMC services, communities, and patients.

The study revealed several key aspects, which, when threaded together holistically from the data, can be considered as a guiding definition for community engagement in EMC education:

> Community engagement is the process of building mutually beneficial partnerships with communities and other organisations to address health-related issues, promote social justice, and undertake community-based research to co-produce knowledge that is relevant to emergency medical care. This process is underpinned by trust and respect; teaching and learning; preparing educated, engaged paramedics; strengthening democratic values and civic responsibility; addressing critical health issues; contributing to the public good; promoting positive health outcomes; and improving patient care.

The following considerations guided the formulation of the definition:

- Stakeholders consisted of community partners, EMC students, EMC academics, and health science academics from local higher education institutions experienced in community engagement, and EMS managers and key stakeholders experienced in community engagement from the Western Cape Government Department of Health.
- Valued qualities in relationships included respect, trust, and a feeling of purpose.

- Community health emergencies are examples of EMC-related health concerns in underserved communities.
- An emphasis on social justice, social responsibility, and health promotion in disadvantaged populations.
- CBR and the co-production of knowledge relevant to EMC.

It is important that EMC faculties, academics and students must understand how community engagement is defined and understood; otherwise, community engagement can be interpreted in various ways, thereby digressing from its intended purpose and intent. The goal of a higher education institution is to prevent community engagement from becoming a residual or fragmented activity within EMC training departments lacking coordination and structure for implementation. Having a thorough understanding and definition of community engagement will aid in gaining faculty buy-in and departmental support. The mission and vision of a university or EMC college should reflect the institution's commitment to community engagement. EMC departments should strive for an institution-wide understanding of community engagement. This could be accomplished by holding formal meetings with senior management of an institution, faculty department academics, student representatives, and the head of the community engagement office. In addition, the definition of community engagement should be included in institutional policy. The policy framework should be underpinned by key legislative documents related to community engagement, such as the White Paper on Higher Education Transformation.[11] This framework proposes key underpinning dimensions of the concept of community engagement. These dimensions are threefold: mutually beneficial reciprocal relationships, social justice for marginalised communities, and collaborative partnerships.

6.3.2.1 Mutual beneficial relationships

EMC academics and students must understand that community engagement necessitates university-community partnerships that benefit both EMC faculty and community partners. EMC academics attempting to guide community engagement in EMC education should focus on achieving outcomes and outputs by communicating mutually held expectations. As a result, there are mutually beneficial relationships between the university and the community, as EMC academics and students

contribute to health promotion and disease prevention in local communities, and community members contribute to the development of new academic knowledge for EMC departments. To ensure that mutual results are achieved, EMC departments should enter into agreements with community partners that establish clear objectives and working norms. The contract agreements should exemplify a partnership. EMC academics and students should also understand the reciprocity aspect of the conceptualization, which focuses on processes as opposed to outputs. During this process, which should be continuous and deliberate, all parties involved in the community engagement relationship should respect and utilise the knowledge, resources, and assets that each party can contribute to the partnership. During a reciprocal process, each participant's input should be of equal value.

6.3.2.2 Social justice for marginalised communities

This framework further posits the need to advocate for social justice in marginalised communities. Academics should understand that community engagement serves as a way to deal with issues of poverty and inequality in social and health-related matters. Hence the inclusion of the university and EMC departments as agents of change. Consequently, EMC academics can foster attributes of social responsibility and citizenship amongst EMC students. In addition, integrating social justice in conceptualisation with the challenges of social ills necessitates the development of sustainable interventions to meet the healthcare requirements of local communities. It is crucial that stakeholders such as EMC faculties, local government, EMS providers, and researchers invest in understanding the impact of marginalisation on communicable and noncommunicable diseases in communities. EMC education can be utilised to develop health interventions in this manner. Furthermore, EMC students should, also through EMC education, learn more about their future roles as active citizens who are aware and sensitive to existing social ills and socio-economic realities that impact the broader healthcare system.

6.3.2.3 Collaborative partnerships

EMC academics should understand that community engagement is a collaborative partnership fostered by respect and maintained by offering community partners sufficient opportunity to exercise equally valued contributions to planning, decision-making, and evaluation of related community engagement activities. The formation of

long-lasting university-community partnerships requires the balance of power relations and the harmonisation of conflicting viewpoints. Therefore, community engagement necessitates an evaluation of EMC faculty partnerships that target community health problems. This requires EMC academics to relate their research to actual EMC community health issues, thereby contributing to long-term solutions that will result in social reform and improved community health. The conceptualisation translates into the framework's following two pillars.

6.3.3 Pillar two: Processes to enable engagement with communities

Pillar two of this framework outlines the various elements of the process used to establish and sustain community engagement with communities as part of EMC education.

6.3.3.1 Connecting with communities through EMC education

As part of the process, the approach to communities by EMC academics should be structured, well-planned, and purposeful. This approach will ensure that EMC faculties and programmes establish strong and sustainable university-community partnerships. EMC academics striving to implement community engagement should be intentional about identifying the appropriate community representatives and gatekeepers. EMC academics could also establish connections through either formal or informal networks. In this regard, EMC departments could approach formal, well-established community organisations. These could include NPOs, the Department of Health, community police forums, EMS or neighbourhood watch organisations. Connecting with communities via informal routes, such as well-recognised and respected community leaders or community members, may also be beneficial and fruitful. Expressing genuine interest in the community's needs could be highly instrumental in establishing initial connections with a community. Moreover, some local communities have a community liaison person who is well-respected and trusted in the community. Such a person can connect EMC faculties to leaders who are often geographically located, for example, the ward council members, senior leaders, and sometimes context-specific individuals such as gang leaders in areas of high violence. Furthermore, some established universities have hired field coordinators who live in local communities. These individuals are well-versed in the community and can help connect EMC departments to specific communities. Therefore, human resources are

necessary and require funding to maintain and sustain community engagement initiatives. Consequently, it is essential for institutions to have an allocated budget for community engagement activities. Given the current funding constraints in South African higher education, resources could be obtained by collaborating with non-university partners such as NGOs, local government, health departments, and community networks.

6.3.3.2 Building relationships through trust and respect with communities

Once a relationship with a community is established, EMC academics should engage with community partners with respect and build and maintain trust throughout the process. EMC academics should communicate openly and transparently as part of nurturing respectful relationships within the context of human diversity, which includes all cultural groups in local communities across South Africa. Signs of power imbalances must be identified and dismantled, so that community members have an equitable voice in the relationship. Engagement must occur through face-to-face meetings and through discussion platforms, which should be ongoing and as frequent as possible.

During meetings, community partners or members must be given sufficient space to express their concerns and needs. Therefore, the principle of active listening by EMC academics and students should be central during relationship building. In addition, honesty and truthfulness must be inherent within the relationship.

EMC academics should also be prepared to cultivate meaningful and long-lasting community partnerships. To avoid misconceptions and misunderstandings, which could pose a risk to trust, this framework recommends cementing relationships with communities through clearly stipulated agreements, outlining the clear roles and responsibilities of each stakeholder. In addition, EMC departments should maintain a database of partnership agreements and community projects for the purposes of quality assurance, monitoring, and evaluation. Key stakeholders from partner communities should also have access to the EMC project database. Access to pertinent information strengthens relationships and increases transparency. Moreover, EMC students should be well prepared for placement at a partnering community organisation. Therefore, EMC educators should approach partnering community organisations as co-educators of EMC students.

