Curriculum renewal in Acute Care: A South African based study for returning Cuban-trained students

By

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Acknowledgements

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Dedication

This master's research project is lovingly dedicated to my parents and children.

Zakariya, Rayhan, and Danyaal, you are my constant inspiration to strive for success and persist despite life's obstacles. As you grow and face your own challenges, remember that with every hardship comes ease, and that your potential is boundless. May you always pursue knowledge with passion and face life's obstacles with kindness and courage, God willing. This accomplishment is as much yours as it is mine.

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Abbreviations

ALS	Advanced Life Support
ATLS	Advanced Trauma Life Support
BLS	Basic Life Support
CCF	Curriculum of Change Framework
CoP	Communities of Practice
ED	Emergency Department
ELAM	Escuela Latinoamericana de Medicina
EM	Emergency Medicine
FMG	Foreign Medical Graduates
4C/ID	Four-Component Instructional Design model
IFEM	International Federation of Emergency Medicine
IMG	International Medical Graduates
LMS	Learning Management System
LMIC	Low and Middle-Income Countries
MCQ	Multiple Choice Questions
NMFC	Nelson Mandela Fidel Castro
NHI	National Health Insurance
OSCE	Observed Structured Oral Examination
NMFCFC	Nelson Mandela – Fidel Castro Medical Collaboration
PHC	Primary Health Care
SACMC	South African Cuban Medical Collaboration
SBME	Simulation-Based Medical Education
SDG	Sustainable Development Goals
SDL	Self-Directed Learning
UCT	University of Cape Town
UHC	Universal Health Coverage
WHO	World Health Organisation

Glossary

High yield, high frequency presentations: These refer to Emergency Department presentations which encompass two overlapping categories: high frequency presentations are the common conditions that constitute the bulk of daily ED visits (like chest pain, shortness of breath, and abdominal pain), while high yield presentations are those where early recognition and intervention significantly impact outcomes (such as acute coronary syndromes, stroke, and sepsis). The intersection of these categories is particularly crucial, as they represent common presentations that could indicate serious pathology - for instance, chest pain could range from benign musculoskeletal pain to a life-threatening myocardial infarction.
Marginality: refers to a sense of not fitting in or feeling like an outsider.
Mattering: the sense that one matters or has significance to another.
Othering: the process of perceiving or portraying an individual or group as fundamentally different or alien from oneself or one's own group.
Transition: the process of change or movement between one state of work and another and includes that related to time, place, relationships, as well as one's psychological state of being.

Abstract

Background: Emergency Care plays an integral role in Universal Health Coverage (UHC), yet several limitations have been identified in Low- and Middle-Income Countries (LMIC), one of which is the lack of dedicated, integrated curricula. In 1996 the Nelson Mandela Fidel Castro (NMFC) student program was developed in response to societal health needs for equitable health care in rural and under-served areas, affirmative action, and the low doctor-to-population ratios nationally. Cuban medical education is Primary Health Care focussed and not aligned with Acute Care competencies. This study explores the NMFC students' needs, the barriers to learning, and the role of transition in this process, as a first integral step in curriculum renewal in Acute Care.

Methods: A qualitative approach of focus group interviews with 18 UCT NMFC students and semi-structured interviews with educators was conducted. Data was then analysed thematically and with the lens of the chosen theoretical framework framed by Transition theory and Situated Learning theory.

Results: The findings indicate that skills and simulation-based teaching methodologies are favoured. A structured orientation within an Acute Care transition program and supervised and integrated workplace supervision is needed. Barriers to student learning include time, a perceived sense of 'othering,' and educational 'differences' to Cuban training. NMFC students were identified for their willingness to learn. Educators further identified a lack of dedicated time for Acute Care and a lack of resources as barriers to facilitation.

Conclusions: As socially responsible educators we must be considerate of student needs and respond with a robust curriculum. The challenge is designing a curriculum in Acute Care that addresses the specific learning needs of a group of designated adult learners from previously disadvantaged backgrounds, transitioning between institutions with different educational outcomes, in the care of undifferentiated critically ill patients, within the short timeframes in

resource-constrained educational and health institutions. Recommendations include the addition of a robust transition program to integrate, orientate and scaffold Acute Care knowledge and skills deficits. The curriculum must include skills and simulation-based methodologies for 'hands-on' practice, opportunities for self-directed learning, and situated learning within supportive communities of practice.

Chapter 1: Introduction & Background

1.1 Introduction

This study is about Acute Care curriculum renewal for returning Cuban-trained students at the University of Cape Town (UCT), in South Africa. This chapter introduces the study by providing a narrative review of the need for curriculum renewal as the motivation behind conducting this study. This study aimed to explore the learner's needs, the barriers to learning, and the role of transition in this process, as a first integral step in curriculum renewal in Acute Care

Kern's curriculum design framework (Fig.1) provides the conceptual framework for the study. Chapter one is framed around a general needs assessment which is the first step in this curriculum design model. This provides the background to the study in which the general need for Acute Care in medical undergraduate education in South Africa is explored. The perspectives of different stakeholders and policies will be considered and the need for Acute Care curriculum renewal for returning Cuban-trained students at the University of Cape Town (UCT) will be motivated.

A targeted needs assessment, as a second step in the curriculum design process, forms part of the objectives of this study, and will be reviewed in chapter two, and explored through the methodologies of the study. An in-depth review of the Cuban curriculum and what is known about NMFC students and their similarities to foreign medical graduates will follow in chapter two.

Before addressing the general need for curriculum renewal, it is crucial to describe the concept of curriculum and Acute Care as key concepts in this study, and how Acute Care relates to Emergency Care.

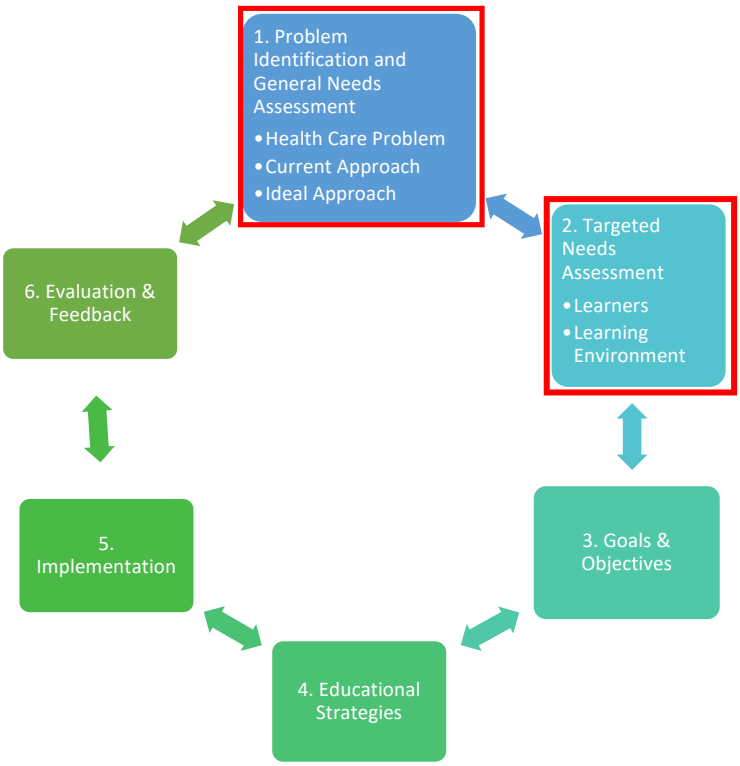

Figure 1 Kern's Six-Step Approach to Curriculum Development Kern (2009)

1.2 The Concepts of Curriculum, Acute Care and Emergency Care

1.2.1 Curriculum

'Curriculum' is an all-encompassing concept that directly impacts institutional climate(Genn, 2001). Not only is it concerned with content, learning activities, and assessment but must also be moulded to include the teacher and student teaching-learning needs while remaining congruent to the social climate that, implicitly or explicitly, impacts that institution. Failure to maintain such congruence results in discrepancies between the planned curriculum, enacted curriculum, and the experienced curriculum (Marsh, 1992). One also needs to consider what the student perceives of the curriculum that may or may not reflect the outcomes of that curriculum: hidden curriculum. The hidden curriculum refers to student learning and

experiences that are not taught explicitly or written down (Lawrence et al., 2018) , whereas the experienced curriculum refers to the learning experienced by the students as intended by the formal curriculum. Changing any curriculum requires modification and evaluation by all role-players of all the components of a curriculum.

The strategy to be implemented in curriculum design or renewal must be clearly defined not only for transparency to policymakers and accrediting bodies but also for the students and educators. Although the graduate attributes and broad programme outcomes are determined by regulating bodies, curriculum designers can modify curriculum goals to achieve outcomes appropriate for the local context.

1.2.2 Acute Care

Acute Care can be defined as "the most time-sensitive, individually oriented diagnostic and curative actions whose primary purpose is to improve health and includes the health system components, or care delivery platforms, used to treat sudden, often unexpected, urgent or emergent episodes of injury and illness that can lead to death or disability without rapid intervention."(Hirshon et al., 2013, p. 387). Acute Care encompasses several domains in healthcare (Figure 2).

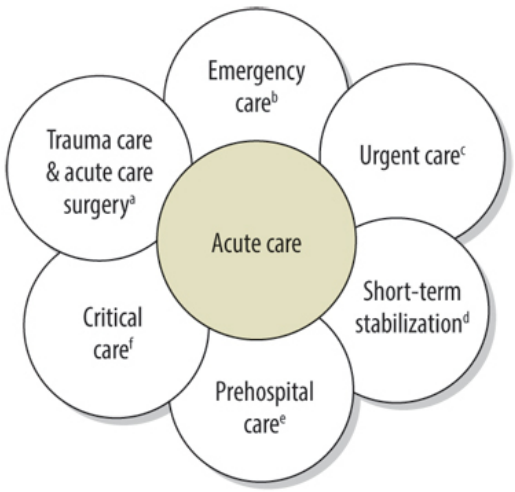

Figure 2 Domains in Acute Care (Hirshon et al., 2013)

1.2.3 The relationship between Emergency Care and Acute Care

The World Health Organisation (WHO) describes Emergency care as,

> "…an integrated platform to deliver time-sensitive health care services for acute illness and injury across the life course. The emergency care system that delivers these services extends from care at the scene through transport and emergency unit care, and it ensures access to early operative and critical care when needed."(World Health Assembly, 2019, p. 1).

Although the difference between the two concepts is time-based in the literal sense, the core components are similar. Therefore, for the purpose of this study, Acute Care and Emergency Care are considered equivalent as they consist of the same elements in health care and health science education. Acute Care as a concept will be explored later in this dissertation.

Having considered some key concepts, the next section will provide a background to the study and frame it as a general needs assessment.

1.3. Background

1.3.1 The Problem Identification & General Needs Assessment to Renew Acute Care Curricula

The following section reviews the general need for Acute Care training and motivates the curriculum renewal for returning Cuban-trained students. Kern's step 1 of 'Problem Identification' guides the construct of this needs review (Fig. 3).

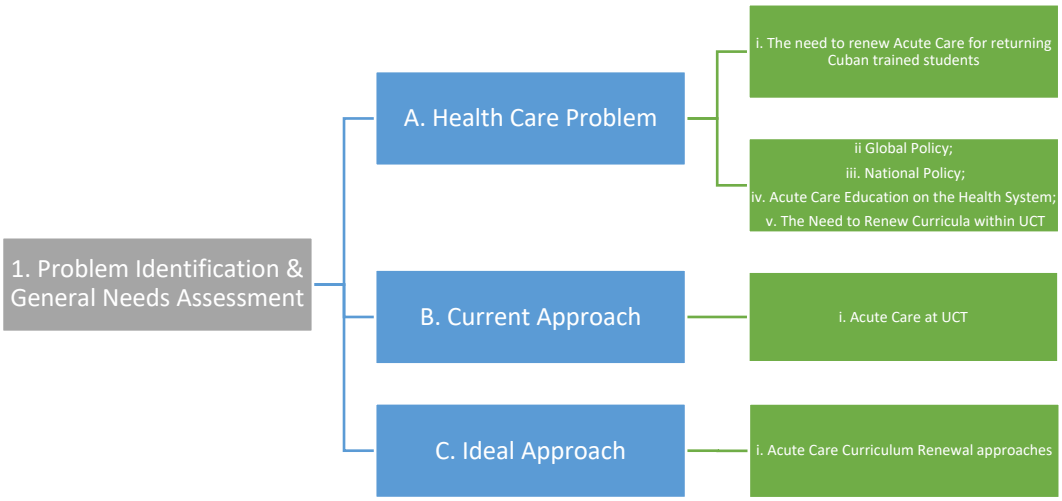

Figure 3: Construct of the General Needs Assessment utilising Kern's Step 1

The drivers of curriculum renewal in Acute Care are summarized (Fig. 3) and will each be discussed in turn. Starting with global drivers, the discussion will end with local drivers of general curriculum reform in South Africa and specific needs for Acute Care curriculum change.

A. The Health Care Problem

i. The Need to Renew the Curriculum for returning Cuban trained students

Nelson Mandela – Fidel Castro Medical Collaboration (NMFCMC)

In 1996 then president Nelson Mandela and Fidel Castro agreed to train black, disadvantaged medical students in Cuba(Bateman, 2013). This strategy aimed at addressing the paucity of health professionals in rural and underserved areas occurred in parallel to the affirmative action process(Mayosi & Benatar, 2014). Acknowledged for its investment in medical internationalism, Cuban medical education also differs from conventional medical education by focusing on the Primary Health Care approach and aims to facilitate a wider skill set amongst its graduates. This strategy is reinforced by community-based teaching instead of a reliance on central teaching institutions(Cole et al., 2018). It is these competencies in PHC and these students' willingness to work in underserved communities that are in alignment with NHI goals nationally(Sui et al., 2019).

Furthermore, the output of 1000 doctors per annum integrating into the South African health system versus 1300 graduating from all South African institutions annually, brings to light the potential of Cuban trainees to bridge the significant gap in the workforce nationally(Bateman, 2013).

While the programme is noble in its intent, the training of South African students in a foreign culture and a different language has been strongly criticised(Bateman, 2013). Although considered a medium-term strategy to provide at least 20,000 doctors in this decade, many question whether the funds allocated would not be better spent locally(Democratic Alliance, 2013). Although the political polarity that harnesses this concern is clear, the challenges experienced by Cuban-trained doctors in demonstrating competence while practising in the South African Health sector similarly could not be denied(Donda et al., 2016). There are reports of challenges with language, integration into the South African health context, a large number of failed clinical rotations and failure in yearly progression which have been ascribed to a lack of constructive alignment between outcomes expected at Cuban Universities to those nationally(Motala, 2014). These challenges were acknowledged and subsequently saw a revision of curricula by South African institutions to integrate Cuban-trained doctors within the last 12 to 18 months of their study(Bateman, 2013; Donda et al., 2016).

Despite similar efforts within the UCT Acute Care 6th year curriculum to assimilate students and scaffold the apparent learning gaps in subsequent years, anecdotal reports by key stakeholders highlighted that challenges in progression were still evident. If one considers that this designated group of students can negotiate medical education in a foreign language and transition into a local institution with successful progression to internship within 8 years, then the potential to add value to the health system is clear(Bateman, 2013). Expanding on the general need to renew the Acute Care curriculum at UCT, I will now describe the 'current approach' at UCT, as guided by Kern's framework (Fig. 3). This will be followed by a review of the 'ideal approach'.

ii. Global Policy

Emergency care systems play an integral role in the provision of health, disaster management, as well as Universal Health Coverage (UHC). It is considered an essential component of health systems in the

delivery of health care and therefore one of the targets of the United Nations Sustainable Development Goals (SDG)(World Health Assembly, 2019).

The need to strengthen emergency care systems was further highlighted by the World Bank Disease Control Priorities project which estimated that in low and middle-income countries (LMIC), more than half the deaths and 40% of the disease burden could be treated with pre-hospital and emergency care. In this context, Resolution 72.31 urges governments to create policies to ensure equal access to all(World Health Assembly, 2019). One of the challenges identified in LMICs, in addition to a limited workforce, is the lack of dedicated, integrated, and ongoing certification within curricula, in emergency care. This implies that to produce both quality and quantity of healthcare workers to ensure quality emergency care suitable to meet the needs of communities, health science institutions must be strengthened(Shanahan et al., 2018).

iii. National Policy

The right to emergency care for every South African is clearly stated in the Bill of Rights(Africa, 1996). The provision of quality, equitable healthcare, without the cost to the patient is meant to be addressed with the implementation of the National Health Insurance (NHI)(Klinck, 2009; van den Heever, 2019). Realising these ideals in health in South Africa will require significant restructuring of the health system as it remains strained by a quadruple burden of disease, social disparities, and inadequate human resources(Essack, 2012; Health, 2011; Mayosi & Benatar, 2014).

iv. Acute Care Education on the Health System

The education system has a crucial role to play in addressing human resource needs. The relationship between healthcare provision and health science education has been described as symbiotic (Fig.4)(Frenk et al., 2010). This relationship demands that health science education be adapted to the changing contexts for academic institutions to produce a healthcare workforce that can meet the goals of UHC (Frenk et al., 2010).

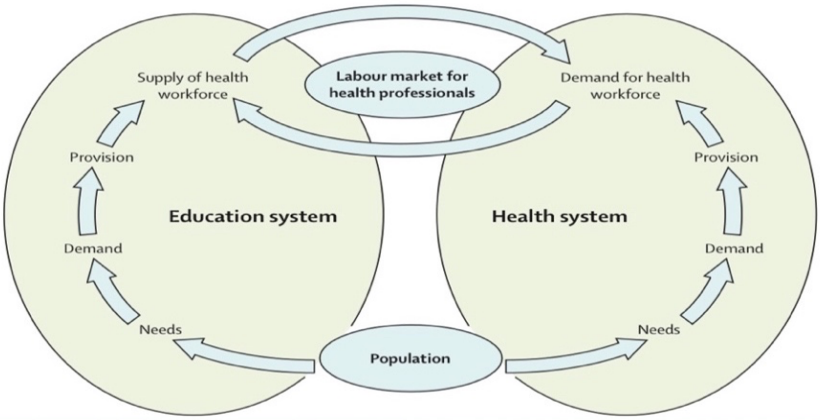

Figure 4: The relationship between Education and Health Systems (Frenk et al., 2010)

The higher throughput of critically ill patients and fewer acute beds is a worldwide phenomenon(OECD, 2017). This places acutely ill patients at increased risk of adverse outcomes and more so if care is provided by poorly trained or inexperienced trainees (Franklin & Mathew, 1995; Wu et al., 1991) without consultant supervision(McNeill et al., 2009).

In SA, unsatisfactory in-hospital skills performance and preventable deficits have been demonstrated by newly qualified doctors. Incompetence during resuscitation was related to airway, vascular access, cervical spine immobilization, and the management of chest injuries(Clarke et al., 2014). Failure to identify critically ill patients and manage simple aspects of Acute Care involving the patient's airway; breathing, particularly around oxygen therapy; and circulation (Adam & Odell, 2005; Clarke et al., 2014; Smith et al., 2007) resulted in deterioration to the point of cardiac arrest(Franklin & Mathew, 1994).

The lack of supervision and explicit competencies in guidelines provided by educational authorities in undergraduate education have been cited(V. C. Burch et al., 2005; Clarke et al., 2014). Training is also a key issue. There is value in employing training strategies that teach an algorithmic approach, e.g. the Advanced Trauma Life Support (ATLS) course, however, these must be noted for their limitations, which in the case of ATLS, lie in the assessment of injuries.(Clarke et al., 2014). Training must be applied early in education using an integrated approach as opposed to singular courses or Early Warning Systems in hospitals alone(Frost, 2003; Perkins et al., 2005; Subbe et al., 2003).

The COVID-19 pandemic highlighted the experiences of South African junior doctors when faced with critically ill patients. In a survey of 210 junior doctors in mandatory public health service (interns and

community service doctors), up to 90% of interns reported adequate knowledge of drugs used in intubation, but only 30% were comfortable in intubating all airways. Worryingly, only 10% of year 2 interns were comfortable with managing peri-intubation and cardiac arrest unsupervised, and an additional 53% were comfortable if supervision was applied. Only 19% were able to set up a ventilator without supervision, and 19% were able to adjust ventilator settings to correct ventilator settings unsupervised(Ahmed & Davids, 2021). This is particularly worrying since nurses commonly seek the support of junior doctors in the acute phase of a patient's deterioration(Callaghan et al., 2017). One also needs to consider the possibility of a mismatch between objectively measured performance versus an intern's self-assessment of their performance, which is well described(V. Burch et al., 2005).

Challenges in the provision of emergency care are not only isolated to adult patients. In low-resource settings, prompt identification and early recognition of clinical syndromes in children are necessary to save lives. Clinical pitfalls in paediatric care included: Failure to timeously detect or differentiate the problem, administering the incorrect type of volume of intravenous fluid to children, failure to detect and manage hypoxaemia, failure to detect and manage hypoglycaemia, inadequate care of the comatose child, and failure to detect and manage co-morbidities(Duke & Cheema, 2016).

These findings are similar to those derived in the Global North. A systematic review found evidence of multiple deficits in the confidence, competence, and knowledge of undergraduate and junior physicians in the assessment and management of acutely ill patients in the United Kingdom, Europe, and the United States(Al Ansari et al., 2021; Callaghan et al., 2017; Smith et al., 2007). Reasons cited were a lack of focused core teaching(Shen et al., 2003); few textbooks on the assessment of the critically ill patient(Cook & Smith, 2004); a lack of dedicated teaching time and funding (Agarwal et al., 2024; Cheung et al., 1999; Shen et al., 2003) towards Acute Care teaching; inadequate duration and quality of critical care concepts and exposure in undergraduate education(Al Ansari et al., 2021); inadequate supervision(Callaghan et al., 2017); and insufficient workplace learning opportunities(Monrouxe et al., 2018). Internationally where Basic Life Support (BLS) and or Advanced Life Support (ALS) were taught, the actual delivery and feedback in resuscitation skills training were inadequate(Cheung et al., 1999; Greif et al., 2020; Phillips & Nolan, 2001); and inadequate opportunities for spaced repetition to refine skills(Oermann et al., 2020).

Having discussed the rationale for incorporating quality Acute Care education in medical education globally and nationally in particular, the focus will now shift to some general challenges facing medical education curricula at the University of Cape Town (Fig. 3). This will be followed by an introduction to the NMFC Programme as a response to specific challenges in South Africa and curriculum challenges in the NMFC programme institutionally. The programme and the curriculum will be discussed in greater detail in Chapter 2.

v. The Need to Renew Curricula within a Transforming Institution – UCT

In South Africa, the output of doctors has been stagnant about doubling in population since the mid-70s(Africa, 2018). Strategies to attend to this shortage in the workforce include increased outputs in existing universities and the construction of new South African universities(National Planning Commission, 2012). In South Africa, are more doctors needed. Medical schools still need to counter the intractable impacts of apartheid on education by recruiting and graduating doctors who reflect the population of the country. Like the rest of the world, more doctors are also sorely needed who will work in rural and other underserved areas. A notable intervention is the increased enrolment of black and female students with lower admission scores to medical schools post-1994, to reduce social disparities by facilitating access to medical education to previously disadvantaged groups(Mayosi & Benatar, 2014). This was supported by the notion that healthcare professionals ought to exhibit more than just pure academic ability(Mayosi & Benatar, 2014).