6.3.3.3 Understanding the needs of the community

This framework suggests that the success of community engagement in EMC education will depend on placing community needs first. This context should involve learning about an identified community's political, historical, and social background and assessing the current, most pressing healthcare needs of the particular community or community partner. This can be achieved by bringing critical community voices into a dialogue in meetings with EMC departments. Those engaging should also invite figures of authority which includes ward councillors, respected members of the community and community leaders, into such discussion to understand their positions. The EMC facilitator of conversations with community partners and members should ensure that the critical community voices are heard adequately. Community concerns should be captured and form the basis for planning community engagement initiatives within EMC education. As part of a plan for community engagement, the needs of the community must be translated into specific, measurable objectives. The objectives should be specific, with attainable deadlines, actual outputs, and quantifiable goals within predetermined completion dates. In addition, success indicators can be derived from the objectives and monitored frequently so that any necessary modifications to the initial plan can be implemented without delay.

EMC educators should determine which needs can be practically achieved without compromising community expectations and EMC students' learning experience. In addition, EMC programme coordinators must understand community health needs and identify community assets, such as healthcare professionals, community health workers, community networks and first aid responders, in order to empower the community to address issues and overcome healthcare challenges.

6.3.3.4 Collaborative practice in EMC education

EMC academics and students should strive to collaborate outside the confines of their departments and collaborate with other health sciences disciplines within its faculties and neighbouring universities. In this framework, interdisciplinary and multidisciplinary collaboration are essential elements of teaching students how to work in a healthcare team and understand the functioning of healthcare as a system.

Through multidisciplinary collaboration, EMC departments can also share resources, exchange community engagement-related knowledge, and share established community networks and connections. Collaborative practice enhances the cognitive knowledge of EMC students as they realise the value of multidisciplinary teamwork, resulting in altered perspectives. EMC students recognise the benefits of the interdisciplinary knowledge of other allied health practitioners or students from different disciplines and work collaboratively to address community health issues. EMC academics should collaborate with departments of allied health sciences, such as nutritionists, and medical and nursing students, among others, to address community health issues from a multidisciplinary perspective. Moreover, EMC faculties should collaborate with community health workers or existing NGOs and international higher education institutions that frequently work in local communities. A further collaborative practice could involve working with the local fire department college to assist with firefighting when informal settlements burn, as this usually results in a large number of patients with burns and smoke inhalation, causing respiratory distress. This will allow students to blend medical and rescue skills to work collaboratively with local municipalities. In addition, EMC faculties should collaborate with local community forums and the Department of Health to address contextual healthcare issues.

6.3.3.5 Transdisciplinary research, strengthening university-community partnerships

To ensure that EMC knowledge production is locally contextual and relevant, the EMC research process should be transdisciplinary in nature. This notion implies that the knowledge creation process should involve researchers from other disciplines and the voices of non-expert community members. Through this process, community research partners should be able to co-construct the research problem and share their knowledge which can be used to guide EMC education. The process of knowledge co-production strengthens university-community partnerships but, more importantly, enables interventions to be designed on mutually identified problems and through the co-construction of solutions or knowledge that will improve community health care.

Therefore, EMC research should focus on forming diverse research teams comprising not only different disciplines but, more importantly, members of local communities

selected according to their practical knowledge related to a specific healthcare problem. Co-designing research questions through the involvement of community stakeholders in aligning the research problem to the societal demand for information is also essential. Working with other disciplines beyond clinical science and local communities with EMC students can link different specialities to work together to solve issues that will indirectly aid healthcare.

During this process of knowledge production, the research team should establish who contributes what knowledge, by what means, and to what desired outcomes. The co-generated knowledge should then be documented and applied to social contexts through relevant formats such as community meetings and community debates or negotiations, which render such knowledge more legitimate. This process is interlinked with CBR as a form of educational methodology, as described under pillar 3 of this framework which follows next.

6.3.4 Pillar three: Methodologies that will advance engagement in EMC education

The methodologies to advance community engagement in EMC education are embedded in pillar three.

6.3.4.1 Service Learning

This framework positions service learning as one of the major community engagement strategies in EMC education. Service learning must be made a mandatory component of the EMC curriculum by incorporating formal outcomes, assessment criteria, and associated credits. These outcomes can be integrated into the foundational and primary healthcare modules of the EMC qualification and should formulate the attainment of knowledge, attitudes, and behaviours related to social justice, health promotion, community education, and addressing specific health-related community needs. Teaching and learning activities towards the achievement of these outcomes must involve reflection on community engagement experiences in the form of reflective journals, group presentations, and reflective assignments. The involvement of community partners in presentations of the outcomes of EMC community projects should be encouraged. To allow for sufficient learning through reflection, an appropriate number of credits must be allocated to service learning-related activities.

Instituting service learning as part of the higher education programme accreditation criteria of the Council on Higher Education and the Health Professions Council of South Africa's programme evaluation standards is an additional strategy for integrating service learning as a mandatory component of EMC qualifications. As part of quality assurance methods, EMC departments should adopt service learning-specific policies, including routine monitoring and assessment of service learning activities.

It is important that community partners are well informed about the service learning outcomes during placements to provide clarity on the roles and responsibilities of EMC students and community engagement partners. To avoid overcrowding in partnering local communities and to maintain cross-departmental two-way communication, student placements will necessitate the creation of a coordinator position within EMC departments. Community partners must be invited to EMC department advisory committee meetings in order to provide feedback on EMC students' service learning activities, thus enabling the EMC curriculum to be contextualised to meet the local community's health needs.

Service learning may provide valuable opportunities for EMC students to develop an understanding of problems of race, class, power, and privilege, as well as a commitment to social responsibility in marginalised communities. Additionally, through community partners, service learning can accelerate the connection of EMC students' conceptual knowledge with their lived experiences, which facilitates the cocreation of students’ knowledge.

Implementers of community engagement in EMC education should ensure that service learning is integrated into the curricula so that students can link their experience to the EMC curriculum and that there is adequate time dedicated to reflection following the service learning experiences. Furthermore, service learning should form an integral part of the EMC curriculum. Additionally, service learning in EMC education could be structured around social responsibility, health promotion, community education, and addressing specific health-related community needs.

6.3.4.2 Community outreach projects in EMC

Community outreach in EMC education plays a vital role in enhancing community health outcomes, promoting health literacy, and improving healthcare access in marginalized communities. It also serves as an opportunity to provide career guidance to individuals interested in paramedic or allied healthcare fields, particularly high school students. EMC academics and students should demonstrate a commitment to serving the most disadvantaged and vulnerable members of local communities. To effectively uplift marginalized communities and facilitate health promotion, community outreach strategies in EMC education should establish meaningful partnerships with local schools, government departments, non-profit organizations, and community forums. While community outreach should be recognized as a distinct activity within the EMC department or faculty, it may not be integral to the formal EMC curriculum. EMC students should actively participate in community outreach projects that allow them to apply their clinical skills, such as delivering first aid training in remote areas with limited healthcare access. Specific examples of community outreach projects include initiatives like the Women on Farms Project, centers addressing gender-based violence, community policing forums, and collaborations with farmers' associations.

EMC students can also take part in health promotion for non-communicable diseases, assisting community health workers in assessing blood glucose levels in diabetic patients, blood pressure checks with patients with hypertension, electrocardiograms for patients with cardiac diseases, or any other capability within their scope under the supervision of a health care professional. EMC students can also collaborate with nutritionists, occupational therapists, and physiotherapy students to advise patients on a healthy lifestyle and physical fitness. These activities may broaden EMC students' knowledge and strengthen their sense of social responsibility in order to improve healthcare in their communities. Moreover, it is essential for EMC students to actively participate in community outreach projects focused on "Red Zones" or areas with high crime and violence rates. Through these initiatives, EMC students can contribute to positive transformations that influence community perceptions of EMS and contribute to a reduction in violent attacks against paramedics. By engaging directly with local community members in these challenging environments, EMC students can play a significant role in effecting positive change and improving safety for EMS personnel.

3.4.3 Volunteerism in EMC education

Volunteerism is a voluntary act performed by an EMC student or a group of students who freely give their time and provide services to organisations or the general public. Although these activities are not required to be linked to specific EMC outcomes, EMC students can still benefit from volunteering their services and feel a sense of purpose and gratitude. Volunteering should be considered an extracurricular component of EMC education, separate from the formal EMC programme timetable. The value of volunteerism for EMC education lies in its ability to instil in EMC students a sense of altruism, purpose, and giving back to society.

EMC students and academics have numerous opportunities to contribute to their communities actively. One such avenue is participating in vaccination campaigns, where they can support the efforts of healthcare professionals. Additionally, volunteering at local municipal fire departments allows them to utilize their expertise in firefighting and assist in emergencies such as motor vehicle accidents. Another valuable contribution involves providing services to specific groups, such as women on farms or mothers unite foundations, where EMC students can offer EFAR training and perform vital signs assessments for patients with chronic or elderly conditions. Collaborating with farmers' associations enables them to teach life-saving skills like cardiopulmonary resuscitation to farm workers while also providing guidance to pregnant mothers on preventing hypothermia during home births. Furthermore, by volunteering at local South African Police Services, EMC students can support trauma patients in waiting rooms or work in mobile clinics, like caravans or metal containers, that serve as temporary healthcare facilities in marginalized communities when ambulances face delays.

6.3.4.4 Community-based research in EMC

CBR is another critical engagement strategy. Through this form of research, EMC academics should involve community members during the research design and implementation of research projects. Furthermore, EMC research teams should recognise the contributions of community partners or members to successful research projects.

Under the banner of CBR, the EMC research team should comprise faculty members, students and EMC staff with various partners and community members. As part of

CBR, EMC academics should draw on diverse sources of knowledge, including community-based knowledge, and encourage the use of multiple knowledge discovery and dissemination techniques.

The aim of the research activities should be to achieve health promotion through social change and social justice through social action. As part of Pillar three of this framework, this aspect of community engagement overlaps and interlinks with Pillar one, under social justice, and Pillar two, under transdisciplinary research and collaborative practice.

6.3.4.5 Community-based teaching and learning initiatives

Community-based teaching and learning are intricately intertwined with the remaining community engagement strategies outlined in the third pillar of this framework. EMC educators should be mindful of the type of pedagogies deployed within their teaching to promote student learning. These should be contextual and nurture paramedic attributes founded on active citizenship and social responsibility.

The community-based approach necessitates a departure from the EMC curriculum's rigidity and traditional teaching paradigm. Due to the complex realities of South African communities marked by unequal access to healthcare, social ills, and poverty, EMC academics should receive regular training updates on community engagement to enhance their capacity for integrating community engagement into their teaching and learning practices. Targeted training programmes like these should be part of the human resources management skills development plan and the performance reviews of academic staff.

In addition to fostering skills development, EMC departmental heads should set aside protected time for community engagement activities such as planning, teaching, and learning while keeping the academic staff workload in mind. EMC academics should also strive to broaden their knowledge beyond the EMC discipline by encompassing and recognising other forms of knowledge and the EMC student experience in order to incorporate socio-cultural approaches into their teaching and learning.

As a result, EMC academics should employ various teaching techniques while also focusing on framing students' learning outside of the classroom. Hence, the teaching and learning activities should encourage student reflection on their learning against

their own cultural and educational experiences, advantages, and backgrounds. Therefore, EMC students must constantly construct meanings about their classroom and community experiences. EMC programmes should be implemented within contextual realities related to the healthcare needs of local communities, so it is important to hold regular curriculum review sessions with community partners and incorporate their feedback.

Academics at EMC departments should evaluate the efficiency, usefulness, and impact of community engagement activities considering the healthcare needs of the surrounding communities to implement and evaluate the community engagement framework successfully. For the framework to be successful, stakeholders, EMC academics, EMC students, and community partners must be committed to and involved in the community engagement project from its inception to its conclusion.

6.4 Conclusion

This chapter provided evidence that the study's objectives were indeed addressed through the research, and the corresponding research objectives were answered in the process.

While the researcher acknowledged the existence of multiple frameworks and models addressing different aspects of community engagement, this study introduces a framework tailored explicitly to EMC education, offering a comprehensive approach to community engagement, particularly in marginalized populations. Within various community settings, EMC academics and students provide healthcare services to individuals with diverse healthcare and social needs. These engagements involve transdisciplinary interactions that require navigating professional boundaries. Through community engagement, paramedic students have the opportunity to expand their capabilities and contribute to addressing social justice issues and healthcare reforms, aiming to promote the integration of person-centred healthcare services in resource-limited contexts. The framework presented in this study can serve as a valuable resource for EMS providers and educators when developing programmes or curricula that not only prioritise holistic patient care but also enhance graduate attributes to elevate the paramedic profession.

Moreover, the above framework for guiding community engagement in EMC education is founded on three pillars. Each pillar was based on the various framework

components. As previously stated, the guiding framework is adaptable and allows for innovative teaching and learning, CBR, and community engagement strategies. To aid in the development of framework implementation strategies and examples of such strategies were provided. The framework is intended to guide engagement and contribute to EMC education, thereby improving community health and well-being and student co-production of knowledge. Community engagement is intended to create opportunities for EMC students and health sciences faculty to collaborate with communities. Notably, the framework is applicable to a variety of faculties at other universities or colleges and can be easily incorporated into the curriculums of diverse disciplines. To conclude this study, the researcher leaves you with these few apt words:

"What we do for ourselves dies with us. What we do for others and the world remains and is immortal".

*(*Albert Pike).[476]

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ANNEXURES

ANNEXURE A: REQUEST FOR ACCESS TO RESEARCH SITE – HIGHER EDUCATION INSTITUTIONS

Head of Department: Emergency Medical Sciences

Faculty of Health Sciences

Date:

Dear Sir/Madam

SUBJECT: REQUEST FOR APPROVAL TO UNDERTAKE RESEARCH

I am currently registered at the University of Cape Town (UCT), Department of Emergency Medicine, for the fulfilment of a PhD in Emergency Medicine Degree. I am conducting a research study to explore how community engagement is practiced at higher education institutions.

The aim of this qualitative study is to develop a framework to guide community engagement for EMC education by means of exploratory, descriptive research design. The objectives of this study will be to explore the views of academics involved in community engagement, EMC academics, paramedic students and community partners to gain an understanding of how they conceptualize community engagement, explore the values and processes that underpin community engagement and investigate activities that can be used to advance community engagement, all of which will inform a framework to guide community engagement in EMC education.

As part of data collection, I will require to conduct two separate focus group interviews. The first focus group will consist of EMC academics from Cape Peninsula University of Technology, Medi-Clinic Training and the Western Cape Government College of

Emergency Care. The second focus group will consist of students from both the Bachelors Emergency Care and Diploma Emergency Care programmes, who have completed service learning or any other community engagement related activity at the above-mentioned institutions.

The findings of the study may inform relevant EMC curricula for higher education institutions as well as provincial colleges. The study output could result in mutual benefits for both EMC Departments at higher education institutions and communities that EMC practitioners serve for the purpose of improving EMC training in South Africa and ultimately elevating the quality of health care.