In addition to enabling diversity and inclusivity within institutions, education systems must be responsive to societal health needs and consider the workforce gap in areas of greatest need(Frenk et al., 2010). The South African strategy to enrol students from previously disadvantaged groups also aimed to increase the healthcare workforce in rural and underserved areas(Mayosi & Benatar, 2014). As in many other countries in the southern African region, this is necessary due to the high burden of disease in rural areas, subpar healthcare services at public health facilities, in addition to high levels of unemployment(Gumede et al., 2021; Maphumulo & Bhengu, 2019). Such a strategy is in line with WHO guidelines which encourage admission policies to target student diversity not just

on ethnic but socioeconomic and geographic background too(Van der Merwe et al., 2016; World Health Organization, 2013). Although this guideline is based on moderate evidence which suggests that students from rural areas are more likely to return to these areas upon graduation(World Health Organization, 2013), a systematic review counters that the evidence is low and that the complex relationship between multiple factors exists which must be studied with greater rigour if generalisable factors for intervention are to be identified(Grobler et al., 2015).

The ravages of apartheid on school education have yet to be eradicated and still result in millions of learners leaving school with no hope of undertaking tertiary education of any kind, never mind medical education. Following the demise of apartheid in the nineties, UCT like many other institutions began their journeys of transforming curricula. This triggered a relook at transforming education towards social justice while exemplifying the Primary Health Care (PHC) approach. This implied curricular change nationally towards achieving this purpose. Locally, this change is evident in the UCT undergraduate health sciences program(Hartman et al., 2012). However, student protests in 2015, well known as the "#MustFall"[1] movement, identified the gaps in the institutional approaches and called for the [2]decolonisation of curricula Mbembe (2016). In the South African context, this involves moving beyond merely integrating disciplines or compelling reading about race and diversity, towards fundamentally reimagining how knowledge is produced and disseminated (Pentecost et al., 2018). These protests aimed at highlighting the need to dismantle epistemological hierarchies that devalued knowledge from the 'South'. The need to "reflect the lived experiences of African people, including recognition of their scholarly work which is often on the periphery or taught as additional modules' is clear." (Pentecost et al., 2018). Collaborative curriculum design is a means to reconcile 'tensions and differing perspectives of the learners' (Sandars & Walsh, 2016b; Shih, 2018). A curriculum should drive democratic transformative education and be

[1] Student groups from different universities across South Africa mobilised under the #FeesMustFall campaign which culminated in violent uprisings at universities across the country including UCT (Mangcu, 2017).

[2] Decolonisation of curricula refers to the process of recognising and dismantling colonial power structures in education by centering indigenous and local knowledge systems Mbembe, J. A. (2016). Decolonizing the university: New directions. *Arts and humanities in higher education*, *15*(1), 29-45.

decolonising and humanising(Lange, 2001; Marsh, 1992; McKimm & McLean, 2011; Shor et al., 2017). Consultation with relevant stakeholders can result in a curriculum that is inclusive of and sympathetic to the needs of marginalised groups(Bitzer & Constandius, 2018; Mahabeer, 2018). Including students as stakeholders authorises the student perspective and empowers students as a key stakeholder in any curriculum.

Student participation in curriculum design and implementation must be encouraged especially as it pertains to sharing material, they may find relevant(Mampane et al., 2018; McArthur, 2010; Serrano et al., 2018). By actively facilitating dialogue and 'authorising the student perspective', the student becomes empowered, and authoritarianism is mitigated.(Cook-Sather, 2002; Freire, 2000; Frenk et al., 2010; Khan & Gabriel, 2018; Pentecost et al., 2018; Wray, 2018). By exploring the educational challenges and seeking to understand the targeted needs of NMFC students, this study engages the students as integral stakeholders. In so doing, the student perspective directly influences curriculum renewal implying the student is respected and empowered.

Decolonising the curricula in South Africa must transcend simply integrating disciplines or compelling reading about race and diversity. Instead, the focus must be shifted to 'what' and 'how' to implement meaningful change (Pentecost et al., 2018). The contradiction to the transformation agenda in higher education exists due to the numerical approach to improving access, curricula change, and approach to resources, adopted in response to policies and professional bodies. Although this approach has altered the demographics in higher education, low throughput and high dropout rates remain(Heleta, 2016; Ramrathan, 2016). A similar trend was seen among returning Cuban-trained students which has been ascribed to a lack of constructive alignment between outcomes expected at Cuban Universities to those nationally, which will be explored in further detail later (Appendix 4)(Motala, 2014).

UCT's Curriculum of Change Framework (CCF) offers an explanatory framework of change in the institution's approach to addressing the decolonisation of the curricula, as described by the theory of change(Curriculum Change Working Group, 2018). This framework for change provides an idea of the interventions required to bring about a desired goal(Taplin et al., 2013). A theory of change also enables one to elucidate the following:

- identify a problem or a need for the project,
- describe the existing knowledge and practice related to the issue,
- illuminate the desired situation,
- describe the pathway to achieve the desired situation and
- critically reflect on what emerged and what was achieved

It can be inferred from above, that UCT subscribes to the process of transformation. It is therefore a priority that curricula are optimised to ensure the successful progression of NMFC students as competent graduates. These students, who were selected from previously disadvantaged groups, as a sociopolitical redress initiative, are being educated to serve underserved communities.

This study will utilise Kern's Curriculum Framework, which aligns with CCF, to guide the process of curriculum renewal. This chapter has thus far described a general need as guided by Kerns's first stage in curriculum development(Kern, 2009). A background into the targeted group as well as the problem which motivates this study, will now be described.

B. Current Approach to Acute Care

In South Africa, the medical undergraduate programme spans 6-years and is typically entered into directly after secondary schooling. The Emergency Medicine undergraduate curriculum currently resides within the Internal Medicine undergraduate curriculum and continues as an adaptation of the IFEM curriculum described above, since 2007.

This spiral curriculum begins in year three of the undergraduate medical curriculum and advances the competencies of the medical student each year so that each graduate emerges with an approach to the acute management of the undifferentiated patient (Fig.5). In the

third year, the student is introduced to the concept of triage, pre-hospital medicine, and Basic Life Support (BLS) – over two weeks. The student is then assessed during a skills-based assessment at the end of the block. In the fourth year, students are taught an approach to the critically ill patient, with emphasis on high frequency, high yield presentations as seen in emergency departments, and are taught Advanced Life Support (ALS) skills. During these two weeks, students' teaching-learning is workplace-based in emergency departments (ED); skills-based; and includes opportunities for self-directed learning. Students are assessed formatively by Multiple Choice Questions (MCQ) and simulations, and summatively by MCQs. In the fifth year, students are allocated one day of skills to practice ALS, acquire skills in the advanced airway and advanced intravenous access, as well as learn the skills of cardioversion and cardiac pacing. In the sixth year, students are placed in ECs once again. Skills are advanced in the final year to include ventilation; simulation practice on different scenarios during cardiac arrest; and practice on the approach to the critically ill patient. Opportunities for assessment are mainly formative, with an exit OSCE at the end of the sixth year, assessed by simulation.

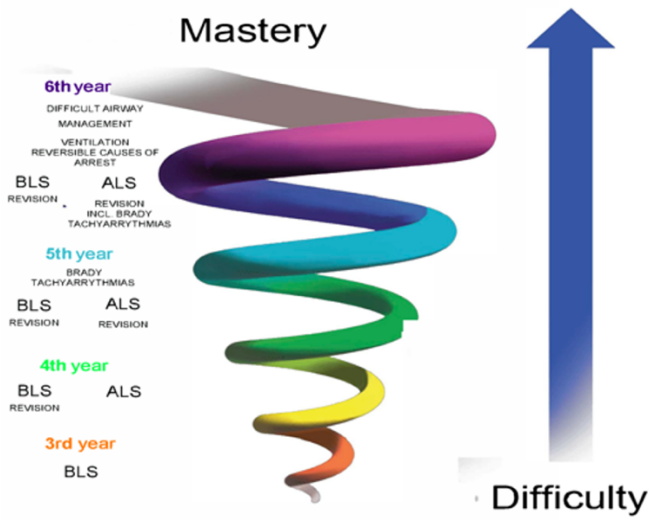

Figure 5: UCT Acute Care Undergraduate Spiral Curriculum

NMFC students spend 5 of their 7 years of study in Cuba. They return to South Africa to spend the last 18 months of their training at one of 8 South Universities(Reed, 2010). At UCT, NMFC students are divided into groups of two, who then join existing SA undergraduate groups, in the last 18 months of training, on a rotation basis. They engage with the Acute Care curriculum in their last 12 months of undergraduate training, for 2 weeks, per group. In these 2-weeks, students combine with 4th-year UCT students for their skills-based lessons twice a week, as well as join the 6th-year UCT students for their skills sessions weekly. NMFC students are allocated to a tertiary medical Emergency Unit, for the workplace learning component of the curriculum. In addition, they are allocated to a Learning Management System (Vula) course site, designed for them for self-directed learning. This site contains 3rd, 4th, and 6th-year Acute Care content, designed to scaffold learning gaps between Cuban and South African curricula, as perceived by Acute Care facilitators and informed by previous interactions with NMFC students. NMFC students are then assessed employing an exit OSCE at the end of their 12 months, together with UCT 6th-year students. This 2-week program is positioned within a 4-week surgical specialties block for which the outcomes differ significantly from that of Acute Care and therefore offer no opportunity to embed or reinforce Acute Care competencies. Table 1 presents a comparison of the medical undergraduate programmes in Cuba and South Africa.

Table 1: Comparison of the South African and NMFCMC Medical Training Programmes

Characteristic	South African Medical Program	NMFCMC Program
Duration	6 years	7 years (5 years in Cuba + 18 months in SA)
Core focus	Integrated approach with both clinical and preventative focus	Primary Health Care (PHC) heavy with emphasis on preventative medicine
Clinical exposure	Progressive clinical exposure from years 3-6	Limited clinical exposure in Cuba, concentrated in final 18 months in SA
Teaching methods	Varied methodologies including problem-based learning, simulation, clinical teaching, and self-directed learning	Predominantly lecture-based in Cuba with limited skills-based training
Language of instruction	English	Spanish (in Cuba), then transition to English (in SA)
Acute Care training	Spiral curriculum starting in year 3	Limited or absent in Cuban curriculum, concentrated in final year at SA institution
Re-integration process	N/A	18-month transition period at a South African university to adapt to local disease burden and healthcare system

As a previous Acute Care convenor, it was apparent that despite the initiatives to scaffold competencies through additional sessions and content described above, NMFC students still struggled to achieve equivalent competencies as UCT students. Furthermore, the results of the exit OSCE demonstrated that a large number of NMFC students needed remediating and re-examination before they could progress.

C. Acute Care Curriculum Renewal – Ideal Approach

A systematic review that looked at Emergency Medicine training programs in LMICs through partnerships, has particular relevance for this study(Rybarczyk et al., 2020). This review included all levels of education and course or programme durations. It highlighted that the scope, practice, and content must be considerate of the context in which it is applied and that shared educational resources and techniques must be adapted if adopted from high-resource settings. Of particular importance is the need for educators to have prior experience in educating in low-resource settings and to have a comprehensive orientation to a site, if they are visiting faculty. This is in contrast to the complementary curricular strategy employed in Cuba, as described byQuintana et al. (2012), and reaffirms the student's need for educators who understand the needs and context of the communities for which they were being educated(Quintana et al., 2012).

Corroborating Rybarczyk et al. (2020) emphasis on context-considerate curriculum development is a recent South African study by Jansen et al. (2024) which provides evidence for the importance of developing context-specific acute care competencies. This modified Delphi study identified 120 core competencies with strong consensus (85.8% strong agreement). It highlighted areas particularly relevant to the South African context, such as extensive trauma management due to South Africa's high injury rates; competencies related to sexual assault management due to high local prevalence, and the need to Incorporate culturally specific elements to derive cultural consciousness (Jansen et al., 2024). This work supports and reinforces the need for competencies that reflect local healthcare needs and resources.

This review also emphasises that curriculum design should begin with a needs assessment, seek to understand the perspectives of stakeholders in the form of focus-group discussions and include a sound knowledge of the epidemiology and burden of disease. Equally important is an understanding of the pedagogy, as well as the culture of practice at the implementation site(Rybarczyk et al., 2020).

Ensuring competencies in team-based resuscitation, procedures, and leadership skills ought to be a priority(Dagnone et al., 2016). Rotations through specialities that see critically ill patients have proven to be effective(Kroot et al., 2001). Clinical attachment in emergency medicine departments has been shown to increase confidence, teamwork, and competency in practical skills(Celenza et al., 2001). Advanced resuscitation short courses taught to undergraduate students have demonstrated improvements in knowledge and assessment scores(Smith & Poplett, 2004), however, there should be opportunities for refresher courses especially if curricula and/or baseline knowledge is limited(Rybarczyk et al., 2020). Enhancing learning by utilising self-directed components in combination with practical courses has also been shown to increase confidence and understanding of advanced skills(Gruber et al., 2007; Tabas et al., 2005). We learn from the assessment by Quintana, et al.(2012), that time and student motivation must be supported for self-directed learning methodologies to be successfully included in the curriculum(Quintana et al., 2012). Medical simulation use has grown significantly and provides good evidence for assessing and managing acutely ill patients(Lipps et al., 2017; Perkins, 2007).

1.4 The need for this study

The review above, organised within Step 1 of Kern's curriculum design framework, has identified the problem and highlighted the need for this study, as follows:

- There is a global need to strengthen emergency care systems worldwide. Strengthening emergency care education plays a crucial role in achieving that aim.
- Nationally: The impact of poorly trained practitioners in the provision of Acute Care on society highlighted the need to transform Acute Care education in SA - a transforming society post-apartheid;
- UCT: there is an institutional need, guided by national policy and most recently #MustFall, to transform curricula as an integral process to achieve decoloniality. A brief review of NMFC students' curricula has revealed that there is a significant gap in their Acute Care pedagogies and therefore competencies which are inadequate to meet the needs of SA society. Thus, to achieve equitable Acute Care education, the Acute Care training they receive must be renewed, hence the need for this study.

This brings us then to the crux of the issue prompting this research. What needs to be understood is the challenges in learning experienced by Cuban-trained students in this process of transition and specific to this context, those challenges associated with fulfilling Acute Care outcomes, within the process of understanding their needs as a student group.

1.5 Study context

The context for this study is the undergraduate Acute Care programme at the University of Cape Town (UCT) coordinated by the Division of Emergency Medicine. The Acute Care curriculum has been adapted from that proposed by the International Federation of Emergency Medicine (IFEM) which identified eighteen learning outcomes mapped over a four-year program. This curriculum suggested outcome measures to act as a framework for educators that would be appropriate not just for mature emergency medicine systems but also for developing nations(Hobgood et al., 2009). Despite this assumption, a needs analysis was never undertaken in South Africa to evaluate whether this curriculum was appropriate

given the country's quadruple burden of disease, limited resources, and levels of entrustment towards competencies expected of medical graduates.

1.6 Research questions

As will become evident in Chapter 2, there is no literature directly addressing the experience of South African Foreign Medical Graduates (FMG) in Acute Care nor the Acute Care curricula for NMFC students. It is this gap that this study aims to address in answering the research question: What are the educational challenges and opportunities for improvement in the teaching-learning of Acute Care to be considered in the curriculum renewal for NMFC students at UCT?

To meet this aim, four objectives were outlined for exploration:

a) What are the educational experiences of NMFC students with the existing Acute Care curriculum?
b) What role has transition had in NMFC students' educational experience?
c) What role has simulation had in the teaching-learning of Acute Care concepts?
d) What were the coordinators' experiences of NMFC students as they pertained to Acute Care at UCT?

1.7 Researcher positionality

My positionality as a researcher in this study is important to state. During my role as Acute Care Convener, for two years, I observed the interactions of NMFC students with 'mainstream' UCT students, as well as their experiences with the Acute Care module. It is these experiences that served as an impetus for this study. Situated in the interpretivist paradigm my role as a researcher and "co-creator of meaning" is important(Sloan & Bowe, 2014). However, I was aware of being reflexive and continuously aware of my bias for the duration of the study. This will be further explored later in the ethics chapter.

1.8 Concluding comments

As socially responsible educators we must balance societal and student needs and respond with a robust curriculum. The challenge is designing a curriculum in Acute Care that addresses the specific learning needs of a group of designated adult learners from previously disadvantaged backgrounds, transitioning between institutions with different course outcomes, in the care of undifferentiated critically ill patients, within the short, allocated timeframes in resource-constrained educational and health institutions. To scaffold perceived learning gaps within a specified period, it is vital to formulate a curriculum that facilitates deep and authentic learning while doing no harm to the patient.

Given the known limitations pointing to a need for curriculum renewal, an exploration into the targeted educational needs of students and stakeholders is a vital first step in the renewal of the Acute Care curriculum for NMFC students. Such research is imperative if we are to produce competent, and accountable quality practitioners. This study aims to address this need as a contribution towards renewing the Acute Care curriculum for NMFC students, to facilitate the output of graduates that are fit for South African purposes.

In the next chapter, step two of Kern's framework – the targeted needs assessment - will be explored as a foreground to the aim of this study. Given the paucity of literature on specifically Cuban-trained medical students, the broader concept of "foreign medical graduate" will be explored. Cuban medical education will be utilised as a background to the 'Learning Environment' from which NMFC students emerge before assimilating into the South African Health System.

In Chapter 3, the theoretical framework of the study will be described and the conceptual links explored through the lens of the chosen theories: Transition and Communities of Practice (CoP). Chapter 4 will detail the study methodology, and the findings described in chapter 5. Chapter 6 will then discuss the findings and present suggestions for curriculum renewal in Acute Care, for NMFC students at UCT.

Chapter 2: Literature Review

2.1 Introduction

Guided by Kern's six-step approach to curriculum development, chapter one looked at the General Need for Acute Care curriculum renewal for NMFC students. Chapter one explored the 'Health Care problem' and identified emergency care as a global priority. It highlighted the concern around South African graduates' competencies to respond to emergencies in state hospitals further elaborating on the national need to graduate competent graduates who can provide equitable health care, in response to South Africa's universal health coverage (UHC) goal. The Acute Care curriculum at UCT was described in ascertaining the 'Current Approach', and this was contrasted to the current training offerings to NMFC students, highlighting the misalignment between the Cuban and SA curricula and the need for curriculum renewal to achieve equitable training in Acute Care. It is appreciated that the UCT training in Acute Care may not demonstrate the 'Ideal Approach', therefore a review of the literature on approaches to Acute Care curricula was presented.

This chapter transitions into step two of Kern's framework as a foreground to the aim of this study. Here, the 'learner' as a foreign medical graduate (FMG) will be reviewed, and Cuban medical education will be reviewed to provide a background to the 'Learning Environment' from which NMFC students emerge before entering the South African Health System.

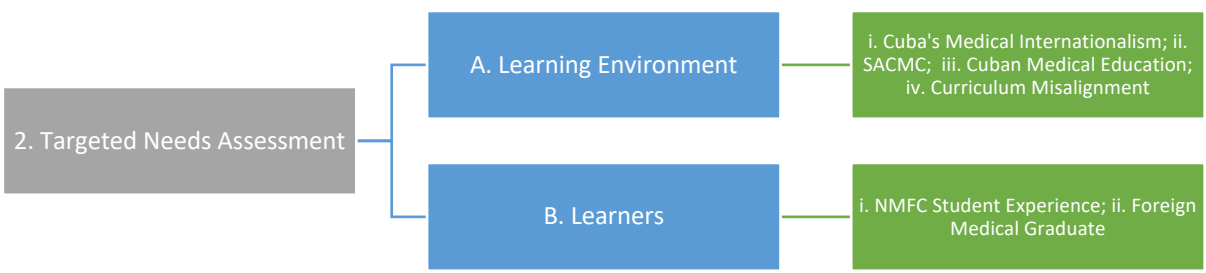

Figure 6: Construct of the Targeted Needs Assessment utilising Step 2 of Kern's Framework

This approach to the literature review was motivated by the absence of literature focused on Acute Care or Emergency Medicine undergraduate education in Cuba. The search strategy employed in this regard is described below, to better understand the context of the NMFC student and the Cuban medical education system in which they are trained.

2.2 Methodology

2.2.1 Search Strategy

The initial search strategy sought to review Acute Care (and related terminology) in Cuban undergraduate education. No direct nor similar matches were attained. The review gathered from that search which related to general Acute Care curricula was described in chapter one in consideration of the 'Ideal Approach'.

A second comprehensive literature search was conducted using EbscoHost: Medline, Academic Search Premier, Eric, Health Source: Nursing/Academic Edition, Africa Medicus; Scopus and PubMed, databases were searched for the following Boolean operators and Mesh terms:

((Cuba OR Cuban) AND (undergraduate) AND (medical AND education) OR (medical AND
training) AND (South AND African AND Cuban AND medical AND collaboration) OR (N elson AND Mandela AND Fidel AND Castro) OR (foreign AND medical AND graduates)).

Given the paucity of literature on specifically Cuban-trained medical students, the broader single phrase "foreign medical graduate" was utilised in a third literature search to better understand the NMFC learner experience.

Reference lists of relevant journal articles found were also perused for relevant literature.

The following search limiters were applied during the searches:

- Language: English only
- Articles: Linked full text, abstracts, and all other article sources
- Publication Date: 1996 – 2023
- Publication Type: All
- Population Type: Human
- Age Groups: All ages from birth
- Gender: Male and female
- Geography: Open

Inclusion & Exclusion Criteria

Inclusion Criteria:

Publication Types:

- Primary and secondary sources, conceptual, anecdotal, and clinical opinion
- Population: All live male and female patients, adults, and children
- Publication years: 1996 - 2023
- Primary Outcomes: Curriculum renewal in Acute Care for NMFC undergraduate students; Cuban Medical Education; Cuban Foreign Medical graduates
- Secondary Outcomes: transition in education, Simulation-based medical education, curriculum development, and assessment.

Exclusion Criteria:

- Language: Non-English publications

Quality Criteria

The resulting titles of the articles and abstracts were analysed in alignment with the aim of this review, for each search string used. Where the title and/or abstract met the inclusion and none of the exclusion criteria, the full articles were retrieved and reviewed. These article

references were also reviewed to identify any missed articles. This process accumulated the final collection of articles. Once again, these references were also examined to identify any additional articles potentially missed during the initial search. The search was not isolated to Emergency Medicine. A limited updated literature search was performed from 1996 to the present day to review the literature on the NMFC Acute Care curriculum since the initiation of the South African Cuban Medical Collaboration. As no exact matches were found, and minimal literature was found on the topic, the search was extended to include 'grey' literature from Google Scholar and included literature on Acute Care curriculum renewal.

Search & Screening Results

The search string did not reveal any identical matches. A clear gap in the literature exists in the study of Acute Care curricula for this student group.