I, therefore, request permission to conduct two separate focus groups interviews with EMC academics and students from your department. Participation will be voluntarily and the combined sample size for each group is estimated at twelve to fourteen.

The study was approved by UCT, Emergency Medicine Division Research Committee. Should you require any further details regarding the proposed study, please do not hesitate to contact me or my research supervisor.

I trust this will meet your favourable consideration and approval.

Yours Sincerely

Kubendhren Moodley

Approved ☐ Disapproved ☐

HOD: Department of Emergency Medical Sciences

Date: _____

Signature: _____

STUDENT: Mr Kubendhren Moodley

Student no: MDLKUB007

MHSc, BTech EMC, HDHET

Tel 021 938 4115/6620 or email:
kuben.moodley@westerncape.gov.za

Persons to contact in the event of any problems or queries:

SUPERVISOR: Professor Lee Wallis MBChB, MD, Dip IMC RCS Edin, Dip Sport Med, FRCS Edin, FRCP Edin, FRCEM, FCEM (SA) University of Cape Town

Tel: 021 815 8818 or email: lee.wallis@uct.ac.za

CO-SUPERVISOR: Professor Raisuyah Bhagwan PhD

Faculty of Health Sciences

Durban University of Technology

Tel: 031 260 1281 or email address: bhagwanr@dut.ac.za

University of Cape Town Research Contact Details:

Faculty of Health Sciences, Human Research Ethics Committee

HREC Ref: 624/2019

Contact: Olivia Langenhoven

Tel: 021 406 6626

Email: Olivia.langenhoven@uct.ac.za

ANNEXURE B: INFORMATION AND CONSENT

B1: LETTER OF INFORMATION FOR community engagement ACADEMICS - ONE-ON-ONE INTERVIEW

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

Principal Investigator/s/researcher:

Mr. Kubendhren Moodley, B-Tech: Emergency Medical Sciences, Higher Diploma in Higher Education and Training, Masters in Health Sciences Emergency Medical Care

Co-Investigator/s/supervisor/s:

Prof. Lee Wallis, MBChB, MD, Dip IMC RCS Edin, Dip Sport Med, FRCS Edin, FRCP Edin, FRCEM, FCEM (SA)

Prof. Raisuyah Bhagwan, (PhD) Health and Social Science

Brief Introduction and Purpose of the Study:

Emergency Medical Services (EMS) in South Africa provide health care to a vast array of culturally and socio-economically divided communities, against the backdrop of declining economic growth, limited resource capacity and high emergency care caseloads. In such settings, the component of community engagement (community engagement) as part of the higher education mandate, presents an opportunity for strengthening university-community partnerships through undergraduate emergency medical care (EMC) education.

Within the Western Cape, there are currently three educational institutions that offer undergraduate EMC training, of which two are higher education institutions (HEIs) and one is a provincial training college. The purpose of the study is to explore how community engagement is operationalized at HEIs that offer EMC training in the Western Cape and to understand the current processes that guide community engagement between stakeholders. The intention is to develop a framework to provide guidance as to how community engagement may be advanced within EMC education and training.

Outline of the Procedures:

One-on-one interviews will be used to collect the required information. Participants are expected to share their views and experiences regarding community engagement. The interviews will be conducted by the primary researcher at a convenient location and time of participants' preference. Questions will be asked to enable participants to share the required information. Participants who qualify for the interview will include academics, involved in allied health or social science programmes. The session is expected to last approximately 45 – 60 minutes. If necessary, a follow up session will be requested. The one-on-one discussion will be audio recorded to gather accurate information and will be handled with outmost confidentiality. The participants will be contacted at a later stage of the research process to confirm the interpretation of the interview.

Risks or Discomforts to the Participant: There are no potential risks or discomforts to participants.

Benefits:

The participants will get to share their insights and experiences, which will add a valuable contribution towards the research with the aim of improving community engagement which mutual benefits communities, universities or training colleges offering EMC education and training.

Reason/s why Participants May Withdraw from the Study:

It is up to you to decide whether or not to take part in the study. There is no duress with regards to same. If you decide to take part in the study, you will receive this information sheet to keep and you will be asked to sign a consent form. You may withdraw your participation during the research study at any stage before the audio recordings are transcribed. The transcriptions will be completely anonymised and therefore the researcher will have no way of identifying the participant after audio transcription. Your decision to withdraw is entirely your choice; no negative consequences will be incurred if you should choose not to participate or withdraw. In order to withdraw you can contact the primary researcher with the information provided below. Should you decide to withdraw during the focus group interview, you can recuse yourself from participation. Your anonymity will be maintained throughout the data collection and analysis.

Remuneration: No remuneration will be offered for participation in the study.

Costs of the Study: You will not be asked to cover any costs associated with the study

Confidentiality: All data from interviews will be coded to ensure anonymity; therefore, no names will be used for the purpose of data collection, analysis and report. Data will be kept strictly confidential and will only be accessible to the primary researcher and the research supervisor. The identities of the participants will not be disclosed to employers, heads of department or coordinators.

Research-related Injury: There is no risk of research-related injury.

Persons to contact in the event of any problems or queries:

Researcher: Kubendhren Moodley (Tel no. 021 938 6620) or email: kuben.moodley@westerncape.gov.za

Supervisor: Prof L. Wallis (Tel no. 021 815 8818) or email: lee.wallis@uct.ac.za

Co-supervisor: Prof R. Bhagwan (Tel no. 031 260 1281) email address: bhagwanr@dut.ac.za

Persons to contact in the event of any problems or queries:

Researcher: Kubendhren Moodley (Tel no. 021 938 6620) or email: kuben.moodley@westerncape.gov.za

Supervisor: Prof L. Wallis (Tel no. 021 815 8818) or email: lee.wallis@uct.ac.za

Co-supervisor: Prof R. Bhagwan (Tel no. 031 260 1281) email address: bhagwanr@dut.ac.za

University of Cape Town Research Contact Details:

Faculty of Health Sciences, Human Research Ethics Committee

HREC Ref: 624/2019

Contact: Olivia Langenhoven

Tel: 021 406 6626

Email: Olivia.langenhoven@uct.ac.za

B2: LETTER OF INFORMATION – FOCUS GROUP INTERVIEW – EMC ACADEMICS

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

Principal Investigator/s/researcher:

Mr. Kubendhren Moodley, B-Tech: Emergency Medical Sciences, Higher Diploma in Higher Education, Master of Health Sciences in Emergency Medical Care, Medical Negligence and Health Sector Mediation (Faculty of Law, UCT)

Co-Investigator/s/supervisor/s:

Prof. Lee Wallis, MBChB, MD, Dip IMC RCS Edin, Dip Sport Med, FRCS Edin, FRCP Edin, FRCEM, FCEM (SA)

Prof. Raisuyah Bhagwan, (PhD) Health and Social Science (UKZN)

Brief Introduction and Purpose of the Study:

Emergency Medical Services (EMS) in South Africa provide health care to a vast array of culturally and socio-economically divided communities, against the backdrop of declining economic growth, limited resource capacity and high emergency care caseloads. In such settings, the component of community engagement (community engagement) as part of the higher education mandate, presents an opportunity for

strengthening university-community partnerships through undergraduate emergency medical care (EMC) education.

Within the Western Cape, there are currently three educational institutions that offer undergraduate EMC training, of which two are higher education institutions (HEIs) and one is a provincial training college.