The following consort diagram (Fig. 7) summarizes the article search and screening process:

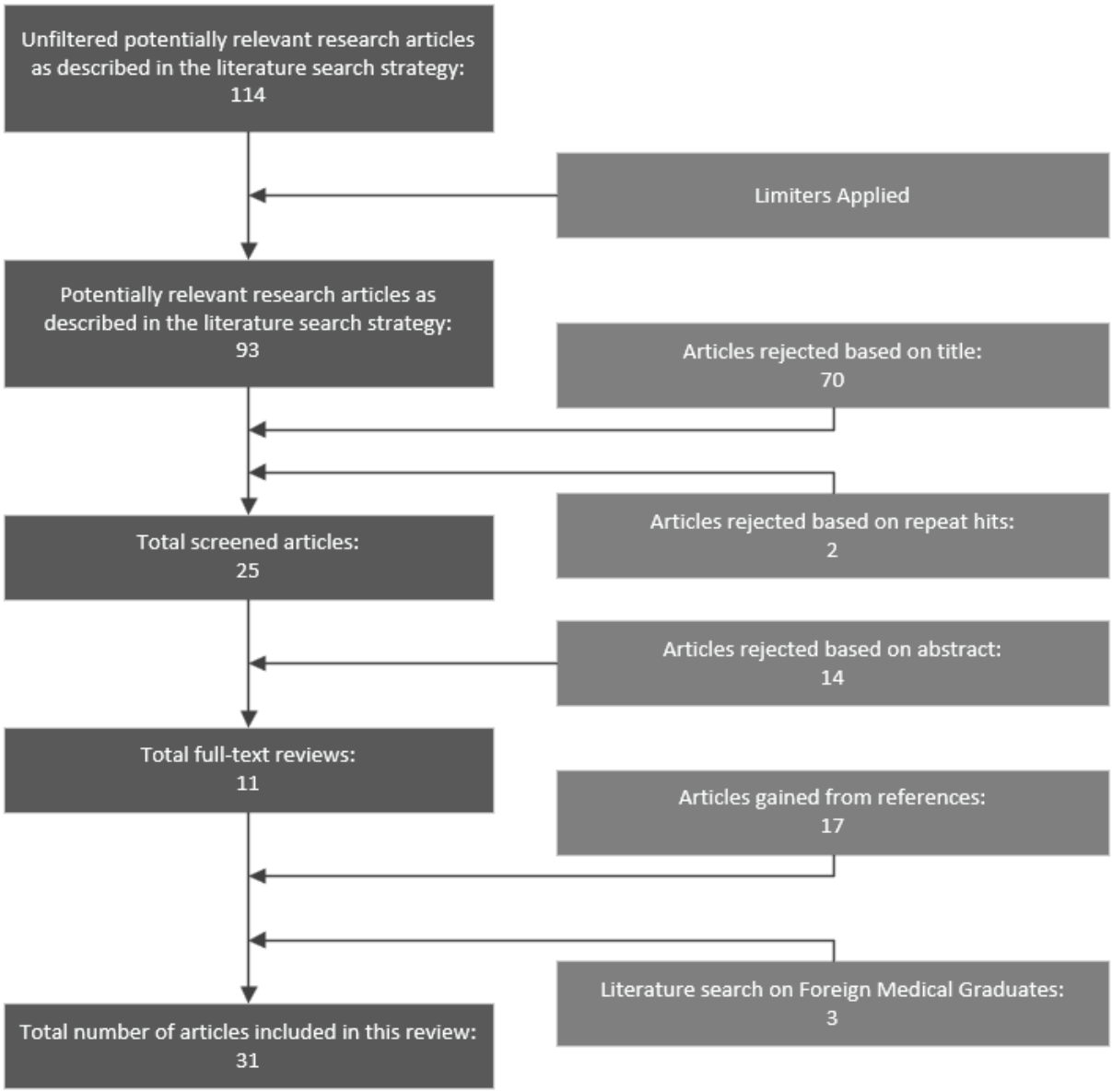

Figure 7: Consort Diagram: Outcomes of literature search and screening.

2.3 Targeted Needs Assessment

A. Learning Environment

i. Background – Cuba's Medical Internationalism

Cuba's policy of medical internationalism extends across the globe. The first initiative was in response to an earthquake in Chile, in the 1960's. This was the catalyst to several other

medical relief initiatives such as 'Operation Miracle' – a vision restoration programme for children affected by the nuclear event in Chernobyl, in 1986; medical aid in response to Hurricane Mitch in Central America, in 1998; Hurricane Katrina, in 2005 – dispatching 1586 doctors; 2500 doctors to Pakistan following an earthquake, to name a few(Kirk, 2009). By the late 1980s, 30 African countries had received Cuban medical personnel as a temporary measure to address workforce shortages(Goeury, 2018). In addition to direct aid to Pakistan, Cuba also provided 1000 scholarships to students from the affected area as a mechanism to sustain the public health initiatives in the region. This view of sustainability wasn't limited to Pakistan. Following the devastation from Hurricane Mitch in Guatemala, Cuba retained approximately 1000 doctors in the area on a 2-year rotation basis more than a decade later, at the cost to the Cuban government(Kirk, 2009).

This placement of medical professionals in the North implied a need to train more doctors in Cuba, and so emerged the Latin American School of Medicine[3] (ELAM), in Havana. The goal was to train students from the assisted regions so that they could replace the Cuban doctors in time. Importantly, students from marginalised backgrounds who could not otherwise afford the cost of a university education were selected. This was based on the premise that those students understood the regional socioeconomic realities and would be committed to returning to their region of origin to serve their local communities(Goeury, 2018).

The relief provided by Cuban doctors to countries in need was not without criticism. Although the missions provided material and economic empowerment not otherwise attainable in Cuba, for Cuban doctors it came with the human cost of frequent failures in interpersonal relationships and disrupting entire family units(Pérez & da Silva, 2019). This occurred despite an intensive selection process, preparation for the task, and assimilation into the host

[3] Escuela Latinoamericana de Medicina (ELAM) Huish, R. (2009). How Cuba's Latin American School of Medicine challenges the ethics of physician migration. *Social Science and Medicine*, *69*(3), 301-304. https://doi.org/https://doi.org/10.1016/j.socscimed.2009.03.004

country(Castro et al., 2014). Brazil was one country that questioned the Cuban government on Cuban doctors arriving without families, and why the full compensation earned by the Cuban doctors was not paid to them, raising concerns about exploitation. Furthermore, the qualifications of the Cuban doctors were questioned by the Brazilian medical community. In 2018, Cuba withdrew their doctors from Brazil after a 5-year collaboration known as 'More Doctors'. In this time Cuban doctors had provided treatment to 113 335 000 Brazilians located in over 2800 municipalities. This withdrawal had significant consequences for Brazil's public healthcare system(Alves, 2018). The claims against Cuba were a direct contradiction to Fidel Castro's vision of 'health as a human right' and were more aligned with Raúl Castro's approach. Under this new approach, the sale of medical services became Cuba's largest source of currency(Goeury, 2018).

Although the Cuban initiative provided countries the opportunity to increase their workforce at a relatively low cost, some like the Pacific Islands raised concerns about the increase in salary expenditure when their local graduates returned(Asante et al., 2012). In addition to eventual costs, reports of Cuban doctors 'defecting' to the USA in search of better opportunities have also been published(Ceaser, 2007).

Despite the limitations described above, Cuba's medical contribution to Africa cannot be denied and is a product of the South-South collaboration between developing countries as a Group 77[4] initiative. The Integral Health Programme, as one of the policies of Group 77, was initiated by Cuba for 13 African countries in 1998. This initiative involved sending medical and allied professionals primarily to rural areas, to build the capacity of health workers in these countries. In 2000, wealthier African countries funded 3000 additional Cuban doctors to work

[4] The Group of 77 (G-77) was established by 77 developing countries on 15 June 1964. This was the largest intergovernmental organisation of developing countries in the United Nations. This organisation provided the countries of the South a mechanism to enhance their capacity, promote collective economic interests on all major international issues within the United Nations. This became a vehicle to promote South-South cooperation for development. Dubey, M. (2014). The historic importance of G-77. *UN Chronicle*, *51*(1), 23-26.

in poorer African states(Blunden, 2008). By this time, 40,000 African graduates from Cuba were practising on the continent, and by 2005, 777 students from sub-Saharan Africa were training in Cuban universities. In addition, by 2006, universities in The Gambia, Equatorial Guinea, Eritrea, Guinea Bissau and East Timor, had been established in cooperation with Cuba, to permit the training of 536 medical students on the African continent(Castro et al., 2014).

ii. The South African Cuban Medical Collaboration (SACMC)

After the transition to democracy in 1994, the first democratic government committed to providing healthcare as a basic human right of all its citizens, and chose to pursue a Primary Health Care (PHC) approach, with a focus on making healthcare more accessible in rural and peri-urban areas(Hammett, 2007). Unfortunately, the increasing disease burden, failure of government budget reallocations, and shortage of healthcare workers (HCW) implied a persistently moving target, which remains relevant to this day(Essack, 2012).

The challenges were many. Not only did SA have to recover from the apartheid legacy of maldistribution of HCW between the urban areas and between provinces – in 2003, 67% of posts were unfilled in Mpumalanga compared with 14% in the more urbanised province of the Western Cape – but the country also had to contend with the migration of SA doctors into the private healthcare sector, and out of the country. Before apartheid, the private sector employed 40% of doctors to treat 20% of the population, whereas post-apartheid this number increased significantly to 60% of doctors to serve 25% of the population(Hammett, 2007).

One initiative undertaken to address this HCW deficit was the introduction of compulsory community service for newly graduated medical doctors, since 1997. Another was the 1995 agreement which was signed between Cuba and South Africa, supporting medical training, research, and the transfer of technology and expertise. As part of this agreement, Cuban doctors worked in SA on short-term contracts and 254 medical students began training in Cuban universities. By the end of 2002, 450 Cuban doctors and lecturers were working in SA,

and the first cohort of South African Cuban-trained medical graduates returned to work in the state sector in the provinces that sponsored them – areas perceived to be less desirable by SA-trained graduates (Hammett, 2007).

Despite the output, the South African Cuban Medical Collaboration (SACMC) was met with strong criticism. The South African Medical Association (SAMA), a professional association of medical doctors, was opposed to limiting the recruitment of practitioners from Cuba only, as opposed to the developed world. Others questioned the Cuban government's motivation behind the collaboration as being more than just one of solidarity, but a mechanism to attain power and position in the developing world. The general population, mainly those who had not engaged with Cuban doctors directly, expressed hostility towards them and a sense of mistrust, yet this perception was not shared by the medical communities who worked with Cuban doctors(Hammett, 2007).

The overwhelming feedback from hospitals in which Cuban doctors worked was positive. There were reports that Cuban doctors demonstrated a willingness to learn about the SA health system and were described as highly skilled professionals who provided not just service to the communities they were employed to serve, but due to their level of expertise, were able to provide much-needed supervision to junior doctors too. In addition, they were able to cope with the patient load despite significant resource constraints in rural facilities(Hammett, 2007; Lee, 1996).

This is in stark contrast to the criticism of the competencies of South African doctors who trained in Cuba, described in chapter one. Although these are two different groups, both cohorts trained in Cuba and were immersed in a curriculum which prioritised PHC, yet upon return to SA concerns were raised about the competency of SA citizens who were Cuban trained in terms of their ability to practice nationally. The difference lies in both experience and level of expertise between the two groups. Every cohort of Cuban doctors selected for export by the Cuban Ministry of Health had to be interviewed by a delegation from the HPCSA

whose purpose was to assess their level of competency as well as their linguistic ability. In addition, the majority had worked in either Africa or Latin America, some being specialists in a particular field. Thus, the difference lies in the combination of both expertise and experience which paved the way for Cuban doctors to make a meaningful contribution to SA communities(Blunden, 2008).

It is relevant to consider whether returning NMFC students then simply require additional time to re-integrate into communities and the SA health system. What the literature isn't clear on is whether the competencies assessed by the SA medical communities, relate to Acute Care, or whether these were limited exclusively to preventative medicine. To ascertain the scale of the perceived gap in Acute Care competency, it is necessary to evaluate the curriculum offered to SA students in Cuba.

iii. Cuban Medical Education

The Cuban approach to healthcare focuses on prevention rather than cure or the provision of medical care exclusively. It prioritises health and as such considers the social and economic determinants of health, i.e.: the Primary Health Care model. This is in stark contrast to the SA model which is considered a colonial model that focuses on medical treatment rather than health. This approach has directed the allocation of resources for decades and has contributed significantly to the inequitable healthcare in SA(Blunden, 2008). This Cuban PHC model of medical education has been one of the main drawcards of Cuban medical education, as African countries strive to dismantle the curative models of healthcare, to achieve equitable healthcare for African society.

Students from all over the world, including South Africa, are recruited purposefully to enter the Cuban training programme. Successful candidates, between the ages of 18 and 26 years, are themselves from marginalized groups who have been exposed to or themselves steeped

in communities plagued by health inequities. Applicants must then demonstrate a willingness to return to their communities of origin before acceptance into the programme(Huish, 2009).

The medical program designed to embed the PHC approach begins every September with a curriculum that spans 12 semesters. This programme consists of a Spanish language course (year 0) and a pre-medical module that includes the basic sciences. After the initial two years at the Latin American School of Medicine (ELAM), students are distributed across 21 universities in Cuba to complete clinical subjects, which begin in the fifth semester of their studies(Huish, 2009; Suárez et al., 2008). Upon completion, NMFC students return to SA universities for the concluding 12-18 months of their training(Motala & Van Wyk, 2016).

iv. Curriculum Misalignment

Despite a curriculum that exemplifies the PHC approach, and one that appears to align with NHI goals nationally in SA, returning NMFC students were found to be underprepared to meet the demands of the South African health system despite attempts at assimilation, as they were educated in a health system divergent to the realities of that in SA(Bateman, 2013; Motala & Van Wyk, 2016). We know fromFrenk et al. (2010), that health and education systems must be responsive to a population's needs to retain the integrity of the relationship between the two(Frenk et al., 2010).

The reasons are multifactorial and begin with the misalignment of Cuban and South African undergraduate medical curricula in structure, content, as well as teaching-learning methodologies(Donda et al., 2016; Motala & Van Wyk, 2016). The Cuban curriculum is based on the Cuban PHC approach with a strong focus on didactic lecture-based teaching(Donda et al., 2016; Motala & Van Wyk, 2016). Emphasis is placed on family medicine and general practice appropriate for the Cuban health system, with workplace learning occurring in

wards(Huish, 2009). Disease processes such as HIV and TB, as well as tertiary-level care, receive little emphasis(Motala & Van Wyk, 2016; Sui et al., 2019).

Interviews of NMFC students in one study revealed that clinical skills teaching occurred in larger groups (25-30) with little or no opportunity for practice(Motala, 2014). In the same study, NMFC students reported a lack of exposure to at least 50% of foundational skills taught in the South African curriculum(Motala, 2014). Furthermore, most NMFC students were not exposed to resuscitation skills; have minimal exposure to airway skills; and neonatal examination and obstetrics and gynaecology–procedures while in Cuba, as they return to South Africa before such skills are taught(Motala, 2014). All these skills are relevant in Acute Care. In addition, teaching-learning opportunities were reported to be predominantly in wards with little or no opportunity for simulated practice before exposure to real patients (Motala, 2014), which is one methodology to relate theory to practice without doing harm to the patient(Ashokka et al., 2020). These findings are in stark contrast to a 2019 survey where NMFC students reported greater confidence in performing clinical skills, including cardiopulmonary resuscitation, intubation, and anaesthetics-related skills despite evidence of a lack of exposure(Sui et al., 2019). The authors of this study recognize that acquiescence and social desirability bias may have shaped the quantitative findings in this study(Sui et al., 2019).

This divergence between curricula has not gone unnoticed. One of the goals of Cuban Higher Education is to be relevant to the needs of the society for which the human resources are educated(Quintana et al., 2012). Therefore, in 2000 when the SA Ministry of Health requested that competencies in nursing procedures; surgical skills; anaesthetics; and obstetric emergencies be addressed within the Cuban degree program, the Cuban Ministry of Public Health was responsive by designing a complementary curriculum strategy. Notably, these are all areas of work that include Acute Care competencies. This extracurricular strategy was implemented from 2003 until 2010 and was situated during vacation time or during activities in which NMFC students were not involved, e.g.: civil defence training(Quintana et al., 2012). Unfortunately, this strategy was not entirely successful. The educators felt that the students

lacked motivation and did not take responsibility for their learning. They were also critical of the course design. Students reported a lack of practical components for learning; that the content did not relate to SA's quadruple burden of disease; and that educators lacked insight into the SA health context(Quintana et al., 2012). This study also highlighted the need to consider the student perspective as an integral stakeholder in a curriculum, which is part of what this study seeks to address in the process of curriculum renewal in Acute Care.

Since 2018, 8 medical schools across SA agreed to divide the 1000 graduates per annum between them for 5 years, to assimilate NMFC students to English medical terminology and re-orientate them to the SA disease profile. Upon returning, NMFC students are provided with a monthly stipend, food, accommodation, stationery, and white coats. Before this reintegration, the failure rate of NMFC students was double that of 1300 locally trained graduates, with NMFC students taking on average, 8 years to the point that they can enter medical internship(Bateman, 2013). The literature search did not yield any recent analysis of the NMFC progression following the assimilation initiative described. Although not ideal, the Cuban arrangement is still able to meet the 20 000-doctor graduate output within a decade which far exceeds the capacity of SA universities to this date.

The value that Cuban NMFC students bring is an ongoing debate. The doubts around their suitability to practice in the SA context where they are expected to treat complicated HIV and TB, perform general anaesthetics, Caesarean sections, and manage emergencies, remain among the few expectations the Cuban training isn't able to meet, further motivating the need to scaffold these competency gaps before NMFC students are allowed to practice nationally(Bateman, 2013). Some consider their measure of value in terms of retaining practice in rural and underserved areas beyond the expected 5-year commitment post-qualification. A study by Motala and Van Wyk, demonstrated that 19 of the 20 Cuban graduates interviewed had fulfilled their original obligation to work in rural areas, while 11 remained in rural areas to practice. Three doctors had specialised but remained in public service, while 13 remained as generalists practicing as generalists privately, or in primary healthcare(Motala & Van Wyk, 2019b). Although a small representation of the thousands of

graduates, the findings are positive and demonstrate that although this cohort of NMFC students was initially motivated by the full scholarship toward medical training, they remain responsive to the needs of their community and demonstrate an ongoing willingness to serve(Motala & Van Wyk, 2019b; Squires et al., 2020). However, whether these findings translate to the broader cohort is unknown.

Analysis of the learning environment has demonstrated one that was able to provide the graduate quantitative objectives for SA. However, this review has also demonstrated the deficiencies within the SACMC, in the failure to provide a suitable pedagogical framework to ensure that graduates are adequately prepared to serve the health needs of South Africans. This review will now pivot to analyse the leaners within this educational milieu.

B. Learners

I. NMFC Student Experience

This review will be incomplete without considering what is known about the experiences of NMFC students. Although there were only 4 papers exploring their experiences upon returning to SA, it can be inferred that the NMFC student journey is particularly complex as issues of language and identity within different communities of practice and across borders must be considered within the process of re-integration and re-assimilation in SA(Donda et al., 2016). The process of transition to Cuba and within the Cuban institution, in addition to their return to SA, is also important to examine and will be elaborated upon in Chapter 3.

NMFC students perceived themselves as unfamiliar or not confident in performing procedures expected at the fourth-year level in SA medical education(Motala, 2014). Furthermore, there were contrasting experiences with language as NMFC students were educated in Spanish. The transition in language from Spanish to English was challenging especially as it pertained to medical terminology, upon returning to SA. Students reported

feeling embarrassed as they often took longer to answer questions in the clinical workspace than their peers(Motala & Van Wyk, 2021; Phasha, 2021). The implication then emerged that NMFC students were unable to perform as well as locally trained students which created a divergence in how students saw themselves and how they were perceived by others(Cameron et al., 2014; Higgins, 1987).

In addition to the self-perceived academic deficit, NMFC students negotiated being identified as 'alien'. In Cuba, they were identified as South African, yet upon their return to SA they were referred to as 'Cuban students'. Some NMFC students reported feelings of discrimination upon returning to SA and being referred to as 'foreigners' in their own country yet expected to be treated as well as they were received in Cuba. Such mismatched expectations made the process of transition much more difficult(Motala & Van Wyk, 2021; Phasha, 2021), and may have contributed to a heightened sense of otherness(Donda et al., 2016).

II. Foreign Medical Graduates (FMG)

Considering the relative paucity of literature on Cuban-trained students, the experiences of FMGs are being reviewed here given the potential parallels. The terms Foreign Medical Graduates and International Medical Graduates (IMG) are used interchangeably but usually refer to the medical graduate who leaves to attain a qualification outside of their home and who may remain to practice in that country. FMGs make up approximately 25% of the workforce in the global north, the majority of whom are from less developed countries, implying that less developed countries lose important resources(Mullan, 2005). This phenomenon has come to be known as the 'brain drain' and poses significant challenges for LMIC.

Physician migration from the South to the North is a global phenomenon(Eckhert, 2002). This, in conjunction with the low output of graduates from the global South, has contributed to a mismatch in the doctor-to-patient ratios in the world's most vulnerable populations(Rizwan

et al., 2018). South Africa is no exception to this phenomenon. In addition to the attrition of medical professionals, SA relies on FMG who account for approximately 1.5% of the workforce. These FMGs are mainly from neighbouring African countries but also include graduates from the rest of the world (36%)(Segatti & Consortium, 2014). Despite this dependency on FMG, there's a paucity of literature which explores the perspectives of FMG in SA.

A scoping review in 2017 identified the challenges experienced by FMG globally. These were broadly characterised as professional barriers, lack of regional insights, and stress, as the most common barriers. Mitigating factors included personal and professional support and personal characteristics(Motala & Van Wyk, 2019b). These factors will be explored further in Chapter 3 within the framework of transition theory

2.4 Conclusion

Despite the challenges described, the predominant perception lauds the Cuban investment in international healthcare as it changes the narrative by not only training doctors to work in areas of need, including the African continent for the past four decades(Blunden, 2008), but also steers away from the curative approach to health in medical education, and instead emphasises social and environmental determinants of health, the prevention of disease and mechanisms to support healthy communities health(Cole et al., 2018; Huish, 2009).

However, this review of the literature has demonstrated that the Cuban curriculum engaged by NMFC students, although aligned with PHC goals, is misaligned with the realities of the SA health system as it is currently structured and functions, and the burden of disease borne by the population. As such, it is also misaligned with the expected outcomes of SA institutions. This suggests a significant learning gap that must be scaffolded when transitioning NMFC students into the South African context, if institutions are to truly align with UHC goals.

As initiatives such as the SACMC strive to address the shortage in the medical workforce in response to societal health needs, so too must curricula in Higher Education be transformed to ensure we are producing graduates fit for purpose(Frenk et al., 2010).

Meaningful change cannot occur without considering the student's perspective. The NMFC student perspective is particularly relevant as their educational experiences significantly differ from mainstream South African undergraduate medical students largely because of the multiple transitions - from SA to Cuba; from home language to Spanish; from Cuba back to SA; from Spanish to English; from PHC to 'curative' medicine health systems; and from a Cuban curriculum to a SA curriculum. This is important to understand for its contribution towards their identity formation or the 'becoming' of a medical practitioner in the SA health system. This concept of transition will be explored in chapter 3.

Further research nationally on NMFC graduates will be useful to guide curriculum development to ensure that graduates are fit for purpose, congruent with the aspirations of NMFC graduates, and responsive to societal health needs. Exploring their perspectives and permitting their contributions to the curriculum and practice may also give us insights into negotiating the curative and PHC models of care.

Unfortunately, there is no literature directly addressing the experience of Acute Care curricula for NMFC students or South African Foreign Medical Graduates (FMG) in Acute Care, despite evidence as outlined in Chapter 1, that there is a general problem with the Acute Care competence of graduates in SA and elsewhere. This may be suggestive of the complex challenges in studying a cross-system, cross-cultural educational journey. Understanding this

for Acute Care is a gap that this study aimed to address in its exploration of the educational challenges and opportunities for improvement in the teaching-learning of Acute Care to be considered in the curriculum renewal for UCT NMFC students.

Four questions were outlined for this purpose:

A) What are the educational experiences of NMFC students with the existing Acute Care curriculum?

B) What role has transition had in NMFC students' educational experience?

C) What role has simulation had in the teaching-learning of Acute Care concepts?

D) What were the experiences of coordinators with NMFC students as they pertained to Acute Care at UCT?

In the following chapter, the concept of transition will be explored. I will also discuss the theoretical framework of the study and explore the conceptual links between the theories of Transition and Communities of Practice (CoP) that have formed my thought processes around the role of transition in the educational experiences of NMFC students with the Acute Care module at UCT.

Chapter 3: Theoretical framework

3.1 Introduction to the theoretical framework

"A useful theory is one that tells an enlightening story about some phenomenon. It is a story that gives you new insights and broadens your understanding of the phenomenon."(Anfara & Mertz, 2015, p. 5). A theoretical framework should also adequately explain the concepts and the relationships between concepts(Samuel, 2016), while describing the beliefs, assumptions, and theories on which a project is framed(Casanave & Li, 2015).

In this dissertation, the phenomenon under study is the Acute Care curriculum at UCT (University of Cape Town) as perceived by NMFC students. In getting to this point, NMFC students have experienced multiple transitions: SA to Cuba; home language to Spanish; Cuba to SA; Spanish to English; and PHC to curative models of healthcare. The theoretical framework that follows has been selected for its potential to illuminate the relationship between the concept of transition and its influence on the NMFC students' educational experiences of the Acute Care curriculum. Although this study offers a contextualised understanding of their experiences with the 6th year course at UCT, and how supervisors perceive NMFC students teaching learning when returning to SA, my knowledge, and assumptions around how transition may influence the experiences are woven into this construct and description of the theoretical framework. This chapter further extends an understanding of the learner, as the targeted group, transitioning within institutions and communities.

Thus, this framework is influenced by my own experiences after coordinating the undergraduate Acute Care modules at UCT, from 2018 until 2020, and is shaped by my assumptions of how the different concepts relate to each other(Samuel, 2016). The constructivist worldview has provided a research approach which helps us understand how

people make meaning of their experiences. Here, reality is viewed as multiple and subjective and co-constructed by individuals and their interactions with their environments. Constructivism has emerged from this worldview and underpinned the cluster of constructivist learning theories which identifies the learner as the creator of his/her learning by creating meaning from events. This learning does not occur in isolation but is informed by the learner's prior experiences, values, and beliefs(Hay, 1993). Individual constructivism, associated with Piaget, focuses on the individual's construct of knowledge formed from cognitive processes and individual experiences. Social constructivism has a greater appreciation of the cultural context and social interactions in the construct of knowledge (Oltmann & Boughey, 2012).

Before delving into the chosen theoretical frameworks, it is essential to examine the concept of transition, particularly in the educational context. This understanding will provide the foundation for applying Transition Theory and Situated Learning Theory to the research problem at hand.

3.2 The Concept of Transition

Two commonly cited definitions of transition are those of Kilminster and Schlossberg. Kilminster et al. define transitions as the process of change or movement between one state of work and another(Kilminster et al., 2011). I consider Schlossberg's definition as having greater relevance in this study, as she expands the definition of this change to include that related to time, place, relationships, as well as one's psychological state of being(Schlossberg, 1981), and informs students' perspectives of themselves, and their values, and inevitably shapes their identities(Chickering & Reisser, 1993; Schlossberg, 1989a). From the description in the literature review of NMFC students' experience of transition between countries, curricula, and language, we understand, therefore, this definition to be particularly appropriate.

3.2.1 Transition in Education

Within medical education multiple transitions exist, at the point of entry from secondary school to tertiary education; within multiple rotations both clinical and non-clinical; between specialties; and transitioning between undergraduate education and becoming a doctor(Colbert-Getz et al., 2016). Each transition involves adaptation to the unique environment, integrating the new knowledge with their values, norms, and beliefs(Warin & Muldoon, 2009).

Unsurprisingly, each transition is associated with challenges from the student's perspective. A lack of preparedness due to a perceived lack of knowledge and skills(Cleland, Patey, et al., 2016; Cleland, Walker, et al., 2016); individual factors, especially motivation(Macaro & Wingate, 2004); organisational factors, especially lack of support(Cameron et al., 2014); as well as issues of alienation and belonging, appear to be recurrent themes in the literature reviewing undergraduate students. (Briggs et al., 2012; Cleland, Walker, et al., 2016; Motala & Van Wyk, 2019a; Phasha, 2021; Walker et al., 2004).

We understand that students who move between institutions, which Giroux (2019) refers to as 'border crossers', have the added complexity within that transition(Lauzon, 1999). This transition from location, dislocation, and relocation can have a profound impact on student learning(Stirling et al., 2010; Stirling & Rossetto, 2015). Here, the discourses of class, gender, ethnicity, and culture intersect, and the student must construct from this "social displacement"(Briggs et al., 2012, p. 4), "identity positions"(Stirling & Rossetto, 2015, p. 17).

Transition in previously disadvantaged groups adds a further layer of complexity. Students report feeling alienated and underprepared(Macaro & Wingate, 2004; Motala & Van Wyk, 2019a; Walker et al., 2004). Walker et al (2004) reflected on the work of Tinto (1975) and

added that students' background of race, culture, and socioeconomics impact the level of commitment students have towards an institution and these traits directly influence student ability to integrate socially and academically within institutions(Walker et al., 2004).

The social displacement and forging of identities within new and unfamiliar communities for students moving between institutions have parallels with the experiences of FMGs(Michalski et al., 2017; Motala & Van Wyk, 2019a). The transition from student to doctor must be appreciated as not only related to achieving competencies but also to creating identities within communities of practice(Jarvis-Selinger et al., 2012). The 'crises' which inevitably result are considered necessary in the provision of 'maps of meaning' as the trainee learns to understand who they are and how they relate to others(Giroux, 2011).This has relevance in the 'moving out' considerations in this study, which will be explored later. This transition must be appreciated as a vital component of the curriculum in humanising health education by embedding relatedness in practice. This process must be supported by trained educators as a lack of this understanding may be misinterpreted as an academic deficiency(Ford, 2014; Pentecost et al., 2018).

The experiences of NMFC students, as discussed in the previous chapter, are particularly complex. NMFC students lacked confidence in performing procedures expected at lower years of study in SA medical education(Motala, 2014). The transition in language from Spanish to English was particularly challenging and embarrassing for students as they often took longer to answer questions in the clinical workspace than their peers(Motala & Van Wyk, 2021; Phasha, 2021). They were also perceived to be unable to perform as well as locally trained students creating a divergence, in some instances, in how students saw themselves and how they were perceived by others(Cameron et al., 2014; Higgins, 1987).

The transition experience also influenced their sense of identity as South Africans. In addition to the self-perceived academic deficit, NMFC students reported feelings of discrimination upon returning to SA and were referred to as 'foreigners' in their own country(Motala & Van Wyk, 2021; Phasha, 2021).

3.2.2 Identified Strategies to Manage Transition

Several strategies are described in the literature to ease transitions. Walker et al. (2004), advocate for pre-university entry programmes(Walker et al., 2004). Cleland et al. (2016) argue for SBME as an approach to transfer theoretical knowledge into clinical practice with the added benefit of direct feedback, and opportunities for deliberate practice ensuring competence before clinical practice on real patients(Cleland, Patey, et al., 2016). In a separate study, Cleland et al. (2016) describe the potential of SBME to address the sociocultural aspects of learning within complex systems when applied in a 'Bootcamp'(Cleland, Walker, et al., 2016).

Literature suggests that increasing student preparedness for transitions by modifying skills and behaviour facilitates service efficiency, individual psychological well-being(Macaro & Wingate, 2004), and patient safety(Cameron et al., 2014; Macaro & Wingate, 2004). Institutions are criticised for not adequately preparing medical students for practice, but Kilminster et al. (2011) argue that transitions are dependent on the environment in which the student practices. The environment together with its organisational practices, culture, and activities directly affects student performance, as opposed to personal attributes alone, i.e.: performance is situational and relational(Kilminster et al., 2011). This adds to the understanding of why the Cuban initiative of an extracurricular strategy was unsuccessful. The educators were unfamiliar with the context for which they were training and did not employ teaching methodologies appropriate for the learning of anaesthetics, obstetrics and gynaecology, and nursing skills. As such, students were not motivated to attend the sessions and learning was inadequate (Quintana et al., 2012). This finding has direct implications for the current study. It highlights the importance of ensuring that the Acute Care curriculum for NMFC students at UCT is designed with a clear understanding of both the Cuban educational context from which students are transitioning and the South African healthcare environment they are entering. It suggests that faculty involved in teaching NMFC students should be well-versed in the unique challenges these students face and should employ teaching strategies

that bridge the gap between the two educational and healthcare systems. Furthermore, it underscores the importance of Cuban faculty training, as well as the use of appropriate and contextually relevant course materials and methodology in Acute Care, for any future Acute Care academic support in the Cuban curriculum.

Therefore, although institutions can go some way in preparing students for the clinical and non-clinical aspects of their role(Cleland, Patey, et al., 2016), students will not be entirely prepared if learning is not situational and relational(Kilminster et al., 2011). Furthermore, one must consider not just the 'vertical transitions,' i.e.: transitions across time and similar contexts, e.g., school to university, but also 'horizontal transitions' which look at transitions within the same time and between different contexts, e.g.: transitioning from one clinical block to the next(Gale & Parker, 2014). The approach must be multifaceted and consider student, patient, and mentor factors(Cameron et al., 2014). Such will better amalgamate the individual, organisational and system factors that influence the formation of identities in transitioning(Colbert-Getz et al., 2016; Stirling & Rossetto, 2015).

While the concept of educational transition is equally relatable to mainstream South African students, it is important to understand how the Cuban experience informs this process for NMFC students as they migrate from one education and health system to another. The theories of Transition and Communities of Practice will be applied to better understand this experience. I have chosen to include transition theory to elaborate how the NMFC student experience of Acute Care is shaped by multiple social and educational transitions and is perhaps central to their experience of the curriculum. Communities of practice was selected given that NMFC students transition into existing communities of practice - an existing UCT medical student community of practice; specifically for the Acute Care curriculum, the community of practice comprising the Emergency Care Department / the Emergency Unit where clinical training happens. Transition theory will be explored first, then situated learning theory before a conceptual approach utilising a synthesis of the two will be explored.

3.3 Transition Theory

Transition Theory, as described by Schlossberg, considers how transition, as framed by an individual's context, psychosocial development, and interpretation of change, influence one's ability to adapt to change(Schlossberg, 1981).

In Schlossberg's definition of transition, perception plays a key role. She defines transition as any non-event or event, that results in a change to relationships, routines, roles, and assumptions. However, these events or non-events only meet the definition of transition if the affected individual perceives it as such(Schlossberg, 1981). There are four considerations within transitions:

- **Anticipated transitions** refer to predictable transitions. Anticipated transitions for NMFC students include their planned return to South Africa after Cuban training.
- **Unanticipated transitions** are unpredictable. Unanticipated transitions, for NMFC students, might include the cultural shock of returning to South African healthcare settings with different disease burdens and clinical approaches.
- **Non-events** refer to those events which were expected but did not occur, which could include expectations of seamless integration that don't materialise.
- **Impact** refers to the extent to which an event impacts daily life. For the NMFC student, this could refer to how deeply these transitions affect their daily learning experiences and developing professional identities.
- **Context** refers to the setting in which a transition takes place, which is the South African setting, in this study.

In Transition Theory, the transition occurs through a series of three phases: moving into, moving through, and moving on, over a period time(Karmelita, 2018). Central to this theory is the four 'S' system which represent the factors that influence an individual's response to transition: *situation, self, support, and strategies(Schlossberg, 1981)*. The factors which modify each "S" are depicted in Figure 8.

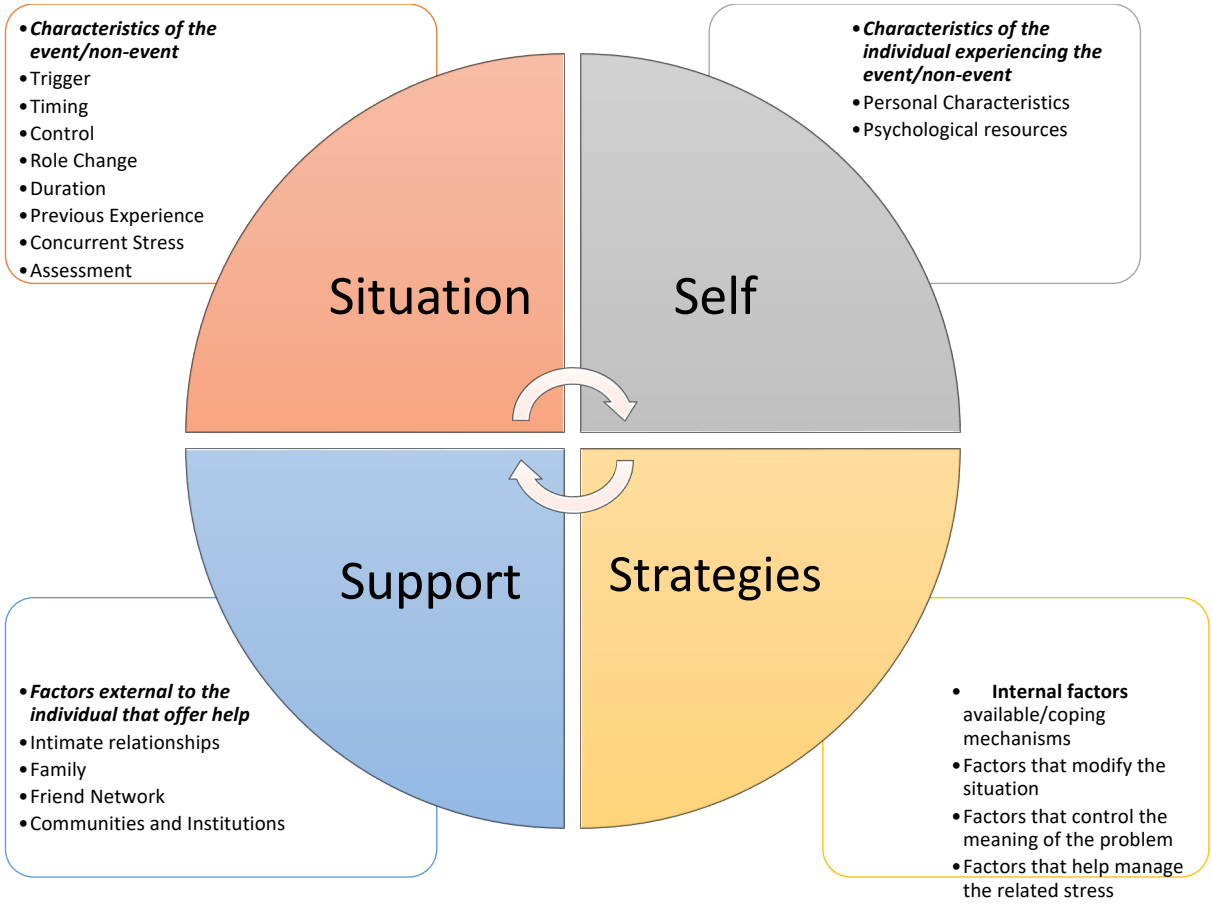

Figure 8: Schlossberg's 4 "S" System (Schlossberg, 1981)

'Moving in' refers to the initial phase of Schlossberg's Transition Theory and it is framed by the context of the transition. Here, the nature of the transition, in terms of it being an expected or unexpected, or a positive or a negative event, shapes the moving-in experience. Further influence on the experience comes from the context of the environment, as it pertains to the cultural norms; socioeconomic factors; as well as changes to the physical environment. 'Moving through' refers to the individual's experience of the event and is framed by the 4S's (Fig. 8). 'Moving out' can be understood as the individual's appraisal of the transition and includes changes in the individual's behaviour, perception, learning, and roles. Two phases of appraisal were undertaken in this research study, the primary appraisal is presented as student participants experiences of Acute Care teaching-learning, and the secondary appraisal as suggestions for the module These changes culminate in a sense of readiness to engage with life after the transition.

Each 'S' contains multiple elements which must be considered to understand how the individual responds to transition. These elements are briefly described in Table 1.

Table 2: *Elements and descriptors within Schlossberg's 4'S Framework*

Situation	Support	Self	Strategies
Trigger – the event that causes the transition	Types – institution, family, friends, intimate relationships, communities	Personal characteristics – refers to the individual's view on life as shaped by socioeconomics, gender, age, age, ethnicity	Categories – factors that modify the situation; control the meaning of the problem; manage the stress
Timing – Is the timing of the transition considered appropriate?	Functions – refers to the function of those providing support e.g.: providing feedback or aid	Psychological resources – refers to the aids employed by the individual to cope. E.g.: values, commitment, outlook.	Coping mechanisms – direct action or inhibition of action, information-seeking
Control – The aspects within the transition that the individual can control Role Change – Has the individual role changed?	Measurement – refers to the measure of support provided (is it stable/changing?)		
Duration – refers to the duration of the transition			
Previous Experience – Consider previous similar transition experiences			
Concurrent – the presence of other stressors			
Assessment – refers to the perception of those responsible for the transition			

As noted earlier, an NMFC student experiences multiple transitions in their tertiary education: they *move into* Cuba*, move through* the Cuban Medical Education System educated in Spanish, and then *move on* from both the education system and country to enter a different

and shorter cluster of phases within the SA medical education system. Although an anticipated event, how the individual copes within these phases is dependent on the several factors within the 4 “S’s”. This approach was used to inform the analysis of findings for Chapter 5.

Within this bigger transition, the location of this study is the Acute Care curriculum. For this, students transition through the Community of Practice that is the Emergency Care Department / the Emergency Unit. To explore this element of students’ transition, situated learning theory and communities of practice will now be explored.

3.4 Situated Learning Theory & Community of Practice

Within the broader framing of this study within the constructivist worldview, Vygotsky’s constructivist learning theory focuses on scaffolding the learning gaps of learners by applying appropriate learning strategies and support(Zebroski, 1989). One such pedagogical model under the constructivist umbrella is situated learning theory(Lave, 1991). Here, a model referred to as Community of Practise (CoP) was constructed which challenges the traditional knowledge transmission of learning and instead recognises the socio-cultural contributions(Hunter, 2015). Students act in the role of apprentice within CoP where learning opportunities arise situationally. As experience and competence are gained, students move gradually from apprentice to full student participants in their CoP.

CoP is described as a social learning practice that occurs and is maintained by people with a common interest when they come together with a purpose to create new knowledge around that point of interest(Lave, 1991). Learning as a social exchange is dependent upon the triad of the domain, community, and practice(Wenger, 2011). Domain refers to the shared area of interest among the members. Community refers to how information is shared, and

knowledge is created, and the third characteristic 'practice' refers to the application of that knowledge(Wenger, 2011).

Essential to CoP are practice and participation. This is important because through participation people are connected, dialogue is enabled, learning is stimulated, and new knowledge is created(Wenger et al., 2002). This model is dynamic as members change as members acquire and perform, and practices evolve. Multiple CoPs may exist in any organisation. However, for this model to succeed, in terms of students on the periphery integrating within a CoP, there must be excitement generated, and relevance identified to achieve value(Wenger et al., 2002).

A criticism of CoP is that of the commodification of student participants who participate at the very peripheries of these communities and not as fully-fledged student participants (inbound trajectories). This may contribute to alienation(Lave, 1991). To become a fully-fledged member of a CoP, there must be a commitment to the central goal. The goal of undergraduate education is to produce competent 'generalist practitioners'. On arriving at UCT, NMFC students must navigate towards becoming a member of the UCT undergraduate CoP, while also engaging with different disciplinary CoPs as they transition from one clinical block to the next. These shorter transitions within disciplinary CoPs are referred to as 'ad-hoc CoPs. During Acute Care, students transition within the CoP in emergency departments, to achieve Acute Care outcomes (Fig. 9).

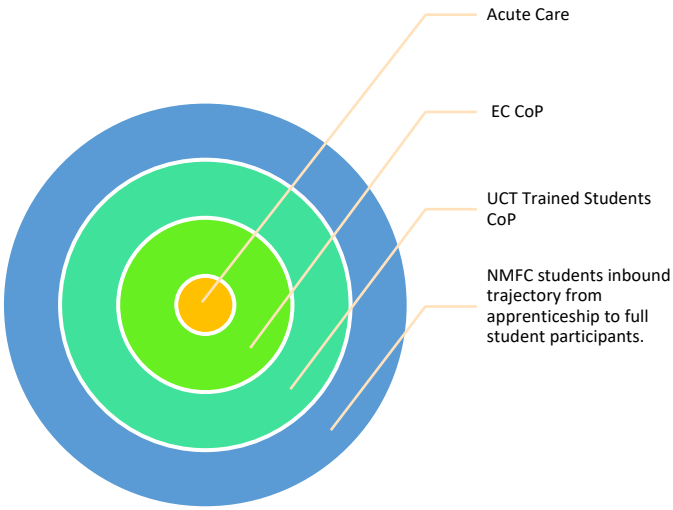

Figure 9: Representation of NMFC Inbound Trajectory within Acute Care CoP

The trajectories within CoPs require shifts in understanding, the formation of relationships, and the negotiation of identities(Tobbell & O'Donnell, 2005). Organised learning structures must exist within CoPs. Without such intentional structures, the 'hidden curriculum' may emerge(Joughin, 2010). These have the potential to create negative identities with the formation of ad-hoc CoP(Lave, 1991). Understanding such conflicts may enrich our insights into NMFC student's experience in educational transition.

Having considered both theories, they will now be applied to explain the relationship between these theories and highlight why a focus on integration into CoP should be prioritised in the process of transition.

3.5 Positioning the Research in relation to Transition Theory and Community of Practice

In health science education students learn through engagement in the workplace, with patients, and with student participants within multiple CoP. In undergraduate education,

participation is often peripheral yet the student gains meaning through the observations and experiences of peripheral participation in different communities(Lave, 1991). NMFC students begin further peripherally as they seek to integrate within the UCT returning Cuban-trained group and then the UCT undergraduate groups, scaffolding with new knowledge and skills (Fig. 9).

Both situations of transitioning into Cuba and then into the SA health system were anticipated by students(Motala & Van Wyk, 2021). Applying Schlossberg's theory, we understand that their experience of the first *anticipated event* is shaped by their characteristics (*self*) and assisted within the Cuban *context* by *strategies* created by the *self* to cope or *support* employed within the Cuban education and health systems to assimilate NMFC students, such as dedicating the most of their first year to the study of Spanish. Although institutional support is evident, students must construct new identities and new knowledge and ways of being as they transition into the broader Cuban Medical School CoP. They must seek new relationships and *support* networks while being educated to achieve PHC outcomes, while anticipating the divergence of a more curative model being taught in SA, in the second cluster of their transition(Motala & Van Wyk, 2021).