The purpose of the study is to explore how community engagement is operationalized at HEIs that offer EMC training in the Western Cape and to understand the current processes that guide community engagement between stakeholders. The intention is to develop a framework to provide guidance as to how community engagement may be advanced within EMC education and training.

Outline of the Procedures:

Focus groups discussion will be conducted to collect the required information. Participants are expected to share their views and experiences regarding community engagement. Only the focus group facilitator will be present during the focus group interview. The focus group interviews will take place at the Western College of Emergency care, as the College is located centrally between CPUT and Medic–Clinic training venues. The focus group will consist of a total of 8 to 12 participants.

Questions will be asked to enable participants to share the required information. Participants who qualify for the focus group interview will include EMC academics involved in community engagement activities for emergency medical care programmes. The session is expected to last approximately 45 – 60 minutes. If necessary, a follow up session will be requested. The focus group discussion will be audio recorded to gather accurate information and will be handled with outmost confidentiality. The participants will

be contacted at a later stage of the research process to confirm the interpretation of the interview.

Risks or Discomforts to the Participant: There are no potential risks or discomforts to participants.

Benefits:

The participants will get to share their insights and experiences, which will add a valuable contribution towards the research with the aim of improving community engagement which mutual benefits communities, universities or training colleges offering EMC education and training.

Reason/s why Participants May Withdraw from the Study:

It is up to you to decide whether or not to take part in the study. There is no duress with regards to same. If you decide to take part in the study, you will receive this information sheet to keep and you will be asked to sign a consent form. You may withdraw your participation during the research study at any stage before the audio recordings are transcribed. The transcriptions will be completely anonymised and therefore the researcher will have no way of identifying the participant after audio transcription. Your decision to withdraw is entirely your choice; no negative consequences will be incurred if you should choose not to participate or withdraw. In order to withdraw you can contact the primary researcher with the information provided below. Should you decide to

withdraw during the focus group interview, you can recuse yourself from participation. Your anonymity will be maintained throughout the data collection and analysis.

Remuneration: No remuneration will be offered for participation in the study.

Costs of the Study: You will not be asked to cover any costs associated with the study

Confidentiality: All data from interviews will be coded to ensure anonymity; therefore, no names will be used for the purpose of data collection, analysis and report. Data will be kept strictly confidential and will only be accessible to the primary researcher and the research supervisor. The identities of the participants will not be disclosed to employers, heads of department or coordinators.

Research-related Injury: There is no risk of research-related injury.

Persons to contact in the event of any problems or queries:
Researcher: Kubendhren Moodley (Tel no. 021 938 6620) or email: kuben.moodley@westerncape.gov.za

Supervisor: Prof L. Wallis (Tel no. 021 815 8818) or email: lee.wallis@uct.ac.za
Co-supervisor: Prof R. Bhagwan (Tel no. 031 260 1281) email address: bhagwanr@dut.ac.za

University of Cape Town Research Contact Details:
Faculty of Health Sciences, Human Research Ethics Committee
HREC Ref: 624/2019
Contact: Olivia Langenhoven
Tel: 021 406 6626

Email: Olivia.langenhoven@uct.ac.za

B3: LETTER OF INFORMATION - FOCUS GROUP INTERVIEW - EMC STUDENTS

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

Principal Investigator/s/researcher:
Mr. Kubendhren Moodley, B-Tech: Emergency Medical Sciences, Higher Diploma in Higher Education and Training, Masters in Health Sciences Emergency Medical Care

Co-Investigator/s/supervisor/s:
Prof. Lee Wallis, MBChB, MD, Dip IMC RCS Edin, Dip Sport Med, FRCS Edin, FRCP Edin, FRCEM, FCEM (SA)
Prof. Raisuyah Bhagwan, (PhD) Health and Social Science

Brief Introduction and Purpose of the Study:
Emergency Medical Services (EMS) in South Africa provide health care to a vast array of culturally and socio-economically divided communities, against the backdrop of declining economic growth, limited resource capacity and high emergency care caseloads. In such settings, the component of community engagement (community engagement) as part of the higher education mandate, presents an opportunity for strengthening university-community partnerships through undergraduate emergency medical care (EMC) education.

Within the Western Cape, there are currently three educational institutions that offer undergraduate EMC training, of which two are higher education institutions (HEIs) and one is a provincial training college.

The purpose of the study is to explore how community engagement is operationalized at HEIs that offer EMC training in the Western Cape and to understand the current processes that guide community engagement between stakeholders. The intention is to

develop a framework to provide guidance as to how community engagement may be advanced within EMC education and training.

Outline of the Procedures:

Focus groups discussion will be conducted to collect the required information. Participants are expected to share their views and experiences regarding community engagement. Only the focus group facilitator will be present during the focus group interview. The focus group interviews will take place at the Western College of Emergency care, as the College is located centrally between CPUT and Medic–Clinic training venues. The focus group will consist of a total of 8 to 12 participants.

Questions will be asked to enable participants to share the required information. Participants who qualify for the focus group interview will include EMC students involved in community engagement activities for emergency medical care programmes. The session is expected to last approximately 45 – 60 minutes. If necessary, a follow up session will be requested. The focus group discussion will be audio recorded to gather accurate information and will be handled with outmost confidentiality. The participants will

be contacted at a later stage of the research process to confirm the interpretation of the interview.

Risks or Discomforts to the Participant: There are no potential risks or discomforts to participants.

Benefits:

The participants will get to share their insights and experiences, which will add a valuable contribution towards the research with the aim of improving community engagement which mutual benefits communities, universities or training colleges offering EMC education and training.

Reason/s why Participants May Withdraw from the Study:

It is up to you to decide whether or not to take part in the study. There is no duress with regards to same. If you decide to take part in the study, you will receive this information sheet to keep and you will be asked to sign a consent form. You may withdraw your participation during the research study at any stage before the audio recordings are transcribed. The transcriptions will be completely anonymised and therefore the researcher will have no way of identifying the participant after audio transcription. Your decision to withdraw is entirely your choice; no negative consequences will be incurred if you should choose not to participate or withdraw. In order to withdraw you can contact the primary researcher with the information provided below. Should you decide to

withdraw during the focus group interview, you can recuse yourself from participation. Your anonymity will be maintained throughout the data collection and analysis.

Remuneration: No remuneration will be offered for participation in the study.

Costs of the Study: You will not be asked to cover any costs associated with the study

Confidentiality: All data from interviews will be coded to ensure anonymity; therefore, no names will be used for the purpose of data collection, analysis and report. Data will be kept strictly confidential and will only be accessible to the primary researcher and the research supervisor. The identities of the participants will not be disclosed to employers, heads of department or coordinators.

Research-related Injury: There is no risk of research-related injury.

Persons to contact in the event of any problems or queries:

Researcher: Kubendhren Moodley (Tel no. 021 938 6620) or email: kuben.moodley@westerncape.gov.za

Supervisor: Prof L. Wallis (Tel no. 021 815 8818) or email: lee.wallis@uct.ac.za

Co-supervisor: Prof R. Bhagwan (Tel no. 031 260 1281) email address: bhagwanr@dut.ac.za

University of Cape Town Research Contact Details:

Faculty of Health Sciences, Human Research Ethics Committee

HREC Ref: 624/2019

Contact: Olivia Langenhoven Email: Olivia.langenhoven@uct.ac.za

Tel: 021 406 6626

B4: LETTER OF INFORMATION - COMMUNITY ENGAGEMENT PARTNERS - ONE-ON-ONE INTERVIEW

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

Principal Investigator/s/researcher:

Mr. Kubendhren Moodley, B-Tech: Emergency Medical Sciences, Higher Diploma in Higher Education and Training, Masters in Health Sciences Emergency Medical Care

Co-Investigator/s/supervisor/s:

Prof. Lee Wallis, MBChB, MD, Dip IMC RCS Edin, Dip Sport Med, FRCS Edin, FRCP Edin, FRCEM, FCEM (SA)

Prof. Raisuyah Bhagwan, (PhD) Health and Social Science

Brief Introduction and Purpose of the Study:

Emergency Medical Services (EMS) in South Africa provide health care to a vast array of culturally and socio-economically divided communities, against the backdrop of declining economic growth, limited resource capacity and high emergency care caseloads. In such settings, the component of community engagement (community engagement) as part of the higher education mandate, presents an opportunity for strengthening university-community partnerships through undergraduate emergency medical care (EMC) education.