In the second anticipated event of the NMFC students' transition, they *move into* South Africa and then UCT, they reorientate by *moving through* 18 months gaining new knowledge, skills, and attributes in English, to *move on* successfully with equivalent outcomes to SA-educated medical students, who have had 6-years in their transition towards becoming an intern with generalist skills. In this transition, NMFC students return to their home country, SA, after studying in Cuba. One would expect that the familiar *situation* and *support* that NMFC students had ought to have *supported* and enhanced their *self* and *strategies* favourably to ease their transition. However, despite the elements above, the anticipated transition from Spanish into English, and the anticipated change back to the South African cultural landscape from that in Cuba, these aspects of the *situation* evidently still overwhelmed students' internal coping *strategies* and created much anxiety for the NMFC students(Motala & Van Wyk, 2021). Phasha (2021) described this experience as 'culture shock': Students had to

engage with SA patients from different socioeconomic backgrounds, and who had varying levels of education and health awareness, contrasting sharply with their experiences in Cuba (Motala & Van Wyk, 2021; Phasha, 2021). Students also experienced complex crises in identity(Donda et al., 2016). They perceived local patients as 'foreign', despite coming from similar communities(Phasha, 2021), while practising in their home country where they were received as 'Cuban doctors'(M. Motala & J. Van Wyk, 2021). Together, Schlossberg's model suggests that external educational *support factors* to modify the transition process for NMFC students cannot be employed in isolation without considering the personal and psychological '*self*' factors and the internal coping *strategies*, as described by Schlossberg(Schlossberg, 1981).

This chapter, so far, has described the process as 'integration' instead of re-integration as even though NMFC students are South African, the way in which they experience society - and more especially, societal ills - from their newly gained perspective as medical students is new and unfamiliar. Similarly, the SA and Cuban health and education systems are strikingly different, and practising in the SA health system, is a new experience. However, as we shift focus down to the level of the Acute Care learning experience, a higher resolution lens in the form of communities of practice theory is needed to explore the *situation* component of students' transition from one clinical placement into another.

As noted, a CoP is characterised by domain, community, and practice. As such, there are various distinctive characteristics that can be identified for the Acute Care CoP. The *domain* of the Acute Care CoP – the common area of interest – is what students are there to learn about. The *practice* of Acute Care – the application of the knowledge – is very distinctive. This environment is dissimilar to the environments NMFC students were previously exposed to in Cuba, and different to the ward or other placements in the UCT undergraduate curriculum. The culture of the Emergency Department (ED)is vastly different because of its dynamic nature; fast paced; front-line of hospital access to care; and consists of acutely ill and approximately 30% of critically ill patients(Obermeyer et al., 2015; Reid et al., 2012). This

environment presents a new *situation* which NMFC students must negotiate nested within the transition into the *situation* that is the UCT context. The Acute Care curriculum, which situates much of the learning in EDs includes engagements with different disciplines and thereby facilitates learning through social engagements which provide a context for active and authentic learning in their role as apprentices(Lave, 1991). The NMFC student must seek new sources of *support* and rely on their coping mechanisms as they navigate their *situation* of learning new knowledge, skills, and attributes. Within the Acute Care curriculum, the *situation* is further modified as it is shorter (2 weeks), *triggered* by new information, and new skills taught utilising different methodologies - no *previous experience* with Acute Care concepts, nor skills-based nor simulation-based teaching - and *assessed* in a high stake's exam. These may be perceived as situational barriers. Opportunities for adaptation are brief, and therefore as I had unsurprisingly witnessed, integration within the Acute Care CoP was challenging.

This brings us to the third element of the Acute Care CoP, *community* or how information is shared and knowledge is created. If the EC represents the site of *practice*, *community* characterises how the members of the CoP in the EC engage with NMFC students as legitimate learners or (transient) peripheral student participants. In fact, *community* for three different CoPs converge in the EC while NMFC students are there to learn – the CoP of Acute Care staff; the CoP of NMFC students at UCT; and the CoP of UCT students sharing the EC learning environment with NMFC students.

Whereas the emergency departments can provide a dynamic environment for active and authentic learning, opportunities for learning in the Acute Care module also provide different methodologies for learning. These include online events, face-to-face teaching sessions, and online learning material situated in a learning management system called Vula at UCT, for self-directed learning. Although learners should have the potential to create new knowledge and direct their learning, multiple educators agree that for CoP to succeed there must be *clear objectives*, *sponsorships*, *leadership*, and *links outside the boundaries of the CoP* to share knowledge and practices, and opportunities for *measurement* to ensure objectives are met.

This speaks to the need to ensure strategies to support the NMFC students' trajectory within the undergraduate CoP, as well as that situated within ECs. Equally so, a CoP must be considered a *risk-free environment* to facilitate feelings of safety between members(Probst & Borzillo, 2008; Thompson, 2005; Wenger et al., 2002).

This immersion within the CoP in Acute Care is, however, short-lived for the NMFC student whose rotation only expands for 2-weeks. At that point, the student is immersed in a new CoP. This dislocation, location, and relocation between different CoPs is a useful model for understanding the educational transition between and within institutions. It demonstrates that students are immersed in new environments where previous knowledge may have little use. There is little continuity of experience and new ways of being and doing which contributes to identity formation in the transition(Tobbell & O'Donnell, 2005). Wenger (2011) describes the transition as identity forming and its trajectory within a CoP as temporal; ongoing; constructed in social contexts; and subject to multiple trajectories.

One way to harness an understanding of CoP is to create a shared sense of purpose between the NMFC and UCT student CoPs in the *domain* - or *situation* - that is the Acute Care learning experience. The shared sense of purpose can be extended to the goal of successfully completing their medical education and graduating. The facilitating team, in this instance, the Acute Care team should provide clear objectives, leadership, and sponsorship, and focus on creating a risk-free environment for enhancing learning. This *support* strategy may help enhance the Acute Care curriculum and create an inclusive and meaningful engagement for the NMFC students in the Acute Care CoP, i.e.: create a shift of the *self*-factors positively, so that NMFC students feel valued. This inextricably links both CoPs and may provide a more sustainable model for teaching-learning.

Furthermore, support strategies to modify *self*-factors and assimilate NMFC students within the broader societal CoP, especially as they present as critically ill patients, need to be constructed intentionally. This may mitigate the ‘culture shock’ and ‘discrepant identities’

described; by moving from a position which Schlossberg describes as 'marginality' to 'mattering'. Studies by Motala &Van Wyk (2021) and Phasha (2021) confirm that NMFC students felt 'foreign' and 'Cuban doctors' suggesting they perceived themselves as marginalised. There is the potential to feel marginalised every time a person experiences a transition, and the bigger the difference between the two roles, the more marginal one may feel. Marginality has the potential to become the dominant mode of thinking and behaving (Schlossberg, 1989b). Thus, with such an overwhelming negative sense of self, the motivation to learn may become displaced.

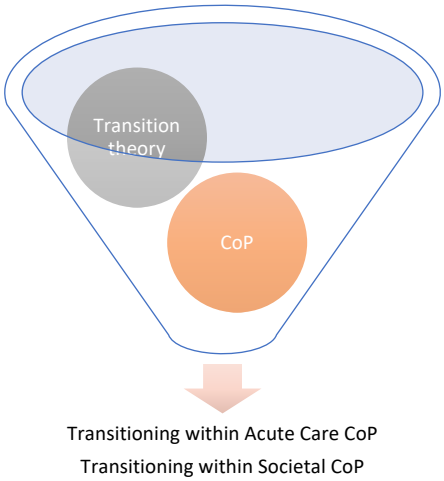

Figure 10: Diagrammatic representation of academic and societal transitions of NMFC students

Marginality can be a complex concept. Every individual may experience the same at some point or the other, and may be related to a period of transition, i.e.: may be temporary. It is clear, however, that NMFC students relate to this in the studies mentioned, and therefore educators need to be intentional in strategies that allow them to transition into 'mattering'. The academic strategies described above to integrate students into the Acute Care CoP may be a first step. Schlossberg describes mattering as that feeling that you matter to another – that mattering is motivation that does influences behaviour – and confirms that when students feel they matter, they engage in learning(Schlossberg, 1989b). Thus, it is in an institution's best interest that programmes are designed to mitigate against marginalisation, and instead create an environment where students feel that they matter and that they

belong. If we are to truly transform health education for the 21st century, and align to UCT transformation objectives, moving NMFC students, and all marginalised groups, from a position of marginality to mattering should be a priority.

3.6 Conclusion

In this chapter, Transition theory and CoP were used to understand the relationship between transitions of the NMFC students and their integration into the UCT undergraduate and Acute Care CoPs. Situated learning theory was utilised to illuminate the context of the Emergency Department (ED) and the community that resides within it. The ED forms an ecosystem of learning that is vastly different to the other placements the undergraduate medical training would offer these students. CoP wasn't used here from the perspective of integration into emergency medicine as a speciality but rather to illuminate the process of integration into the undergraduate community of practice of medical students, which lie on the periphery, and how they're perceived by the EM (Emergency Medicine) community, which impacts their learning and social integration. Whereas transition theory explained the movement or transition and the factors that impacted NMFC students transition - as they moved from SA to Cuba, from Cuba to SA, and into UCT, and then Acute Care - CoP was able to better explain the integration and social aspects that influenced NMFC students learning in a complex environment. Hence, situated learning theory in this study may be seated with the *situation* of transition theory, to better explain NMFC learning of Acute Care.

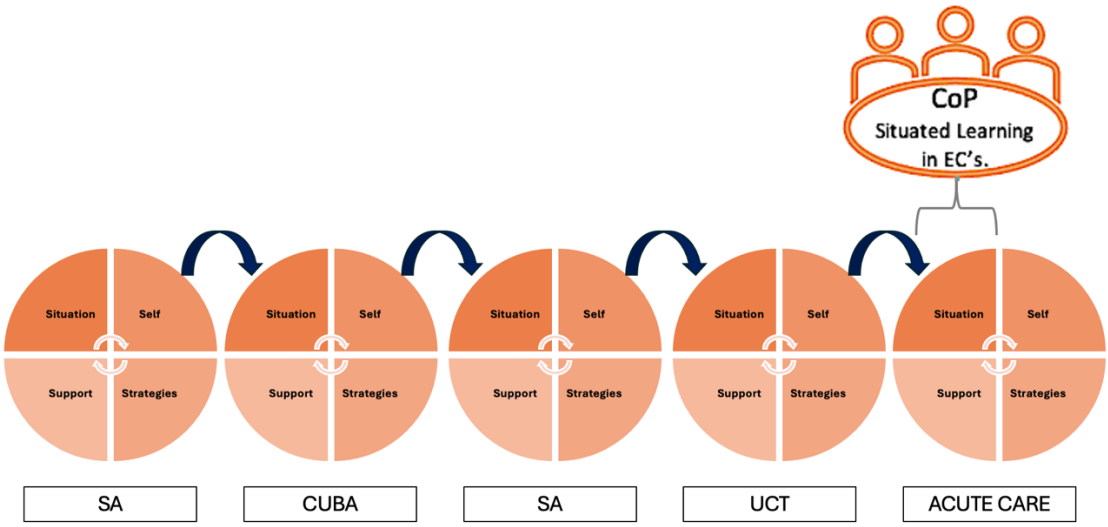

Figure 11: The Relationship between Transition Theory and Community of Practice, in this study

In summary, the theoretical framework chapter has highlighted the complex nature of the NMFC student experience formed by multiple transitions in time, space, and place. These transitions profoundly impact NMFC students' competency as emerging graduates and their evolving identities as SA doctors. Schlossberg's transition theory provides a valuable lens through which to understand and address the transition-related challenges. CoP has highlighted crucial elements to further understand the complexity of the learning environment and illuminated the need to intentionally mitigate against marginalisation and instead create a sense of mattering, within both the education sector and society too.

To effectively investigate these theoretical concepts in the context of NMFC students' experiences, a carefully designed research approach is necessary. The following chapter provides a comprehensive overview of the research methodology used in this study which details the research design chosen to understand the nuanced experiences of NMFC students, the data collection methods used to gather rich, qualitative information, and the sampling strategies employed. It also describes the data analysis process utilised to interpret the findings through the lens of Schlossberg's transition theory and the CoP framework. By

bridging theory and practice, this methodology aims to provide insights that can inform strategies for an enhanced Acute Care curriculum for NMFC students, at UCT.

Chapter 4: Methodology

4.1 Introduction

This chapter provides a comprehensive description of the research methodology applied in this study. it details the research design, paradigm, conceptual framework, sampling strategies, data collection methods, analytical approach, ethical considerations, and measures taken to ensure trustworthiness and rigour. the methodology was carefully selected to align with the study's objectives of exploring the experiences of Nelson Mandela Fidel Castro (NMFC) students in the Acute Care curriculum at the University of Cape Town (UCT).

4.2 Research Design

The study was conducted using a qualitative research approach, rooted in the interpretivist paradigm, and formed from a phenomenological perspective. A qualitative method was selected from the need to capture NMFC student and educator perspectives which portrayed a reality that was socially constructed, dynamic, complex, and based on the subjective human experience(Patton, 2002). This approach allowed a rich understanding of the diverse experiences and perspectives of stakeholders, in the curriculum renewal process(Broom & Willis, 2007).

4.2.1 Paradigm

This study is positioned in the interpretivist paradigm view as it seeks to explore the perceptions of student participants' reality. Interpretivism appreciates that reality cannot be objectively measured, and instead that reality is constructed by an individual's meaning of events i.e.: as others experience it(Broom & Willis, 2007).

I consider this paradigm appropriate for this study as the lived reality of the NMFC student is constructed by multiple and complex social interactions, as previously described, which

inform their whole experience of Acute Care. Similarly, the experiences of educators who encounter mainly SA-trained students are equally important. Thus, the human interest in this study is particularly relevant. Furthermore, this research topic accepts subjectivity in the dialogue between me, as the researcher, and the student participants(Samuel, 2016). As such, this paradigm aligns with the study's aim to explore the lived experiences of NMFC students and the perceptions of Acute Care curriculum educators.

4.2.2 Phenomenological Perspective

From a theoretical perspective, phenomenology was applied to guide the research. Phenomenology refers to the meaning of an event as perceived by an individual, as opposed to the meaning of that event external to that individual(Neubauer et al., 2019). As the study sought to understand the experiences as perceived by stakeholders, phenomenology suspended any preconceived ideas or external events that may have hindered the ‘voice’ of the stakeholders and was therefore appropriate(Neubauer et al., 2019).

This study employed interpretive (hermeneutic) phenomenology rather than descriptive phenomenology. While descriptive phenomenology attempts to bracket researcher preconceptions to describe phenomena's essential structures (Neubauer et al., 2019), interpretive phenomenology acknowledges that researchers cannot fully separate from their interpretive frameworks (Van Manen, 2023). Interpretive phenomenology was selected because it aligns with the study's aim to understand the lived experiences of NMFC students during their transition, while acknowledging my positionality as a previous Acute Care convenor. This approach recognises that understanding others' experiences is always an interpretive process influenced by one's own background and context (Van Manen, 2023).

Furthermore, interpretive phenomenology is particularly well-suited to educational research where understanding student experiences can inform practical improvements in teaching and learning (Neubauer et al., 2019).

The interpretivist paradigm aligns with the constructivist worldview mentioned in Chapter 3. While constructivism focuses on how individuals construct knowledge and meaning, interpretivism is concerned with how researchers interpret these constructions. In this study, both perspectives are relevant and complementary—constructivism informs how we understand NMFC students' learning experiences, while interpretivism guides our approach to analysing and making meaning of those experiences.

4.2.3 Conceptual Framework

Kern's six-step approach to curriculum development was utilised as the conceptual framework to inform this study (Fig. 1)(Kern, 2009). This framework has permitted a structured approach to initiating the curriculum renewal process, with a focus on the first two steps: problem identification and the targeted needs assessment. Figure 12 demonstrates how this approach was utilised to inform the study thus far.

From the methodology described below, this study then expands the targeted needs assessment of the students and educators which will be presented as the 'voices' of these integral stakeholders, in the context of the Acute Care curriculum at UCT. It is beyond this study's scope to address the remaining steps in Kern's six-step approach which are areas for future research.

The application of this framework enhanced the study's theoretical grounding and ensured a comprehensive exploration of curriculum-related issues.

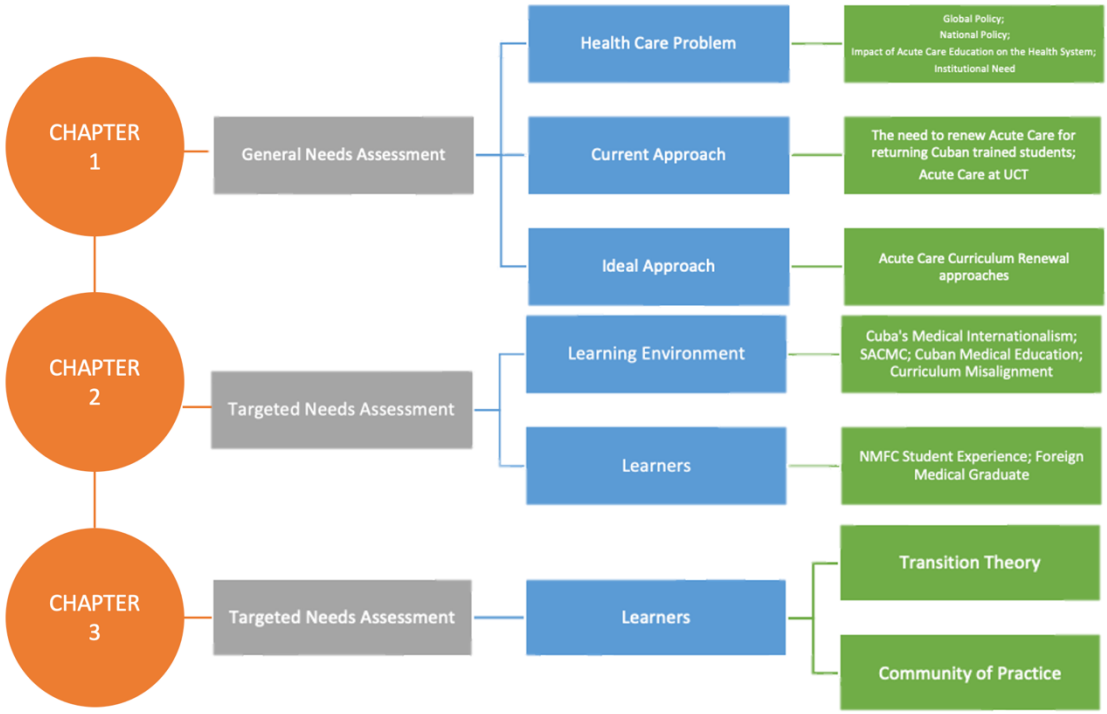

Figure 12: Diagrammatic construct of Kern's six-step in this study

4.3 Study Setting

The study was conducted within the Division of Emergency Medicine at UCT. The Division currently supports the UCT's MBChB programme by co-ordinating the Acute Care modules from year three to six and has been actively involved since 2007. The Acute Care module is a component of a larger Internal Medicine curriculum. This setting has significance as the division is the largest in Africa and actively supports and develops academic emergency care on the continent (Mowafi, 2019).

As detailed in Chapter 1, the Acute Care modules are structured on a spiral curriculum beginning in year three and developed toward exit outcomes as assessed in year six. The current sixth-year curriculum advances content on high yield, high-frequency clinical presentations introduced in year four, and advances on resuscitation and ventilation skills of the critically ill patient.

In 2019, an Acute Care curriculum was designed specifically for NMFC students and contains online learning; skills-based sessions; and workplace-based learning over two weeks in their final year of study, at UCT.

4.4 Study Sample

The purpose of the sampling in this study was to gather rich data on the experiences and perceptions of students and educators alike, to achieve the objectives of the study. Individuals who could provide relevant and rich data to address the research objectives were invited to participate (Patton, 2002).

4.4.1 NMFC students

In this study, 6th year NMFC medical students from UCT, who completed their Acute Care placements, by the end of 2021, were invited to participate. These students had spent the preceding 5-6 years in Cuba. This group was specifically selected for their insights into both the Cuban education experience, as well as having completed the 2-weeks of the Acute Care module, in their 6th year of study. This implied that the student respondents had rich experience relevant to the research questions. The students who responded to the invitations to participate were included. All 20 eligible students were invited. A total of 18 out of 20 students signed an informed consent to participate (Appendix C).

4.4.2 Educators (NMFC educators / Convenors / Acute Care convenors)

Educators in this study are defined as those healthcare professionals with a minimum of three years of experience in the development and coordination of Acute Care training for undergraduate medical students, or experience as NMFC convenors, in the South African tertiary education environment.

Purposive sampling was initially employed to select educator participants nationally. Two invitations were disseminated on a national platform, to gain insight into the NMFC Acute Care programmes across institutions. The first round involved contacting EM physicians which did not yield eligible respondents. Thereafter, effort was made to contact educators via the SA Committee of Deans (SACOMD). One educator who met the educator criteria was identified at the University of Kwa-Zulu Natal (UKZN). It was not possible to secure an interview with that person during the data collection period.

Four UCT educators responded to the invitation. Three UCT Acute Care convenors – 2 previous, and 1 current – participated, one of whom had provided one-on-one facilitation with NMFC students in 2020 during the peaks of the COVID-19 pandemic. One overall NMFC convenor - a convenor assigned to convene over the NMFC student group throughout their duration of training at UCT - also participated, which provided insight into commonalities experienced in other rotations at UCT. There were no other convenors eligible for interview at UCT. Having made extensive efforts to recruit educators, it was not considered likely that further efforts would identify suitable student participants. As no new data emerged from this cohort of four educators alone, a third round of invitations to participate was not considered. While this sample may have limited transferability of the findings, it provided valuable insights into the UCT context.

4.5 Data Collection:

The study was conducted utilising focus-group discussions (FGD) with NMFC students, and semi-structured interviews with educators. The methodological approach to the study is depicted in Figure 13.

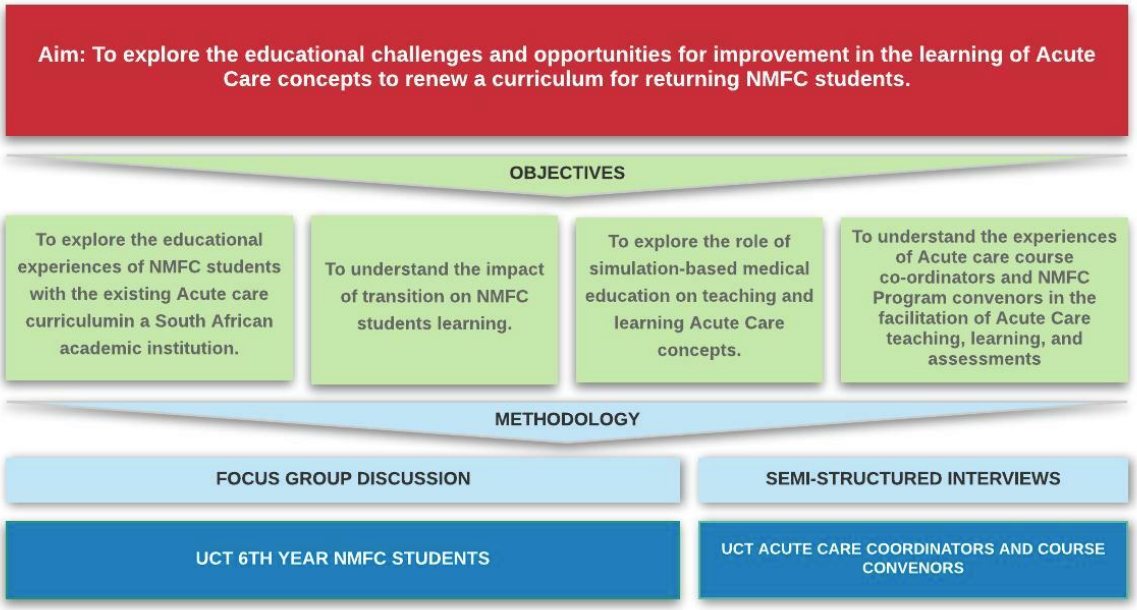

Figure 13: A diagrammatic representation of the methodological approach to the study

4.5.1 Focus Group Discussions (FGD):

The primary objective of the FGD was to explore the educational experience of NMFC students and identify their teaching-learning needs as they pertained to the UCT Acute Care curriculum. The secondary objectives were to understand the role of transition in their educational experience and their experience of SBME as a teaching-learning methodology in Acute Care.