Within the Western Cape, there are currently three educational institutions that offer undergraduate EMC training, of which two are higher education institutions (HEIs) and one is a provincial training college. The purpose of the study is to explore how community engagement is operationalized at HEIs that offer EMC training in the Western Cape and to understand the current processes that guide community engagement between stakeholders. The intention is to develop a framework to provide guidance as to how community engagement may be advanced within EMC education and training.

Outline of the Procedures:

One-on-one interviews will be used to collect the required information. Participants are expected to share their views and experiences regarding community engagement. The interviews will be conducted by the primary researcher at a convenient location and time of participants' preference. Questions will be asked to enable participants to share the required information. Participants who qualify for the interview will include community engagement partners, involved in allied health or social science programmes. The session is expected to last approximately 45 – 60 minutes. If necessary, a follow up session will be requested. The one-on-one discussion will be audio recorded to gather accurate information and will be handled with outmost confidentiality. The participants will be contacted at a later stage of the research process to confirm the interpretation of the interview.

Risks or Discomforts to the Participant: There are no potential risks or discomforts to participants.

Benefits:

The participants will get to share their insights and experiences, which will add a valuable contribution towards the research with the aim of improving community engagement which mutual benefits communities, universities or training colleges offering EMC education and training.

Reason/s why Participants May Withdraw from the Study:

It is up to you to decide whether or not to take part in the study. There is no duress with regards to same. If you decide to take part in the study, you will receive this information sheet to keep and you will be asked to sign a consent form. You may withdraw your participation during the research study at any stage before the audio recordings are transcribed. The transcriptions will be completely anonymised and therefore the researcher will have no way of identifying the participant after audio transcription. Your decision to withdraw is entirely your choice; no negative consequences will be incurred if you should choose not to participate or withdraw. In order to withdraw you can contact the primary researcher with the information provided below. Should you decide to withdraw during the focus group interview, you can recuse yourself from participation. Your anonymity will be maintained throughout the data collection and analysis.

Remuneration: No remuneration will be offered for participation in the study.

Costs of the Study: You will not be asked to cover any costs associated with the study

Confidentiality: All data from interviews will be coded to ensure anonymity; therefore, no names will be used for the purpose of data collection, analysis and report. Data will be kept strictly confidential and will only be accessible to the primary researcher and the research supervisor. The identities of the participants will not be disclosed to employers, heads of department or coordinators.

Research-related Injury: There is no risk of research-related injury.

Persons to contact in the event of any problems or queries:

Researcher: Kubendhren Moodley (Tel no. 021 938 6620) or email: kuben.moodley@westerncape.gov.za

Supervisor: Prof L. Wallis (Tel no. 021 815 8818) or email: lee.wallis@uct.ac.za

Co-supervisor: Prof R. Bhagwan (tel no. 031 260 1281) email address: bhagwanr@dut.ac.za

Persons to contact in the event of any problems or queries:

Researcher: Kubendhren Moodley (tel no. 021 938 6620) or email: kuben.moodley@westerncape.gov.za
Supervisor: Prof L. Wallis (tel no. 021 815 8818) or email: lee.wallis@uct.ac.za
Co-supervisor: Prof R. Bhagwan (tel no. 031 260 1281) email address: bhagwanr@dut.ac.za

University of Cape Town Research Contact Details:
Faculty of Health Sciences, Human Research Ethics Committee
HREC Ref: 624/2019
Contact: Olivia Langenhoven
Tel: 021 406 6626
Email: Olivia.langenhoven@uct.ac.za

B5: LETTER OF INFORMATION – VALIDATION COMMITTEE

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

Principal Investigator/s/researcher:

Mr. Kubendhren Moodley, B-Tech: Emergency Medical Sciences, Higher Diploma in Higher Education and Training, Masters in Health Sciences Emergency Medical Care

Co-Investigator/s/supervisor/s:

Prof. Lee Wallis, MBChB, MD, Dip IMC RCS Edin, Dip Sport Med, FRCS Edin, FRCP Edin, FRCEM, FCEM (SA)

Prof. Raisuyah Bhagwan, (PhD) Health and Social Science

Brief Introduction and Purpose of the Study:

Emergency Medical Services (EMS) in South Africa provide health care to a vast array of culturally and socio-economically divided communities, against the backdrop of declining economic growth, limited resource capacity and high emergency care caseloads. In such settings, the component of community engagement s part of the higher education mandate, presents an opportunity for strengthening university-community partnerships through undergraduate emergency medical care (EMC) education.

Within the Western Cape, there are currently three educational institutions that offer undergraduate EMC training, of which two are higher education institutions (HEIs) and one is a provincial training college. The purpose of the study is to explore how community engagement is operationalized at HEIs that offer EMC training in the Western Cape and to understand the current processes that guide community engagement between

stakeholders. The intention is to develop a framework to provide guidance as to how community engagement may be advanced within EMC education and training.

Outline of the Procedures:

The validation committee meeting will be used to provide structured input into the emerging framework for community engagement in emergency medical care. In order to reach final consensus on the framework, the researcher may conduct more than one validation meeting. The validation committee meeting will take a maximum total of 8 hours. Each meeting will entail presentations, followed by a guided discussion to elucidate views of participating experts on emerging aspects of the framework.

Risks or Discomforts to the Participant: There are no potential risks or discomforts to participants.

Benefits:

The participants will get to share their insights and experiences, which will add a valuable contribution towards the research with the aim of improving community engagement which mutual benefits communities, universities or training colleges offering EMC education and training.

Reason/s why Participants May Withdraw from the Study:

It is up to you to decide whether or not to take part in the study. There is no duress with regards to same. If you decide to take part in the study, you will receive this information sheet to keep and you will be asked to sign a consent form. You may withdraw your participation during the research study at any stage before the audio recordings are transcribed. The transcriptions will be completely anonymised and therefore the researcher will have no way of identifying the participant after audio transcription. Your decision to withdraw is entirely your choice; no negative consequences will be incurred if you should choose not to participate or withdraw. In order to withdraw you can contact the primary researcher with the information provided below. Should you decide to withdraw during the validation committee discussion, you can recuse yourself from

participation. Your anonymity will be maintained throughout the data collection and analysis.

Remuneration: No remuneration will be offered for participation in the study.

Costs of the Study: You will not be asked to cover any costs associated with the study

Confidentiality: All data from interviews will be coded to ensure anonymity; therefore, no names will be used for the purpose of data collection, analysis and report. Data will be kept strictly confidential and will only be accessible to the primary researcher and the research supervisor. The identities of the participants will not be disclosed to employers, heads of department or coordinators.

Research-related Injury: There is no risk of research-related injury.

Persons to contact in the event of any problems or queries:

Researcher: Kubendhren Moodley (Tel no. 021 938 6620) or email: kuben.moodley@westerncape.gov.za
Supervisor: Prof L. Wallis (Tel no. 021 815 8818) or email: lee.wallis@uct.ac.za
Co-supervisor: Prof R. Bhagwan (Tel no. 031 260 1281) email address: bhagwanr@dut.ac.za

University of Cape Town Research Contact Details:
Faculty of Health Sciences, Human Research Ethics Committee
HREC Ref: 624/2019
Contact: Olivia Langenhoven
Tel: 021 406 6626
Email: Olivia.langenhoven@uct.ac.za

B6: CONSENT OF THE PARTICIPANT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, (Mr. Kubendhren Moodley), about the nature, conduct, benefits and risks of this study - UCT Research Ethics Clearance Number: **624/2019**
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth and initials will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during this research which may relate to my participation will be made available to me.
- I understand that the results of the study will be published in journals.

_____ _____ _____ _____

Full Name of Participant Date Time Signature

I, _____ herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____ _____ _____ _____

Full Name of Researcher Date Time Signature

ANNEXURE C: INDIVIDUAL INTERVIEW GUIDE

(FOR USE BY THE RESEARCHER ONLY)

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

INDIVIDUAL PARTICIPANTS: Academics recognised by SAHECEF

TIME: Interview length: 45-60min

Introduction

1. Thank participants for their time.

2. Introduce researcher and the purpose of the interview.

3. Inform the interviewee about anonymity and the right to withdraw from the interview at any time.

4. Obtain permission for audio recording and explain its purpose.

5. Obtain consent to participate in the study (Consent letter)**.**

Interview Questions

General demographic information

1. How would you conceptualize (understand) community engagement (CE)?
2. Can you tell me a little bit more about importance of CE in terms of health in SA?

3. Can you share with me how you have brought CE into teaching and learning and research through your work?
4. What are the potential ways that CE can be further nurtured or strengthened in EMC?
5. What do you think can be done to enhance the service-learning experience of paramedics?
6. What do you think can be done with regards to strengthening community-based research in EMC?
7. What sort of collaborative partnerships can be nurtured with CE partners in EMC education?
8. What sort of activities can EMC academics themselves become involved in to strengthen community engagement?
9. Does EMC have a role to play in communities with contextual community partners?
10. Is there anything else that you can add to strengthen the role of CE in EMC education?

Thank you once again for your time and availability.

ANNEXURE D: EMC ACADEMICS FOCUS GROUP INTERVIEW GUIDE

(FOR USE BY THE RESEARCHER ONLY)

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

FOCUS GROUP INTERVIEW: EMC ACADEMICS

TIME: Interview length: 45-60min

Introduction

1. Thank participants for making the time to be interviewed for the study
2. Introduce researcher and the purpose of the interview.
3. Inform the interviewee about anonymity and the right to withdraw from the interview at any time
4. Obtain permission for audio recording and explain its purpose
5. Obtain consent to participate in the study (Consent letter)

Interview Questions

1. How would you conceptualize (understand) community engagement (CE)?
2. Can you tell me a little bit more about importance of CE in terms of health in SA?
3. Can you share with me how you have brought CE into teaching and learning and research through your work?
4. What are the potential ways that CE can be further nurtured or strengthened in EMC?
5. What do you think can be done to enhance the service-learning experience of paramedics?

6. What do you think can be done with regards to strengthening community-based research in EMC?
7. What sort of collaborative partnerships can be nurtured with CE partners in EMC education?
8. What sort of activities can EMC academics themselves become involved in to strengthen community engagement?
9. Does EMC have a role to play in communities with contextual community partners?
10. Is there anything else that you can add to strengthen the role of CE in EMC education?

Thank you once again for your time and availability.

ANNEXURE E: EMC STUDENTS FOCUS GROUP INTERVIEW GUIDE

(FOR USE BY THE RESEARCHER ONLY)

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

FOCUS GROUP INTERVIEW SCHEDULE PARTICIPANTS: EMC STUDENTS

TIME: Interview length: 45-60min

Introduction

1. Thank participants for making the time to be interviewed for the study
2. Introduce researcher and the purpose of the interview.
3. Inform the interviewee about anonymity and the right to withdraw from the interview at any time
4. Obtain permission for audio recording and explain its purpose
5. Obtain consent to participate in the study (Consent letter)

Interview Questions (EMC Students)

General demographic information

1. What do you understand by the term Community Engagement?
2. What are your views around engaging with communities to develop them?
3. What are your views around your role as students in terms developing marginalised or under resourced communities?
4. Where you involved in any CE activities? Probing question - how has it enhanced your learning?

5. What are some of the potential projects and activities students can get involved in, in terms of service learning and other organisations in the community context?

6. What are some of the research projects EMC students can become involved in with disadvantaged communities?

7. How can we strengthen and sustain community engagement through EMC education and training?

8. How can we strengthen CE partnerships with EMC departments?

9. Is there anything else you would like to add that would be beneficial to this research project?

Thank you once again for your time and availability.

ANNEXURE F: ONE ON ONE INTERVIEW GUIDE

(FOR USE BY THE RESEARCHER ONLY)

Title of the Research Study: Development of a Framework to Guide Community Engagement in Paramedic Education and Training

INDIVIDUAL PARTICIPANTS: COMMUNITY PARTNERS

TIME: Interview length: 45-60min

Introduction

1. Thank participants for making the time to be interviewed for the study
2. Introduce researcher and the purpose of the interview.
3. Inform the interviewee about anonymity and the right to withdraw from the interview at any time
4. Obtain permission for audio recording and explain its purpose
5. Obtain consent to participate in the study (Consent letter)

Interview Questions

General demographic information

1. What is your understanding of CE?
2. What has been your experience in terms of collaborating with EMC departments?
3. What role can EMC academic departments play in terms of uplifting disadvantaged communities?
4. What is the current nature of SL activities in EMC?
5. How can EMC students' experiences be enriched more through service learning?

6. What else can be done to strengthen the EMC-community partnership with disadvantaged communities?
7. What are the gaps in collaborating with service learning partners and other communities?
8. What are other potential ways that CE can be further nurtured or strengthened in EMC?
9. Is there anything else that you can add with regards to strengthening EMC education and their partnerships with communities?

Thank you for taking the time to avail yourself for the interview

ANNEXURE G: REQUEST FOR APPROVAL SAHECEF

Chairperson: South African Higher Education Community Engagement Forum

Date

Dear Sir/Madam

SUBJECT: REQUEST FOR APPROVAL TO UNDERTAKE RESEARCH

I am currently registered at the University of Cape Town (UCT), Department of Emergency Medicine, for the fulfilment of a PhD in Emergency Medicine Degree. I am conducting a research study to explore how community engagement is practiced at higher education institutions.

The aim of this qualitative study is to develop a framework to guide community engagement for emergency medical care (EMC) education by means of exploratory, descriptive research design. The objectives of this study will be to explore the views of community engagement academics, EMC academics, paramedic students and community partners to gain an understanding of how they conceptualize community engagement, explore the values and processes that underpin community engagement and investigate activities that can be used to advance community engagement, all of which will inform a framework to guide community engagement in EMC education.

As part of data collection, I need to conduct one-on-one interviews with community engagement academics recognised by SAHECEF in the Western Cape. The rationale for interviewing community engagement academics is that they will provide rich data and provide deeper insight of how they conceptualize community engagement and implement it within the context of teaching and learning.

The findings of the study may inform relevant EMC curricula for higher education institutions as well as provincial colleges. The study output could result in mutual benefits

for both EMC Departments at higher education institutions and communities that EMC practitioners serve for the purpose of improving EMC training in South Africa and ultimately elevating the quality of health care.