Focus groups were selected as the primary data collection method for students rather than individual interviews for several reasons. First, the interactive nature of focus groups encourages participants to build upon each other's responses, generating richer data through the social dynamics of group discussion (Kitzinger, 1995). Second, focus groups can create a supportive environment where participants with shared experiences feel more comfortable expressing challenges or criticisms that might be difficult to voice individually (Krueger & Casey, 2015). Third, the collective nature of focus groups aligns well with phenomenological approaches that seek to understand shared lived experiences (Palmer et al., 2010).

Two FGDs (Appendix A), of 9 student participants each, were conducted with consenting 6th-year NMFC students to explore the learning experience of the completed Acute Care curriculum as it pertained to content, instructional methods, and assessments. In addition, these discussions explored the role of transition between countries and institutions and the impact, if any, on the teaching and learning experiences of NMFC students, and set out to identify any gaps in the Acute Care curricula.

I conducted two FGDs in person sequentially, over a total of 3.5 hours. The timing and order of the FGDs were scheduled to avoid conflict with students' academic activities. Students were presented with information regarding the study ahead of time and were allowed to ask questions for clarification before signing the consent to participate (Appendix C). Each student participant was then allocated a generic study number. Before giving any input, every student participant had to call out the study number. This enabled the research team to discern which of the student participants were speaking.

At the end of each FGD, key points were summarised, and the student participants were asked to confirm if my summation accurately represented their experiences. Student participants were also invited to provide any additional perspectives relevant to the study, at that point.

The FGD was attended by a member of the [5]research team, who was experienced in qualitative methodology and not directly involved in the education or selection of student participants, to ensure a fair process and that the data collected was reflective of the student's voice and not the researcher's perspective. A 45-minute break between FGDs allowed me the opportunity for discussion with MJ, and time for reflexivity. Data collected

[5] The research team consisted of myself and my two supervisors, Dr. Marvin Jansen and Prof. Francois Cilliers (FC).

from the debrief sessions between myself and MJ were also collected and analysed, to generate rich and in-depth data. I realised the value of allowing the students to speak freely about their experience of the two countries and health systems in the first FGD, which informed how I approached the second FGD.

4.5.2 Semi-structured interviews:

I conducted four semi-structured, open-ended interviews with educators, to understand their experience of NMFC students, with a focus on the development and facilitation of the Acute Care curriculum.

These interviews were conducted online, as preferred by all interviewees. Information regarding the study was presented ahead of the interviews. Consent forms (Appendix C) were signed before each interview and consent confirmed at the start of each session. Interview guides (Appendix B) helped direct the interviews but strict adherence was not required, and educator participants were encouraged to speak freely about the topic. Probing questions were required at times.

At the end of each interview, educators were presented with a summary of their input and invited to confirm or clarify my findings. They were also invited to add any other points they thought were relevant to the study.

4.6 Data Analysis

Data collected in the form of voice recordings from the interviews and FGDs were transcribed verbatim by a transcription service. These transcriptions were then verified by me. All data was anonymised before analysis. Data collected from the debrief sessions between the

researcher and observer, after each FGD, were also collected and analysed, to generate rich and in-depth data(Onwuegbuzie et al., 2009).

Being a phenomenological study, Ricoeur's theory of interpretation was applied in the analysis to identify common themes. This process involves three levels: explanation, naïve understanding, and in-depth understanding(Tan et al., 2009). This method of analysis accommodates the researcher's beliefs and experiences, as well as their knowledge of the student participants, in the process of interpretation. The process started with manual coding of the data from analysis of transcriptions from the FGDs and semi-structured interviews.

Manual coding was chosen as it permitted a nuanced and deeper understanding of the data(Creswell & Poth, 2016). Although time-intensive and limited by the lack of data management features an application or web-based service such as Nvivo may have mitigated, this approach was preferred after considering the study context and complex experiences of the NMFC students. Furthermore, it aligned with the phenomenological perspective by permitting an intuitive and context-sensitive interpretation of the data(Lungu, 2022). The manual coding process involved the following:

- An initial familiarisation with the data by thoroughly reading and re-reading the transcripts. This permitted a comprehensive understanding of the data.
- Key phrases or meaning units were then highlighted in the Word documents electronically, as a process of coding initially.
- These meaning units were then extracted to another Word document in which codes were developed and refined, and similar concepts were grouped.
- The codes were organised to identify major themes and sub-themes. The coding trees will be presented in chapter 5.
- The themes identified were discussed, revised, and agreed upon by the study researchers to ensure they accurately represented the data.

As the study encompasses interviews with all potential student participants, the conventional assessment for data saturation becomes inapplicable. Nevertheless, the following are proffered as indicators of data quality in accordance with the framework byMorse et al. (2014):

- The lead researcher, in consultation with the primary investigator and peer researcher, pursued data analysis iteratively until no new codes or themes could be discerned in the data.
- Many topics emerged from the FGDs in addition to those related to the Acute Care curriculum.
- After each open-ended question and FGD, clarity on their perspectives were sought from the student participants as means of member checking.
- The themes which emerged from the first FGD were evident in the second.
- The second FGD also raised themes related to health system variances. Although not directly related to the open-ended question, the discussion was allowed to continue due to the rich insights that emerged from the students. The second FGD continued for 2-hours to achieve this.
- Overlapping themes emerged from the FGD's. As a result, an additional FGD was not deemed necessary.

  Despite the educators having varying levels of engagement with the NMFC students and the Acute Care curriculum, overlapping themes were clear.

This study is reported in accordance with the Consolidated criteria for reporting qualitative research (COREQ)(Tong et al., 2007).

4.7 Ethical considerations

Permission for the study was obtained from the Human Research Ethics Committee, Faculty of Health Sciences, University of Cape Town (Approval No: 298/2021). Informed consent was obtained from each respondent after being informed of their rights in terms of voluntary participation and assured of confidentiality and anonymity.

This study complied with the ethical principles as outlined in the Declaration of Helsinki(World Medical Association, 2001), and here elaborated on five general principles related to ethical practice: beneficence and nonmaleficence, integrity, fidelity and responsibility, justice, and respect for people's rights and dignity(American Psychological Association, 1992).

Beneficence: This study may benefit the study student participants by providing an opportunity to share individual experiences in their undergraduate training. In so doing, they may benefit future NMFC students by potentially improving the Acute Care curriculum and may inform change to favourably facilitate the process of transition.

Nonmaleficence: The study considered the internal and external sources of potential harm and acknowledged the vulnerability of the NMFC students as research student participants. Risks to student participants were expected to be low as any negative emotions experienced were unlikely to exceed those experienced in everyday life. Although every precaution was taken to minimize any psychological or physical risk, such cannot be guaranteed. Regardless, physical and psychological risks were identified and the steps taken to mitigate these risks are elaborated here:

Psychological risk:

a) Emotional distress: discussions about transitions and experiences of returning to the SA health and education systems could have evoked feelings of anxiety, stress, or inadequacy. Student participants were informed that they could withdraw at any point before data analysis from the study, without repercussions. A trained UCT Student Wellness counsellor was on standby during the FGD.
b) Fear of academic repercussions: It was considered that students might fear that negative feedback could impact academic assessments of them. To mitigate this, strict de-identification protocols were adhered to. Students were urged to maintain confidentiality and an independent observer was present to ensure fair conduct. Furthermore, I didn’t hold any position of authority or involvement in undergraduate

assessment and the time of data collection, therefore I could not invoke any direct repercussions.

c) Institutional vulnerability: The issue of institutional vulnerability(Gordon, 2020), was considered. The NMFC student group within UCT may face unique vulnerabilities. There may be a potential for stigmatisation by participating in a study where their difference in educational background is highlighted, and my position as the researcher may have introduced a power dynamic which had the potential to limit the students' honest opinions about their experiences with UCT or Acute Care. To mitigate this the research team included members who were not related to the NMFC student assessment or course. In addition, the invitation to participate was disseminated via email from the course administrator, and it was stressed – both verbally and in writing – that participation was voluntary. In addition, institutional permission was sought to conduct research and to ensure support for students to protect them from the potential negative consequences of participation.

Physical risk:

Physical discomfort and fatigue: Two FGDs were conducted, and although the second FGD continued for two hours, the student participants were keen to continue beyond the one-hour expected duration and did not report any physical discomfort. Although student participants were not remunerated for their participation, snacks were provided during both FGDs due to the length of the discussions and because it extended over teatime.

A fair and accurate account of potential discomforts, negative emotions, as well as anticipated benefits of the study were detailed upfront to prospective student participants in the informed consent document (Appendix C). Student participants attended FGDs in person. As this took place during the COVID-19 pandemic, albeit not during a wave, social distancing was ensured as mandated by the Disaster Management Act during the COVID-19 pandemic(Department of Co-operative Governance and Traditional Affairs, 2020). The semi-structured interviews were conducted online and did not exceed the hour duration as anticipated by student participants.

Fidelity and Responsibility**:** Student participants were asked to report any physical or psychological discomfort during the research process and had the option to withdraw from the study had he/she wished to do so. Student participants were also offered psychological assistance if any discomfort occurred during the research process, and the contact details for the institution's counselling service were provided upfront. None of the student participants indicated a preference for an educator from UCT Wellness to attend the focus groups to address any issues that may have emerged during the discussions.

Justice: Study student participants were provided equal opportunities for participation through invitations to all who qualified, as per the inclusion criteria for students and educators. The study findings were offered to all student participants who requested it by sharing their contact details with any of the research members. None of the student participants requested the findings be shared with them. However, to ensure transparency and equitable dissemination of the research findings, attempts will be made to disseminate the data in an open-access journal and presented at an international conference.

Respect for people's rights and dignity: The participation of all research student participants was voluntary, and consent was sought, following a full explanation of the study (Appendix C). Student participants had the opportunity to withdraw at any point before the submission of the study findings. Anonymity was maintained by removing all student participant identifiers and replacing them with a study number. In the FGD, student participants were asked to maintain confidentiality. It is acknowledged, that by the very nature of FGD absolute confidentiality cannot be guaranteed.

During data collection, the researcher team was intentional about remaining open and non-judgemental throughout that process. Although it is difficult to ensure complete anonymity

during FGDs, the research team ensured that all student participant details were anonymised by providing study numbers for each before data capturing. Although student names are required for consent purposes, the identity of the student has not and will not be matched to the study numbers at any part of the study. Any details in the data which may have identified any of the study student participants were omitted. This anonymity is particularly important to reduce institutional vulnerability. It is also important to mitigate external risks to the students where the results of the study may be misinterpreted or misused in public discourse, or that future employment as interns in the SA health sector may be affected.

Privacy was further ensured by storing data on a password-protected personal computer for the duration of the study. Data, in the form of audio recordings and anonymised transcripts, are stored in a password-protected file on OneDrive. A duplicate copy is stored in a personal iCloud drive and is similarly password-protected. Although deidentified, there exists a small risk that students could be identified from microdata. Therefore, Metadata only will be published on ZivaHub. This implies that only descriptive information about the research data such as the study title, authors, abstract, methodology and summary will be shared on the platform, without sharing the full raw data. This approach negotiates open science principles and privacy concerns. These are in accordance with the guidelines outlined in the UCT[6] data management policy.

4.8 Researcher Reflexivity

As the primary researcher in this study, it is imperative that I critically examine how I impacted and transformed the research process. This reflexivity is an opportunity to help the reader make sense of my presence throughout the research journey(Finlay & Gough, 2003). My background as a past convener of the UCT Acute Care curriculum, a lecturer and perceived insider with institutional

[6] These guidelines were downloaded from the FHS Human Research Ethics Committee website http://www.health.uct.ac.za/fhs/research/humanethics/forms

insights as a current employee in the institution, a postgraduate student, a woman in medicine, and my role in developing emergency medicine as a discipline in South Africa, all shape my perspective and approach to this research.

Reflecting on my positionality as a researcher and being aware of my own biases is particularly important in this study. It is natural for researchers to feel attached to their work and want it to be successful, however, I realise the importance of remaining cognisant that who I am may influence the research.

My position as a former Acute Care course convenor for two years, presents both advantages and challenges. My insider perspective influences the approach to the design, data collection, and analysis which may differ from an outsider's perspective. I acknowledge that I may have a better understanding of the context and culture of the subject matter, potentially enriching the study's context and interpretation of the findings. However, my position also introduces potential risks to the study by adopting a defensive stance about the curriculum's needs and importance. To mitigate this, I actively sought critical perspectives from student participants and frequently debriefed with colleagues in the research team and remained open to constructive criticism from peers, throughout the study process. My position may have also introduced an 'insider blindness' resulting in me overlooking findings that an outsider may have noticed. The process of debriefing with the external observer and member checking during data collection helped reduce this potential limitation.

My role as a postgraduate student, researcher and past convenor presented a unique dynamic. The shared experience as a student may have fostered empathy and understanding from the students and potentially encouraged more open dialogue. On the other hand, my relationship with the course may have implied an asymmetric power relation between the students and me, even though I was no longer the undergraduate convenor and therefore held no authority over the students. To mitigate this, the purpose of the research and the benefit to myself and the students - or lack thereof - was clearly stated before obtaining

consent, and before interviews. Student participants were also encouraged to view me as a learner in the process, seeking to understand their experiences and perspectives.

I do have a vested interest in the development of Emergency Medicine in the country, and I currently engage in national developments related to both undergraduate and postgraduate training programmes. My knowledge of the evolution of the discipline provides valuable insight into the phenomenon and discipline under study. However, my position may have also introduced preconceived notions of the importance of Acute Care and a heightened sense of its challenges. I am aware that it is crucial to maintain a balanced view of the discipline's importance and not overinflate or undermine its significance in the context of a curriculum that aims to develop generalist medical practitioners for the South African context. To counter this, I ensured that I used open-ended questions during data collection to allow student participants to guide the discussions towards areas they perceived as important for the study.

As a South African woman of colour, I appreciate that my sociocultural background does shape my worldview and approach to data analysis and could influence how I perceive and approach my work. It can provide a unique lens to "see" things that other researchers might miss in terms of equity, diversity, and inclusivity – particularly as it pertains to gender-related challenges in women in medical education. It may also facilitate a deeper appreciation of the lived experiences of NMFC students who are specifically selected from previously marginalised communities. Equally, my background could also limit perspectives by allowing me to easily interpret certain experiences while blinding me to others. I was intentional about remaining objective, acknowledging biases and blind spots, and advocating for inclusivity in my work. I engaged in peer debriefing with colleagues from diverse backgrounds which forced me to challenge my assumptions and confront biases.

By acknowledging and actively addressing these aspects of my positionality, I was able to conduct a rigorous and trustworthy study that fairly represents the experiences of NMFC

students in the Acute Care curriculum while leveraging my unique perspective as an insider researcher.

4.9 Trustworthiness

In qualitative research, there are four methods to ensure trustworthiness: transferability; dependability; confirmability; and credibility(Malterud, 2001).

4.9.1 Transferability: this refers to the extent to which the findings are found by others to have utility in their context. Particularly relevant for this study is whether the findings will be transferable to all SACMC students doing Acute Care nationally, as well as inform the experiences of those in other placements at UCT. While the onus is upon the reader to assess whether the findings are transferrable to the reader's context, thick descriptions were used to describe the context and student participants in this study, its limitations, and its relation to other published work.

4.9.2 Dependability: ‘‘Dependability is the extent to which the findings are consistent with the contexts in which they were generated.”(Stalmeijer et al., 2014, p. 935). As described above data collection was exhaustive, as all student participants eligible to participate did so. Emergent topics were accommodated. Methodological descriptions are included in the study, as well as the data collection tools, allowing reproducibility of the study.

4.9.3 Credibility refers to awareness of potential bias and researcher credibility, as well as believability that the findings were from the student participants and not the researcher. Here, I have and will continue to demonstrate reflexivity. This involved maintaining an acute awareness of my positionality as the researcher and identifying, clarifying, and managing my influence on the process. I have also engaged in peer debriefing; and triangulation of results with the findings of the observer, as well as respondent validation from both FGDs and interviews, through member checking. Furthermore, claims can be traced from the raw data, should it be required.

4.9.4 Confirmability is the believability of findings which are enhanced by evidence and theoretical fit. In this study, data was collected using FGDs and semi-structured interviews, which are well-established qualitative research methods. A process of member checking was undertaken at the end of each FGD and interview to validate the interpretations. The recordings from both methods were transcribed by an independent company. These transcriptions were then checked and verified. The themes were generated and cross-checked by the supervisory team to ensure authenticity. There was also a liberal use of quotes to ensure confirmability. Furthermore, a record of the progressive analytical process is securely maintained by the primary researcher.

4.10 Data dissemination plan

It is the intention to disseminate the findings of the study. Any student participant who wishes access to research findings shall be granted such, on condition that confidentiality is maintained. This offer was made to all student participants in the study, although no request was received. The primary purpose of this study and its findings is the completion of the Master of Philosophy in Health Science Education at UCT; therefore, this study will be published in UCT's open scholarship portal which is openly available on the university libraries' electronic database for easy access to the study student participants and any other interested parties within and beyond UCT. It is also the intention to submit the findings to a peer-reviewed journal publication.

4.11 Conclusion

This chapter has presented an overview of the research design as a robust framework for exploring the experiences of Nelson Mandela Fidel Castro (NMFC) students and educators in the Acute Care curriculum at UCT. This study gathered rich insights into student participant perspectives and experiences utilising a process of qualitative enquiry rooted in phenomenology. A dual approach of FGDs and semi-structured interviews for data collection,

combined with rigorous data analysis and attention to trustworthiness, has derived a comprehensive dataset to inform the Acute Care curriculum renewal process.

Chapter 5 follows with findings that emerged from this methodological approach. The emerging themes shed light on the current state of the Acute Care curriculum for NMFC students and also offer insights to inform future curriculum development and support for student transitions in medical education for this unique cohort of medical students.

Chapter 5: Findings

5.1 Introduction

This study presents an analysis of the data obtained from two FGDs and four semi-structured interviews aimed at addressing the research question:

What are the educational challenges and opportunities for improvement in the teaching-learning of Acute Care to be considered in the curriculum renewal for NMFC students at UCT?

To meet this aim, four objectives were outlined for exploration:

e) What are the educational experiences of NMFC students with the existing Acute Care curriculum?
f) What role has transition had in NMFC students' educational experience?
g) What role has simulation had in the teaching-learning of Acute Care concepts?
h) What were the coordinators' experiences of NMFC students as they pertained to Acute Care at UCT?

Ricoeur's theory of interpretation was applied in the analysis to identify common themes. This process involves three levels: explanation, naïve understanding, and in-depth understanding(Tan et al., 2009). Explanation refers to the process of dissection of the data into its simplest parts to understand the relationship between those parts. Level 1 in this study, is represented by the codes (Table 2). Naive understanding refers to the immediate interpretation of the data without a deep and critical examination. This naive understanding is represented by the formulation of the sub-theme and major themes (Table 2). The in-depth understanding emerged from the application of the theoretical framework as described in Chapter 3, utilising transition theory and CoP as the analytical lens. This method of analysis, when applied, accommodates the researcher's beliefs and experiences, as well as their knowledge of the student participants, in the process of interpretation.

5.2 Descriptive findings

Following the analytical strategy outlined in Chapter 4, approximately 380 codes were extracted from all the meaning units in the transcripts, which were reviewed and summarised several times. From these, four main themes emerged:

1) Elements supportive of learning.

2) Factors that undermined learning.

3) Transition between countries and institutions.

4) Enhancing the curriculum.

The results of the Levels 1 (explanation) and 2 (naïve understanding) analysis are summarised in Table 3.

Table 3: Study themes, sub-themes, and codes

MAJOR THEME	SUB-THEME	CODES
1. Elements supportive of learning	*How the Acute Care curriculum addressed knowledge and skills not taught in Cuba.*	• Learnt to manage emergencies (Sewnet Tesfaye*) • Approach to the undifferentiated patient (Sewnet Tesfaye*) • SDL facilitated learning (Sewnet Tesfaye*) • Good supervision(Sewnet Tesfaye*) • Exposure to a variety of pathologies and specialities (Sewnet Tesfaye*) • Able to save the patient. (Sewnet Tesfaye*) • Good preparation for internship (Sewnet Tesfaye*) • Fast pace (Sewnet Tesfaye*) • Able to apply knowledge in SA (Sewnet Tesfaye*) • Gratitude (Sewnet Tesfaye*) • Self-identified gaps (Sewnet Tesfaye*) • Language (Sewnet Tesfaye*) • Peer-based learning (Sewnet Tesfaye*)
	Feeling part of the learning environment	• Doctors are helpful. (Sewnet Tesfaye*) • Working with a team known to the student (Sewnet Tesfaye*) • Integrate with UCT students (Sewnet Tesfaye*)

	Learning with simulation	• Helped relate SDL. (Sewnet Tesfaye*) • Facilitated learning. (Sewnet Tesfaye*) • Skills embedded in transition/introductory programme beneficial. (Sewnet Tesfaye*) • Provided exposure to emergency scenarios students weren't exposed to in the workplace. (Sewnet Tesfaye*) • Enhanced teamwork. (Sewnet Tesfaye*) • Promoted leadership skills. (Sewnet Tesfaye*)
	Educators' perception of students	• Eager to learn. (Sewnet Tesfaye*) • Strong knowledge base (Sewnet Tesfaye*) • Gratitude (Sewnet Tesfaye*) • Ability to adjust to the English Language (Sewnet Tesfaye*) • Aware of needs and limitations (Sewnet Tesfaye*) • Fast learners (Sewnet Tesfaye*)
2. **Factors that undermined learning**	*Lack of time*	• Not enough time (Sewnet Tesfaye*) • No opportunities for spaced repetition (educators) • Little time to address foundation knowledge and skills (educators) • Incomplete curriculum (educators) • No time for SDL. (Sewnet Tesfaye*) • No time to address learning gaps. (Sewnet Tesfaye*) • Poor integration (educators)
	Orientation gaps	• Poor orientation to the team (Sewnet Tesfaye*) • Students didn't know where to be. (Sewnet Tesfaye*) • Felt they were not known to staff (Sewnet Tesfaye*) • Students get lost (educator)
	Limited exposure	• Poor exposure to high-acuity patients (Sewnet Tesfaye*) • Exposure and learning proportionate to student initiative to integrate. (Sewnet Tesfaye*) • Limited clinical exposure in Cuba resulted in low confidence (educators)

	Othering	• Felt excluded/ Unwanted. (Sewnet Tesfaye*) • Less competent (Sewnet Tesfaye*) • Discrimination by clinicians (Sewnet Tesfaye*) • Isolated (Sewnet Tesfaye*) • Need to prove themselves (educators/students) • Fear (Sewnet Tesfaye*) • Referred to as Cuban doctor/student (educators) • Outsiders/don't engage with UCT staff/students (educators)
	Gaps in competencies	• Students lacked basic skills (educators, students) • Poor application of knowledge to practice (educators) • Poor understanding of emergency processes (educators) • Quality of graduate (educators) • Poor therapeutics knowledge ((educators) • Poor knowledge of infectious diseases (educators) • Lack of diagnostic and management competencies (educators)
3. **Transition between countries and institutions**	*Culture shock*	• PHC vs Curative models (Sewnet Tesfaye*) • Despondent (Sewnet Tesfaye*) • HCW burnout (Sewnet Tesfaye*) • Societies responsibility (Sewnet Tesfaye*)
	Misaligned Curricula	• Different disease burden (Sewnet Tesfaye*) • Cuba content/knowledge focused. (Sewnet Tesfaye*) • No Acute Care (Sewnet Tesfaye*) • Level of health service (Sewnet Tesfaye*) • No teaching on managing critically ill patients (Sewnet Tesfaye*)
4. **Enhancing the curriculum**	*More time*	• Extend to 4-weeks. (Sewnet Tesfaye*) • Teach Acute Care in every block. (Sewnet Tesfaye*)

		• Students need equivalent time as SA students for equivalent outcomes ((educators)
	Facilitate integration through enhanced support	• Feel part of the team (Sewnet Tesfaye*) • Address discrimination. (Sewnet Tesfaye*) • Pair with UCT students (educators) • Assimilate with support (educators)
	Address misalignment	• Assumption about their baseline knowledge (educators) • Determine overlap in curricula. (educators/students) • Address NMFC students skills deficit (educators/students) • Surgical skills were repeated in SA. (Sewnet Tesfaye*)
	Expected Acute Care Outcomes	• Basic Life Support Skills (educators) • Advanced Life Support skills (educators/students) • Use of a defibrillator (educators) • Basic and advanced airway management (educators) • Basic ventilation (educators) • Have an approach to the management of the critically ill patient. (educators/students)

5.3 In-Depth Analysis Utilising Transition Theory and CoP

As discussed in Chapter 3, the NMFC student experiences multiple transitions in their tertiary education: they *move into* Cuba*, move through* the Cuban Medical Education System educated in Spanish, and then *move on* from both the education system and country to enter a different and shorter cluster of transitions within the SA medical education system where they move into UCT. They then reorientate by moving through 18 months gaining new knowledge, skills, and attributes using English, to *move on* successfully with equivalent outcomes to SA-educated medical students, as graduates. Although an anticipated event, how the individual copes within these phases is dependent on the several factors within the

4Ss. Each 'S' contains multiple elements which must be considered to understand how the individual responds to transition, as described in Chapter 3 (Table 1).