I, therefore, request a list of community engagement academics recognised and recommended by SAHECEF for one-on-one interviews, based on rich experience with community engagement practices. The duration of each interview will range from about 40 to 60 minutes. Participation will be voluntary and the sample size for is estimated at twelve to fourteen.

The study was approved by UCT, Emergency Medicine Division Research Committee. Should you require any further details regarding the proposed study, please do not hesitate to contact me or my research supervisor.

I trust this will meet your favourable consideration and approval.

Yours Sincerely

Kubendhren Moodley

ANNEXURE H: REQUEST FOR APPROVAL DEPARTMENT OF HEALTH: PEOPLE MANAGEMENT

Head of Department: People Management

Western Cape Government Department of Health

Date:

Dear Sir/Madam

SUBJECT: REQUEST FOR APPROVAL TO UNDERTAKE RESEARCH

I am currently registered at the University of Cape Town (UCT), Department of Emergency Medicine, for the fulfilment of a PhD in Emergency Medicine Degree. I am conducting a research study to explore how community engagement is practiced at higher education institutions.

The aim of this qualitative study is to develop a framework to guide community engagement for EMC education by means of exploratory, descriptive research design. The objectives of this study will be to explore the views of academics involved in community engagement, EMC academics, paramedic students and community partners to gain an understanding of how they conceptualize community engagement, explore the values and processes that underpin community engagement and investigate activities that can be used to advance community engagement, all of which will inform a framework to guide community engagement in EMC education. I would like to request permission to access community engagement partners recommended by the WCG Department of Health.

Furthermore, in order to develop and validate the community engagement framework, I am required to conduct validation committee meeting which will include government officials, involved in community engagement. For the purpose of this study, these individuals will be identified as experts in community engagement, who are able to provide relevant, contextual and informed input into the emerging themes and sub-themes of the analysed study data. Therefore, the experience and insight of the validation committee will serve to examine and comment on the findings, as well as to provide recommendations to validate the community engagement framework.

The findings of the study may inform relevant EMC curricula for higher education institutions as well as provincial colleges. The study output could result in mutual benefits for both EMC Departments at higher education institutions and communities that EMC practitioners serve for the purpose of improving EMC training in South Africa and ultimately elevating the quality of health care.

I, therefore, request permission to invite officials from the Department of Health for validation committee meetings. The dates of these meetings will be communicated to your department at least one month in advance. Participation in the validation committee will be voluntarily.

The study was approved by UCT, Emergency Medicine Division Research Committee. Should you require any further details regarding the proposed study, please do not hesitate to contact me or my research supervisor.

I trust this will meet your favourable consideration and approval.

Yours Sincerely

Kubendhren Moodley

Approved ☐ Disapproved ☐

Chief Director: Department of Health, People Management

Date: _____

Signature: _____

STUDENT: Mr Kubendhren Moodley
Student no: MDLKUB007
MHSc, BTech EMC, HDHET
Tel 021 938 4115/6620 or email:
kuben.moodley@westerncape.gov.za

SUPERVISOR: Professor Lee Wallis MBChB, MD, Dip IMC RCS Edin, Dip Sport Med, FRCS Edin, FRCP Edin, FRCEM, FCEM (SA) University of Cape Town
Tel: 021 815 8818 or email: lee.wallis@uct.ac.za

CO-SUPERVISOR: Professor Raisuyah Bhagwan PhD

Faculty of Health Sciences

Durban University of Technology

Tel: 031 260 1281 or email address: bhagwanr@dut.ac.za

University of Cape Town Research Contact Details:

Faculty of Health Sciences, Human Research Ethics Committee

HREC Ref: 624/2019

Contact: Olivia Langenhoven

Tel: 021 406 6626

Email: Olivia.langenhoven@uct.ac.za

ANNEXURE I: EDITOR'S LETTER

PROOF-READING

DR LEE-ANNE ROUX
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www.proof-reading.co.za

PROFESSIONAL EDITING SERVICES
PHD PRACTICAL THEOLOGY (SU) • MTH PRACTICAL THEOLOGY (SU) • BA (HONS) PSYCHOLOGY (UNISA)
BTH (HONS) PRACTICAL THEOLOGY (UNISA) • BTH PASTORAL COUNSELLING (UNISA)

3 September 2022

TO WHOM IT MAY CONCERN

RE: LANGUAGE EDITING

This letter serves to confirm that I have edited the thesis titled:

DEVELOPMENT OF A FRAMEWORK TO GUIDE COMMUNITY ENGAGEMENT IN PARAMEDIC EDUCATION AND TRAINING IN THE WESTERN CAPE

By

Kubendhren Moodley

Please feel free to contact me if you need any further information.

Yours sincerely,

Dr Lee-Anne Roux

ANNEXURE J: ETHICAL APPROVAL

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E53-46 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6526
Email: Olivia.langenhoven@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

16 October 2019

HREC REF:624/2019

Prof L. Wallis
Division of Emergency Medicine
Department of Surgery
F53.21
OMB

Dear Prof Wallis

PROJECT TITLE: ***DEVELOPMENT OF A FRAMEWORK TO GUIDE COMMUNITY ENGAGEMENT IN PARAMEDIC EDUCATION AND TRAINING IN THE WESTERN CAPE (PHD DEGREE - MR K MOODLEY)***

Thank you for submitting your response to the queries raised by the Faculty of Health Sciences Human Research Ethics Committee.

It is a pleasure to inform you that the HREC has formally **approved** the above-mentioned study subject to the following conditions:

1. Please update all the Informed Consent documents with the current email and telephone numbers of the HREC.

Approval is granted for one year until the 30 October 2020.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

We acknowledge that the student: Mr K. Moodley will also be involved in this study.

Please note that no research may occur without formal written HREC approval.

Please quote the HREC reference number in all your correspondence.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE
Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938

HREC REF 624/2019

Annexure A

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

FACULTY OF HEALTH SCIENCES
Human Research Ethics Committee

HUMAN RESEARCH ETHICS COMMITTEE
09 NOV 2021
HEALTH SCIENCES FACULTY
UNIVERSITY OF CAPE TOWN

FHS016: Annual Progress Report / Renewal

HREC office use only (FWA00001637; IRB00001938) This serves as notification of annual approval, including any documentation described below.			
☑ Approved	Annual progress report	Approved until/next renewal date	30.11.22
☐ Not approved	See attached comments		
Signature Chairperson of the HREC/ Designee		Date Signed	10/11/21

Note: Please email this form and supporting documents (if applicable) in a combined pdf-file to hrec-enquiries@uct.ac.za.
Please clarify your plan for research-related activities during COVID-19 lockdown.
Please use the latest form found on our website:
http://www.health.uct.ac.za/fhs/research/humanethics/forms

Comments to PI from the HREC

Principal Investigator to complete the following:

1. Protocol information

Date (when submitting this form)	25 October 2021		
HREC REF Number	624/2019	Current Ethics Approval was granted until	30 October 2020
Protocol title	Development of a Framework to Guide Community Engagement in Paramedic Education and Training in the Western Cape (PHD Degree: K. Moodley)		
Protocol number (if applicable)			
Are there any sub-studies linked to this study?		☐ Yes	☑ No
If yes, could you please provide the HREC Reference number for all sub-studies? **Note:** A separate FHS016 must be submitted for each sub-study.			
Principal Investigator	Professor Lee Wallis		
Department / Office Internal Mail Address	Division of Emergency Medicine, F51,Old Main Building		

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)