To develop an in-depth understanding, the preliminary findings from the thematic analysis of the two datasets (Table 2) were related to the dimensions of Schlossberg's transition theory, as presented in Figure 14. Elements of CoP were used as a theoretical lens to further interpret findings under the "situation" dimension. In addition to Schlossberg's Transition Theory, the lens of the Community of Practice theory can provide further insights into the experiences and challenges faced by NMFC students during their transition. The Community of Practice theory emphasises the importance of social learning and interaction within a community to support individuals' transitions and professional development.

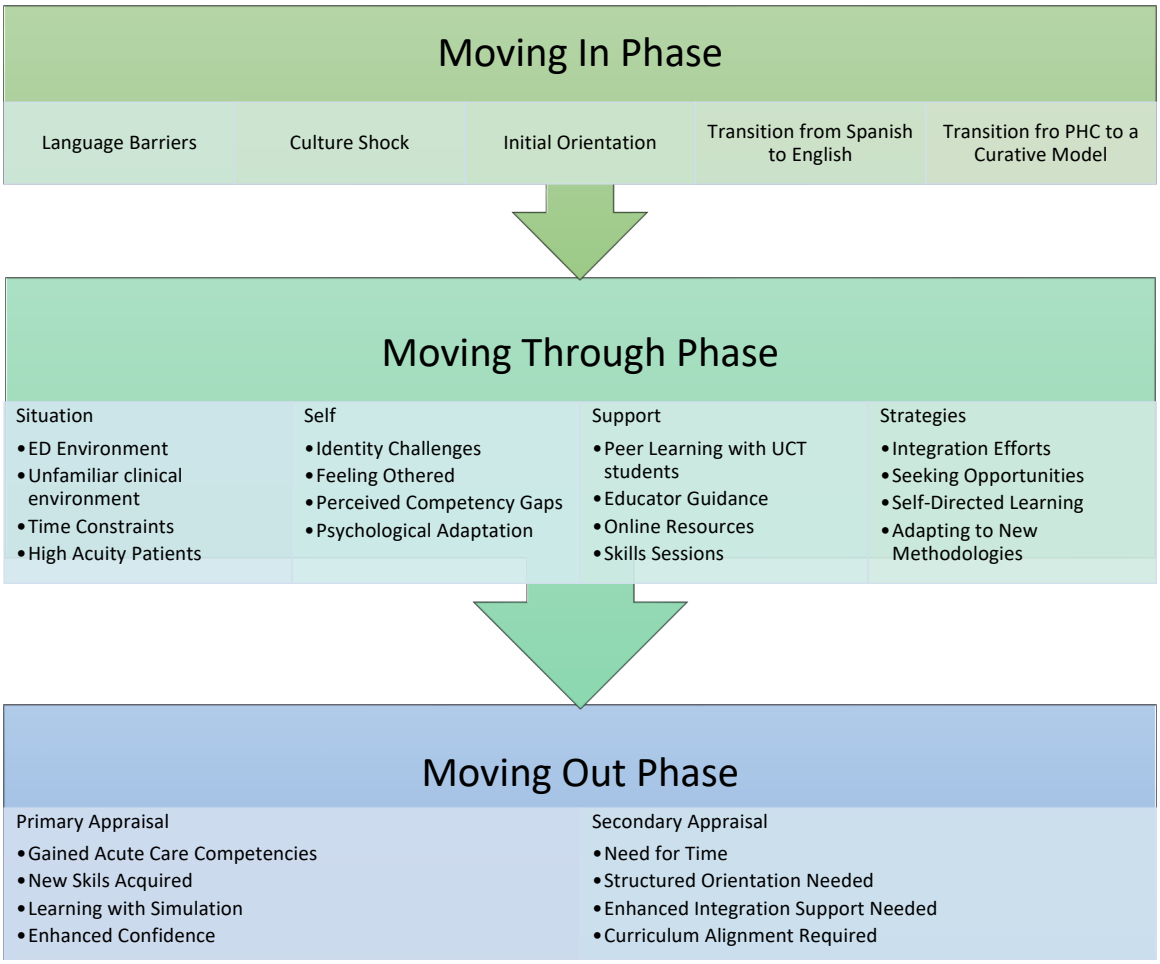

Figure 14: A Summary of Transition Stages for NMFC Students in Acute Care

5.3.1 Transition Theory

5.3.1.1 Moving In

The 'moving in' component of transition theory describes the transition from Cuba into SA and UCT. This context is important to understand as it shapes students' experience of Acute Care. Notably, during the FGDs, when asked specifically about the Acute Care experience, students would often reference their experiences or position their responses in contrast to that in Cuba or other rotations at UCT. Therefore, those responses were analysed and included in the 'moving through' section which follows.

A significant aspect of this transition was the shift from a preventative healthcare focus in Cuba to a more curative model as practised in South Africa. NMFC students were shocked by how many patients presented with advanced stages of illness that could have been prevented through lifestyle modifications and early interventions. Despite having a strong primary healthcare background, they felt discouraged by the lack of emphasis on prevention within SA's healthcare system, as exemplified by one student participant:

> *"We were taught in a primary health care setting, what we see in South Africa, well for me personally, it was shocking at first, that people actually get very sick before they seek medical attention, people can actually come with a black foot, it's a gangrenous foot, it's mummified and everything and then they come to the hospital and they expect you to perform miracles, and I'm just like… [In] Cuba a doctor, if you skip your treatment, a doctor would literally go to your house or residence and see what's happening and if they have to they would take your treatment to you if you cannot, so it was a big transition from that to actually dealing with a lot of complications that could have been easily avoided with lifestyle modifications, good education, so that was basically the teaching that we were exposed to and then you get to South Africa, you actually deal with things that you see in the textbooks and it's quite unnerving, it's like this is actually*

like [Kaposi's Sarcoma], this is like stuff I've read in a textbook, I don't expect to see this in an actual human being because there are treatments, there's prevention, so ja, it was quite challenging moving from that and coming to South Africa with the burden of disease." ***Student participant 2 (FGD1).***

This cultural shift extended beyond the healthcare models and included broader societal differences and expectations placed on NMFC students. Some students were unprepared for the disparities in health systems and exposures in terms of work function even though they knew to expect a different environment to Cuba:

"I came [to SA] in 4th year when we came and did our electives and I went to the hospital and I was in the medical ward for the first time, I literally had a mental breakdown, I left the hospital and I went so far away to cry because I saw people who were super sick who've got…like their CD-4 counts were like 4 or 2 or 0 and stuff, they were so, so sick, I was like all those years I was seeing healthy patients, nice and even treating them and examining them without worrying about gloves or PPE and all those things, now…these patients are sick, you have to take more caution and prepare ourselves and it drains you because like mentally you have to be there and like this patient is critically ill and you have to know what to do and all that, that was quite hard for me." ***Student participant 5 (FGD2).***

This culture shock also extended to perceptions about competence and expectations placed on NMFC students compared to locally trained students. Despite their PHC competencies, NMFC students felt that they were perceived as less competent due to gaps in specific areas like TB management or being unfamiliar with certain medications used locally:

"…when you come to South Africa, we are looked at as dumb doctors or doctors that don't know nothing, just because we don't know how to treat TB so the doctor that

knows how to treat TB is actually better than the doctor that knows how to prevent TB, …" ***Student participant 5 (FGD2).***

Students reported that they were made to feel less competent by senior staff and perceived this assumption of their competencies as discrimination towards them. They questioned the value any intervention would have in addressing such discrimination, and felt that it was one of the factors which informed their experience of their transition, but one which they had no control over:

"…ask our doctors when we are at the hospitals to not like physically exclude us…when we did paed[iatric]s, there was like a major exclusion to a point that we hardly did procedures…there was a time that she [NMFC student] took blood from a baby and the blood was already in the syringe, and they called a UCT student to come to finish up because we were not competent for that and everything was called out to be done by UCT students, …if you don't trust us enough, be there to guide us and like show us when we're doing it wrong." ***Student participant 5 (FGD2).***

"Like we can't deny the fact that there is some sort of discrimination between NMFC and UCT, other people…I mean you can't control what people do or how they're going to act towards you, so when I got here and like saw that there is some sort of discrimination, I was like no I don't care, I'm going to do what I have to do." ***Student participant 4 (FGD2),***

"So it's quite scary, it has its ups and downs because sometimes you feel like you are not wanted, you are just another person." ***Student participant 4 (FGD2).***

NMFC students also expressed frustration with what they perceived as a lackadaisical attitude towards patient care among SA healthcare professionals due to burnout and an overwhelmed health system:

> *"[It]is very difficult because it's very easy for us to come back to South Africa and be absorbed into the system and not make any changes because it feels like everyone has given up, you treat one patient and the very same patient, you took them out of heart failure two months back, they're in heart failure, and you feel like…for me there was a time where I feel like we're not making a difference in South Africa, we're not actually doing anything, we're just recycling patients each and every time, people are just coming, people are not getting better, people are dying, there's nothing that we are doing as health care professionals to say let us shift the health of our country to a better place. So ja, it's something very emotional I think for me, because it hurts that we just are putting bandages on people basically."* **Student participant 2 (FGD1).**

> *"It's as if everyone is dead inside, you get into the medical…and some doctors will tell you, oh you'll see, you'll get used to it, which is…I don't know like it's like they just are telling you, the passion that you have, the love that you have for medicine, it's going to die eventually, so…I'm sorry, but that's what I've experienced coming from Cuba to South Africa, that everybody and it's…the health system is so burdened that everyone is burned out, you meet interns they tell you that, now I'm leaving, I'm leaving clinical medicine, after 2 years I'm done, they will tell you that this is not for them, people are losing their passion for medicine, people are losing their love for health and it's so discouraging at times."* **Student participant 6 (FGD2)**

Student participants were critical in the reflections of their experiences and did appreciate that the responsibility of patient care lay not with HCWs alone, but that it needs the active engagement and will of society itself:

"I feel like it's really difficult to achieve proper primary health care without the involvement of the people itself, like without…the citizen needs to participate as well because we can only do so much as health care professionals, we need their active participation, you can't teach someone who doesn't want to learn, … the Cuban population are well informed, they know what medication they are taking, they know what is it for, how frequent they're supposed to take it, …[in SA] so what I've heard most of the time is, they're telling me they're drinking the orange pills, and you're asking yourself how many orange pills do I know of, so that education, I've seen some doctors, they even gave up on the teaching part because like what's the point because like you teach someone, tomorrow they come back non-compliant." ***Student participant 3 (FGD1).***

5.3.1.2 Moving Through

a) Situation:

The 'Moving Through' phase of Schlossberg's theory describes the NMFC students' experiences within the Acute Care curriculum at UCT. This situation presented a learning environment markedly different from their previous experiences, characterized by a diverse case mix, novel approaches to patient management, and the introduction of simulation-based medical education (SBME).

Students' perspective of their learning experience was positive, however, within this situated learning environment they felt rushed and inadequately orientated which were viewed as significant limitations. The complexity of the 'situation' they found themselves in was further compounded by the exposure to critically ill patients and a health system which was viewed as curative as compared to the preventative focus on stable ward patients to which they were previously exposed.

The **'trigger'** in this study, was interpreted as moving into Acute Care and residing and learning within the context of the ED. Students were separated into different groups upon arrival at

UCT, therefore the rotation that they were transitioning from, into Acute Care, was different for each of them. However, what was apparent from the findings is that Acute Care, particularly the ED, presented a quite different learning environment from the ward or clinic-based learning environments at UCT. Student participants articulated the complexity of this ED environment:

> *"..what makes [EM] stand out [is] that adrenalin rush you get off like you have to save a patient, stabilise a patient and… it's one of those specialities I consider an actual lifesaving speciality."* ***Student participant 2 (FGD1)***

> *"the exposure itself to all multiple pathologies that I think also is very useful and I think it's very important for me as a future junior doctor as well*." ***Student participant 3 (FGD 1)***

Their previous ward-based structure of learning limited their opportunities to care for high-acuity patients, which made it difficult for them to adapt to the fast-paced nature of ED upon their arrival at UCT:

> *"When I went to Cuba there's no such thing as a ward where you see critical patients, the hospitals are even empty at some point when you're there and there are no serious emergencies and like nothing is really actually happening that is scary or people that are too critical, the only place that I saw critical patients is like at the oncology hospital because a lot of people get cancer."* ***Student participant 5 (FGD1)***

The **'timing'** of the transition presented an additional challenge. NMFC students were considered 'senior students' in Cuba, yet in Acute Care they were integrated with 4th year UCT students for some sessions, to scaffold gaps in their Acute Care competencies. As one student participant verified, this situation created a complex dynamic:

"…whether you like it or not you have to work you know, I mean you are a whole 5th year when you come here and then you are integrated with the 4th years and they are on their game and now it pushes you to work hard and it's not easy!" ***Student participant 7 (FGD2)***

There was very little that was in students' **'control'** within the Acute Care rotation. Although students thought the module was well-structured, they did feel that the orientation could be improved upon to provide them with the tools necessary to navigate the ED environment, optimize the teaching-learning opportunities, and help manage their expectations of the placement. Student participants expressed that they felt, *"Just thrown in there"* ***Student participant 2 (FGD1),*** and "*We didn't know where to be, what to do and who we should ask about the whole Acute Care rotation*." ***Student participant 5 (FGD1).*** When students did enquire, they found that "*…nobody knew who we were sometimes…nobody knows the programme, module, students…would be nice if they knew the module*." ***Student participant 2 (FGD1)***.

One major challenge identified was the **role change** which students had to undergo, as a direct result of the difference in disease burdens between Cuba and South Africa, which they found apparent in the ED. For students, the biggest difference was in the prevalence of infectious diseases and the severity in which it was presented locally. NMFC students had limited exposure to high-acuity cases as well as infectious diseases such as HIV and tuberculosis (TB), during their training in Cuba. This limitation created competency gaps which they realised upon encountering these conditions in South Africa.

"*but those HIV, like the whole 6 years I was in Cuba I only saw 2 patients who were HIV positive and they were both gay people because apparently, that's what they only think in Cuba, that HIV is for gay people, because it's the majority of gay people that do get*

HIV, but to normal people we didn't see and even still they were not like bad patients, they were normal patients, like healthy looking patients that were at the hospital for something else…" **Student participant 5 (FGD2).**

"… *this is a different system, two countries with different business profiles and all that, stuff that I learned in Cuba and stuff I saw in Cuba and the stuff that really helped, never see none of again because they're not here and obviously stuff that I'm learning here now was the stuff that I did not learn in Cuba, for example when I got here and did my [rotation] in [district hospital], and we had a TB abdomen case and I did not know that TB could go to the abdomen…we looked at the spleen and we saw whatever … the only thing that I knew about TB it was from the small Oxford thing and I was just reading it,…obviously you never see TB cases in Cuba, so it was just reading that Oxford clinical guide whatever and it was just 2 pages of TB and it tells you it's a lung condition and whatever and that's the only thing that I knew about TB. Now when I came here there's all TB [everywhere] then I was like goodness me, how am I going to survive the whole thing…"* **Student participant 1 (FGD2).**

The misalignment between the Cuban and South African curricula extended beyond disease profiles to encompass teaching-learning methodologies. According to student participants, Cuban education is more focused on knowledge acquisition rather than clinical practice, while South African medical education, especially in the context of the ED, emphasizes the application of knowledge through hands-on experience with patients, albeit a more curative approach. As a result, NMFC students often struggled with translating theoretical knowledge into clinical practice upon their return to South Africa:

"when it comes to the content, like the theory part, truly speaking, from Cuba…it was very good, …so we had that content, even though the language was the barrier as well…sick patients is the only thing that's lacking, but as medicine generally in Cuba, it was quite good. **Student participant 5 (FGD2).**

"[In Cuba], you'd learn about diseases and probably not see them, but in South Africa, you learn about them and see them which reinforces that learning and makes it easier for you to remember what you've learned." ***Student participant 2 (FGD1).***

Not all students felt that the transition was made with such ease, and were challenged by the limited clinical exposure in Cuba,

"For me personally, it was difficult … the system in South Africa is, from 3rd-year people go to hospitals, people do practice, people know how to do certain things, so it's easy for you to learn while applying your knowledge, rather than taking in a lot of information then after a lot of years now you have to re-produce that, it's not easy." ***Student participant 7 (FGD2).***

One of the primary challenges identified was the lack of time allocated to Acute Care. NMFC students felt that the short two-week **duration** did not allow them enough time to fully understand and master the content. This issue is compounded by a fast-paced learning environment, which can be overwhelming for students. Educators also recognize this limitation and suggest that more time should be dedicated to Acute Care to ensure comprehensive learning.

"you can't have all that exposure in 2 weeks,…I mean it takes us 4 weeks to get used to psych[iatry]and also the emergencies…so it's a lot of stuff to get exposed to in just…and I feel like it's overwhelming... " ***Student participant 3 (FGD 1)***

Educator student participants believed time as a resource was the biggest constraint and confirmed that the module was rushed. *"[It was] not possible to cover all topics equivalent to the UCT Acute Care curriculum in 2 weeks" (**Educator 2),*** as that would entail *"…consolidate[ing] 8-weeks of learning into 2-weeks" **(Educator 1).*** This provided little time for meaningful engagement with the content provided, yet they were assessed according to equivalent outcomes to SA students who had cumulatively 8 weeks of exposure over three years of undergraduate training:

> "*…for all the students it's a little bit rushed and a lot of information in two weeks, and then we expect them to know it…at the end of the final year, which I think is something that...all the educational committees need to look at." (**Educator 2).***

The rushed module within the UCT training programme was a **concurrent stressor** for students. So too was the difference in language. NMFC students' previous Spanish-medium instruction, combined with the complexities of English medical terminology and SA healthcare-specific abbreviations, hindered their full engagement in group learning activities. This linguistic variance including the contextual disparity impacted their overall academic integration and learning outcomes, highlighting the need for targeted support in cross-cultural medical education settings:

> *"..quite challenging [as]everything is happening so fast like you don't even get time to catch up…I feel like there is not enough space every 2 blocks, …next month you're just taking another thing, …, unlike UCT students, they have I think electives or something, …so even if you fail a block, they get to actually get a chance to repeat [a] block in the very same year, so for us, you have to wait for the next year …" **Student participant 5 (FGD 1).***

"…the only thing that I think was difficult with me was the language, having to think about stuff you know the condition, but then it's in Spanish, you have to translate it and sometimes you're just standing there, you don't know what to say and it's like agh, this one doesn't know anything, but you know, you can't really say it in English." ***Student participant 4 (FGD2).***

"…the students from Cuba struggle with the language, the abbreviations that are used during ward rounds and they're so embarrassed to keep asking what DVT stands for, whereas everybody seems to be understanding around them, so they said they struggle a lot with the medical terms and the abbreviations used by doctors." ***Educator 3***

It is interesting to note that the language limitations came through strongly in this study despite NMFC students' previous experience with their transition to Cuba when they had to learn an entirely new language. It raises questions as to what shaped the Cuban experience to enable students to better cope with the language change, or whether it may have been due to student agency or perhaps, an increased motivation to succeed, accepting that had they not learnt Spanish, they would not have been able to study medicine in Cuba.

Assessment refers to the perception of those responsible for the transition. Educators felt that students possessed the theoretical knowledge expected but that students struggled to apply the knowledge gained in Cuba, to clinical practice,

"So it wasn't necessarily a lack of knowledge. It was a lack of knowing how to apply. It was a lack of context that you needed to sit and spend some time of understanding that this patient might need suctioning because this patient might have allergies and is unable to swallow secretions." ***Educator 1.***

There was an assumption of the level of knowledge and skills NMFC students came with, but educators felt that foundation knowledge and skills had to be taught or reinforced (***Educators 1,2,3,4)***. The lack of basic clinical skills such as IV line insertion (***Educator 2)***, and the use of the Automatic External Defibrillator (***Educator 3)***, was evident. This skills gap was such that, "*[the] majority of NMFC students needed remediating after the exit OSCE" (**Educator 2&3).*** This raised concern that the institution was producing interns who were not competent to work in the frontline of hospitals (***Educator 2) *.***

Similarly, educators assumed that NMFC students possessed competencies related to infectious diseases. The assumption was that NMFC students possessed baseline knowledge of infectious diseases - to formulate diagnosis and management plans - and therefore did not modify their teaching approaches. It became apparent that they lacked an understanding of TB diagnosis and treatment as well as anti-retroviral therapy at the time of student assessments. This resulted in the need for remediation and raised concerns, as educator 2* above, about producing interns who may not be adequately prepared to work on the frontline, particularly in emergency care settings.

> *"So for me what was striking…is that they only just came to my attention after they've written the exam and they failed dismally, that we assume that … they have the baseline knowledge about the disease and what the examination findings are meant to be, so we don't focus on the diagnosis, we focus on the management, whereas they actually…the knowledge gaps started even with the diagnosis of TB and they'd never heard of the drugs that we speak about when we're talking about anti-retroviral drugs which we assume that they would have come across patients on antiretrovirals because it's so common…*" ***Educator 3.***

All educators perceived NMFC students to possess favourable attributes as it pertained to their willingness to learn, communicate, and participate, and that they demonstrated a sense of *"gratitude"* for the competencies gained:

> "*They were unbelievably enthusiastic about learning and being given the opportunity to have this [module]. All of them are great for that and they were very, very quick to learn. I think having been through some of the adversities that they would tell me that they've been through in Cuba where it was learning a language or, you know, totally different environment being totally out of their comfort zone (speaks] of their resilience"* ***Educator 4***.

All agreed that NMFC students came with very *"good general theoretical knowledge".* ***Educator 1*** also added that *"NMFC students were aware of the gaps as it pertained to Acute Care",* and the students were very *"transparent about their educational needs"*, which confirmed the findings above.

Viewing the Situation through the Lens of Community of Practice

Viewing the NMFC students' experiences through the Community of Practice lens provides additional insights into their transition and integration processes. The three components of CoP were used to further interrogate the concept of 'situation,' i.e.: Domain, Community, and Practice.

Domain - the common area of interest among the members

The domain here is the practice of Acute Care within the context of the Emergency Department (ED). The process and flow of an ED was a new experience for NMFC students. Not only because Acute Care did not form part of their education in Cuba, but as already noted, their ward-based structure of learning provided minimal or no exposure to critically ill patients,

"What happens when you get trained in internal medicine for example, in Cuba, you get allocated a bed and if you happen to have a patient that stays in that bed for the entire rotation that you're there, that's the only person you're going to get to examine, so you don't get an opportunity to look after other patients in the ward because your responsibility is just watching whoever lands up in that bed, if there's a high turnover then you get to see more patients, but if there's low turnover in the bed that you're allocated, then you're going to get stuck with seeing one patient over and over again which limits the opportunities for training." ***Educator 3****.*

This is in stark contrast to the rapid turnover of patients in EDs where there is a need for expedited decision-making, patient management, and disposition, ideally within a few hours.

Community - how information is shared and knowledge is created

Enhancing competency in Acute Care in undergraduate medical students within the Emergency Department (ED)incorporates multiple methods of teaching-learning. Experiential learning is expected through placements in EDs; skills-based teaching occurs outside of that environment but as an extension of that community educating in a skills lab; and self-directed learning from resources provided online.

The students derived benefit from the two weeks of skills orientation they received upon their arrival in 2020, which was developed in response to the in-hospital limitations imposed by Covid at the time:

"…lacking better words to explain how excellent the skills sessions [were], they were excellent because just from the get-go…we did not [know] how to do most of the stuff and in that 2 weeks it kind of blended us in and it kind of like enlightened us and allowed

us to learn one or 2 things moving on to final year and doing all those practice sessions under Acute Care rotation." ***Student participant 1 (FGD2)***

As part of their two-week module in Acute Care, NMFC students joined 4th-year UCT students twice a week for their skills sessions and 6th-year students weekly. Of this integration with the 4th years, NMFC students felt that:

"*They prepared us and they gave us the upper hand moving into the session with the final years because at least when we got there it was pretty much the same thing but now obviously we are in a position to actually participate and be there and be more involved..."* ***Student participant 1 (FGD 2)***

Based on the quotes provided, the skills sessions in the community of practice were highly effective and beneficial for the individuals involved. The sessions helped them learn and improve their skills, particularly in preparation for their final-year work placements and practice sessions within the Acute Care rotation.

In terms of the "community" element of the community of practice, it can be inferred that the skills sessions played a significant role in fostering a sense of unity and collaboration among the student participants. The fact that they started not knowing how to do most things but eventually learned together suggests that there was active participation, shared learning experiences, and mutual support within the community.

In addition to workplace and skills-based learning, there is an expectation for NMFC students to engage in self-directed learning (SDL) with content online. Knowledge is then self-assessed by formative assessments after each section. There is a reliance on student initiative to

engage with SDLs as the assessments are low stakes. Students were able to appreciate the learning opportunity from SDL's:

> "*…for me, that part of the quizzes actually was nice for me, and coming from evaluation, evaluation, evaluation, it was kind of a break and for me to take whatever I'm doing on the quizzes and put it to practice in Acute Care and for me that was enough."* ***Student participant 1 (FGD 2).***

> "*I make sure I go through the things and do the quizzes and learn them myself and they actually helped."* ***Student participant 5 (FGD2)***

The quote also highlights how these sessions brought about enlightenment and facilitated students learning. This suggests that there was a positive impact on individual growth and development within the community of practice.

Practice - the application of that knowledge

Essential to CoP are practice and participation. This is important as through participation people are connected, dialogue is enabled, learning is stimulated, and new knowledge is created. Here, although students felt that the interactions with clinicians in the workplace facilitated learning, they did report not being fully able to participate within the community in the workplace, as undergraduate students, as they lacked the insights that UCT students possessed particularly as it pertained to understanding the environment sufficiently to realise the opportunities for exposures to higher acuity patients. In addition, they were challenged by the need to interpret information in Spanish, which is the language they were educated in, then translated and communicated in English. Learning as a social exchange, we see, is also dependent upon 'self' elements, especially student agency to engage and interact and drive their learning. This will be addressed in the next section on 'Self.' The findings also show that Acute Care did not meet the expectations of some students who anticipated being educated

in an environment that only managed emergencies which may be further evidence of their lack of insight into the patients' healthcare journey in the SA context.

> "*…students don't go to the red zone, so all the patients that we're seeing are patients who are coming with swollen knees and not even like an asthma attack, those are not the patients that we see, we see the minor stuff, I feel like I'm not being prepared to take care of a patient who's actually red.*" ***Student participant 4 (FGD1).***

> "*So I was really expecting action, more action actually…it says itself, it's an Acute Care so it's emergency so you need to be on an emergency site, not to be in a site that it looks like it's a general medicine or you're in a ward…. Only 20% of that were emergencies"* ***Student participant 3 (FGD2)***

This may be the product of a lack of facilitated integration with SA students and ED teams and directed supervision although student motivation may have also played a role.

> *"It was like we were just you know what, just go and see for yourself and see if you can find a way in, and if you have no one you know, you don't know anyone so it's just like okay I'm alone…it's just that thing that you need to make friends in order to enjoy the Acute Care, to see the action…just independently, just like that!*" ***Student participant 3 (FGD2),***

Students implied that the extent of exposure and learning was proportionate to student initiative to integrate and inclination towards self-directed learning, which was demonstrated by UCT students.

> *"…but also those things are in the red side that we're not going into and then I think maybe on our part it's also that when we go there, maybe we report to people that actually work in the green side[low acuity] and we did not specifically go to the people who are actually working there in the red side, so it might be that as well because obviously we choose the path of least resistance …I mean you have to admit that as well."* ***Student participant 6 (FGD2).***

Further participation and the application of learning were facilitated by supervising doctors in the workplace. Students reported that the doctors in the workplace were also supportive and that there were opportunities for bedside teaching in the workplace, which supported their growth in becoming doctors.

> "*[The] doctors that I was working with, they were very positive, the kinds of questions they were asking and they gave us that platform to explore and do things before consulting them."* ***Student participant 6 (FGD 1).***

Exploring the CoP perspective by interrogating its components of domain, community, and practice, has revealed additional insights into NMFC students' transition and integration:
Legitimate peripheral participation: NMFC students moved from a peripheral position in the UCT undergraduate community to a more central participation. This process was facilitated by UCT-trained students and some clinical supervisors but was also hindered by feelings of perceived incompetence and exclusion.

Identity formation: the transition challenged NMFC students' emerging identity as SA medical practitioners which was marred by a perceived lack of acceptance by other HCWs and society itself.

Shared repertoire: NMFC students had to adapt to the shared practices, language, and tools. This adaptation was challenging due to differences in medical terminology, clinical approaches, and healthcare systems between Cuba and South Africa.
Joint Enterprise: NMFC students possessed a shared goal of becoming competent medical practitioners, yet their educational differences challenged how this could be achieved.

In summary, the CoP framework was able to deconstruct the complex process of transition on identity formation and integration during NMFC students' Acute Care rotation, highlighting the importance that social learning, shared practices, and belonging in a community play in the educational experience.

b) Self:

The self-factors refer to the characteristics of the individual experiencing the event or non-event and include the consideration of personal characteristics and psychological resources. In addition to student agency and motivation, other self-factors identified for NMFC students include their primary healthcare background from Cuba, limited exposure to high-acuity cases during training, language proficiency challenges, and perceptions of competence compared to locally trained students. Through the Community of Practice lens, these self-factors can influence not only individual confidence levels but also their ability to actively participate in knowledge sharing within a community.

As demonstrated in the data above, the environment of the ED was unfamiliar to students, not only in the number and case mix of patients, but also in the various locations within the ED, and the learning opportunities within the different geographical areas within the ED. Those students who were able to integrate better with UCT students or ED staff were able to facilitate their learning better.

i. Personal-Professional Identity

During the analysis and explored with a community of practice (CoP) lens, it was found that student participants felt excluded. This affected their ability to form personal and professional identities within the UCT community and fully integrate as active student participants within the undergraduate CoP. This led to feelings of othering or marginalisation. While no evidence of this emerged from the FGDs, it is likely that this negative experience may have impacted their learning and hindered the potential for the educational environment to foster active and authentic learning experiences.

It is important to note here that students reflected on their entire UCT experience here, as opposed to their Acute Care experience alone, despite the prompts. They perceived the learning environment to be one that considered them to be '*Cuban doctors,'* or foreign despite them being South African. This phenomenon was observed by educators too.

> *"I think coming from South Africa and going to Cuba, you get there and you are a foreign person, you know you have to adapt and then you get comfortable in the 6-years and you become a Cuban and then you get used to how things are done that side and then now you come back to South Africa, your own country and now you are a foreigner in your own country you know?"* ***Student participant 7 (FGD2).***

> *"I actually used to completely hate it when the other mainstream students refer to them as the Cuban students, I'm like they're not Cuban, they're South African children that happened to go to Cuba!"* ***Educator 4***

ii. Made to feel less competent than UCT students.

As explored in 'Moving In', student participants reported being made to feel less competent by senior staff. Others perceived this assumption of their competencies as discrimination towards them by senior staff and questioned the value any intervention would have in addressing such discrimination.

> *"you have to join the UCT's of which I like because it keeps you on your toes, so whether you like it or not you have to work you know, I mean you are a whole 5th year when you come here and then you are integrated with the 4th years and they are on their game and now it pushes you to work hard and it's not easy, I mean the language…I personally felt like I was starting from the bottom, like I felt like I didn't know anything now, …So it's quite scary, it has its ups and downs because sometimes you feel like you are not wanted, you are just another person."* ***Student participant 7 (FGD2).***

iii. Trust

Due to these experiences, some students felt a need to adapt and prove themselves to gain trust within the community. These adaptations will be discussed in 'moving out.'

Overall, the study findings demonstrate that there are significant 'self' challenges faced by NMFC students in transitioning between countries and institutions and then into Acute Care at UCT. Despite the confidence gained by acquiring Acute Care competencies, students had to negotiate feelings of being mistrusted, marginalised and unwanted, within an environment which they considered home, but in a health system which was unfamiliar both in the medical language used and, in the state, and practice of the health system. These conflicts influenced their approaches to integration and their own identity and worth in the context of UCT. Interestingly, the educators in this study valued the behaviour and attitudes demonstrated by the NMFC group of students very favourably despite the student's perceptions and

experiences. How these experiences shaped the NMFC students' behaviour will be further explored in 'Moving Out.'

c) Support:

The 'support' element of Schlossberg's transition theory refers to factors external to the individual that offer help. The support factors identified include educational support provided by UCT educators through remediation programs or additional teaching in specific areas such as TB management, HIV treatment, and skills-based learning. The concept of support is also inherent within the idea of a Community of Practice as members collaborate and share knowledge to help each other learn and navigate professional challenges. Students felt that the support within EDs from supervisors was limited but that they were supported during conflict.

> *"I don't know if medicine and Acute Care work together but the initiative they take to… want to know how we are feeling, what is happening, it's…I always say that you know, it's something else because it's not everyone who really cares, who wants to know that…are you happy, what can we do better you know, so I respect that, because we had an incident in medicine in the exam when it was some NMFC and UCT and it was resolved and in the medicine department, so that's why I'm saying I respect that the engagement, the initiative*." ***Student participant 1 (FGD2)***

> *" I feel like the Acute Care doctors were very patient with us, because…they would explain to you and next time when you go in, you go in with a little bit of confidence."* ***Student participant 4 (FGD 2).***

Interestingly, peer support emerged as a significant factor. The interactions between NMFC and UCT students themselves were reported as largely positive as they provided opportunities for NMFC students to 'benchmark' their competencies. Despite the varying

years of study between NMFC and UCT students, the student participants did not perceive this as a disadvantage and reported positive experiences in their interactions with UCT students.

> *"I'm just grateful for the programme and how everything was structured, I mean from our side, to be integrated and to be actually not…to not be separated from the mainstream students,…I mean we know exactly that we are NMFC and we're going to receive our degrees from the Cuban states and all that, but to be integrated and to be there with the mainstream students and to see the cases that they see and to do the stuff and be evaluated the way they do, that's the only thing I ever wanted, I mean it prepares me, it allows me to kind of gauge myself and just see where I'm at in comparison with my peers, that's all I ever wanted because I mean some of the guys that I also trained within Cuba that are back, they don't get that opportunity to be tested with the local students, they are separated, they're doing their blocks, they're NMFC students and they don't even get to see the mainstream students."* ***Student participant 1 (FGD 2)****, and,*

> *"…to join the UCTs of which I like because it keeps you on your toes, so whether you like it or not you have to work you know, I mean you are a whole 5th year when you come here and then you are integrated with the 4th years and they are on their game and now it pushes you to work hard and it's not easy."* ***Student participant 7 (FGD2)***

> *"Students are nice, most students are nice, and when you get there you tell them you know I haven't done this, sometimes you can even ask, when you do that thing can I come look at you and then next time I'll do that, they don't have a problem with that, and sometimes they will ask you because it's tiring to always say I haven't done that, can I? Sometimes they notice and they ask you, have you done this, do you want to try it..."* ***Student participant 4 (FGD2)***

D) Strategies:

The 'Strategies' component refers to coping mechanisms employed by individuals to navigate transitions. The factors that modified how they coped with the stressors came from the organisational structure of their UCT Acute Care training, as well as strategies that the students adopted during their experiences. Students soon came to the realisation that they had to modify their approaches, through observation of UCT students, to enhance their experience of the module. What is demonstrated from these quotes is the realisation that they needed to exert agency and action within the context of this educational journey, as opposed to being passively provided with opportunities for teaching-learning.

> *"…the idea that I love is when you get mixed with UCT students as well, so we pick up a lot of things that they're already used to, like how things are done, compared to other varsities where they actually exclude NMFCs and teach them aside, so they don't get to actually see how other students who belong at university are actually learning"*
> ***Student participant 5 (FGD1)***

> *"No one asked me if I was NMFC or they didn't say you are NMFC stay here or anything, but the UCT students started integrating themselves, maybe when they arrived they never even bothered to go to green like we did, because the first day they were like okay, go see green patients, that's the first day, then after that maybe if we went they'd be like okay we want to see, they still would have allowed us, but I never saw UCT students actually going to green, I just saw them ending up in the red, so I think that's one thing, us going and presenting ourselves to the doctors and actually telling them what we would like to achieve from Acute Care so I'm here, okay first day I would see green and see the dynamics of everything but after that okay go to a doctor."*
> ***Student participant 5 (FGD2)***

5.3.1.3 Moving Out:

'Moving out' has been derived from the reflections of NMFC students and educators on their Acute Care experiences. The primary appraisal is presented as their experiences of Acute Care teaching-learning, and secondary appraisal, as suggestions for the module. Many of these were expressed as challenges in the level 1 tabulated analysis above. The supported narratives are included here as these were offered as suggestions for curriculum enhancement.

a) Primary Appraisal

Although Acute Care was an expected event, students were unprepared for the unfamiliar learning environment. Despite the challenges, it was evident that they gained in Acute Care competencies, and emerged better prepared as future doctors, in the attributes they gained.

i. Gaining confidence in Acute Care competencies

It was clear from the data that students lacked Acute Care training in Cuba, and that engaging in Acute Care teaching-learning enhanced their competencies in resuscitation and management of the critically patient. This increased their confidence, and they felt better prepared for their becoming of doctors.

> *"…we came with zero background and knowledge, CPR, all those things, we didn't know anything about, so it prepared us...So that preparation is helpful."* ***Student participant 7 (FGD 2).***

> *"…so I would always tell my friends you know what, every time I'm on a bus I'm like, if a patient collapses and I'm wearing a white coat what am I going to do, you know,*

that was my worry, all the time until I left Cuba, they say there is a doctor on the bus what am I…I don't know. Zero %, so I think that's what made it difficult for some of us, so that's why I say we really appreciate this is big for some of us." ***Student participant 7 (FGD 2)***

" …no emergency medicine in Cuba, ..it helped us prepare for the future as interns…. how to deal with an emergency and like when patients is unresponsive what to do when I came here I didn't actually know the whole algorithm, I knew there was CPR and people doing compressions ..but the whole algorithms step by step, what to do, I didn't actually have a clear idea of that." ***Student participant 5 (FGD1)***

ii. New skills acquired

Students appreciated the varying case mix of patients seen in the ECs. This exposure helped to modify and apply their approach to the Acute Care of the undifferentiated patient and provided insight into the health system by facilitating their understanding of where Acute Care was placed in the patient's healthcare journey.

"Acute Care is nice and it helps us to think broadly, not to think about only surgery, internal medicine, and so it tests your knowledge in medicine as a whole, you have to think in broad…you have to include all the specialities." Student participant 9 (FGD1).

"…you are able to separate emergencies from normal cases, you know what to act first on and what to do, initial management was something when you are in rotation, you really don't focus on, you don't know that you have to know…you see a patient in medicine once, you see this treatment is a continuation treatment, but the initial treatment is not there, but when you do Acute Care, so it was really helpful and the way…like structured, really helpful." ***Student participant 3 (FGD2)***

"I think the whole acute experience helps you and it prepares you as a newbie next year as a junior doctor, being [on the] spot.." ***Student participant 7 (FGD2)***

iv. New methodology - first exposure to SBME

The student participants reported that learning by simulation helped them learn an approach to critically ill patients, and helped scaffold competencies from knowledge to application. Furthermore, student participants suggested that SBME was a mechanism to ensure exposure to high-acuity presentations that could not be guaranteed in the workplace.

"Simulations right, I think they make them so realistic, as if it's a real-life situation and they make you want to act as if you are actually facing a real-life situation as well...it gives you a step-wise approach to how do you act when you see a person that's maybe collapsed, that's unconscious..." ***Student participant 3 (FGD1)***,

"*I think I learned more in simulations than in the actual work because in simulations, as they've said, you see the Acute Care cases, the high care cases, you tend to think fast but the cases that you see there in the workplace, already they're minor cases, minor injuries, so you still have time so it doesn't push you to think fast, you can even go to Google and check and all that stuff, so for me I think the simulation is better in terms of teaching because it teaches you how to think fast, what to do, whilst you approach, compared to the workplace."* ***Student participant 7 (FGD1)***

Simulations also enhanced the student's sense of teamwork, facilitated the process of integration, and helped develop NMFC students as team leaders.

" [You] learn to work as a team, as a student as well you understand, because mostly the simulation we used to have was basically some type of team orientated kind of learning experience as well, so we learn to work with people we've never worked with for the first time, of which in real life it happens, you are new in a new hospital, you don't know anybody, there's someone in resus[citation unit], you just need to learn how to work with people like that as well." ***Student participant 3 (FGD 1)***.

"…cool experience… actually resuscitating someone there because I was part of the chain… when they said I'm a leader, for me it was like…it was hectic, but when I saw them doing like in reality, it was so cool environment and everyone has a say, so for me, it was helpful that." ***Student participant 1 (FGD 1)***

Learning by simulation was also considered fun and motivated students to learn,

"…those simulations, I enjoyed that so much because I think that's the way that you're going to be faced with a patient in real life situations, where someone collapses in front of you, now you need to act, you need to know what to do and all that, so the approach or the way they conducted those simulation sessions, they were really perfect because it prepared us, really prepared us to be able to face the real-life situations, so I enjoyed that so much…" ***Student participant 1 (FGD 2)***

V. Behaviour change

Some students felt a need to adapt and prove themselves, whilst others were in favour of a less permissive strategy to address episodes of conflict or perceived discrimination directly. Once again, the individual traits of students experiencing these challenges within the Acute Care transition have informed the strategies they have opted for to navigate their experience of this community. It is transparent from their appraisal of their experiences the need to: build agency, and trust, and adapt behaviour to manage conflict differently:

I think we've got to develop a thick skin as others might say because I mean everywhere we go there is a need to prove yourself, from day 1, there is a need to prove yourself so the people they can say, "Oh Actually you know one or two things, okay let's see what else do you know."…it's always been there, so I guess that's how we survived up to this point where we were constantly put on the spot and you had to prove yourself that you know something, and with the whole confusion because I mean the blocks that we do with final years, there are blocks that we do with 5th years, so sometimes you cannot even identify yourself as final year because dude why he's doing 5th year blocks saying you are final year, so there was some sort of confusion there and you constantly had to prove yourself wherever you know, but you know something, you just do your thing and work hard so for me …to be accepted at the table." ***Student participant 1 (FGD2).***

"I asked some doctor, I don't know what I was asking, and she came off rude, she like blew me off, and I was like it's okay you can say no if you don't want to, I'm not asking for your kidney, I don't have a gun to your head and I left. The next day she came to me and said good morning, how are you, you can ask me if you need anything, the whole block was nice because I responded just once. Not…don't be cheeky or anything, respond and then leave that's it. People change because you tell them how to treat you, if you keep quiet, you're like oh my God… she's discriminating me and she's terrible, she's…they're going to do that because that's what you're telling them, but if you stand up and be like no,…they will respond..." ***Student participant 8 (FGD2).***

b) Secondary Appraisal

Suggestions were made for curriculum enhancement. These included increasing time allocated for Acute Care teaching-learning activities throughout medical education rather than confining it to one specific block or rotation. Student participants also emphasize early identification of knowledge gaps through improved communication between educators and

students. Facilitating integration through enhanced support was another strategy identified, such as better preparing educators in workplace settings. Within a community of practice, the strategies become manifestations where members actively engage in collaborative problem-solving, self-directed learning, and peer mentoring- all aimed at achieving common goals. Four themes emerged: Minimum Acute Care expectations of a graduate; More time; Address misalignment; and Facilitate integration through enhanced support & utilising UCT students as peer mentors.

i. More Time

The need for more time dedicated to Acute Care is emphasized in sub-theme 2 of Table 2. Both educators and students agree that the current two-week duration of the Acute Care module is insufficient to cover all essential topics adequately. Suggestions to address this include increasing the duration of Acute Care or incorporating aspects of it throughout other blocks or rotations. Educators proposed extending the module to ensure adequate coverage of essential knowledge and skills. They felt that equivalent time must be allocated to achieve equivalent exit outcomes as SA students. Student participants had two suggestions: 1) to teach aspects of Acute Care in every block**,** and 2) to increase the duration of the module anywhere from 4-6 weeks by removing the 2-week rotation in surgical specialities.

> *"maybe then remove the surgical specialities because honestly speaking it's like we are there because we have to be there, you know what it's like…they're here, let's just get it done with you know, just give them an evaluation, give them a mark and let them go because basically we're not learning anything ….. So maybe if we can take that time and add to Acute Care, that would be quite helpful because here we come out with something, we come out with confidence, I mean we know how to do CPR, something that you didn't know at all when you come back from Cuba."* ***Student participant 7 (FGD2)***

> *"…so that's why let us try and extend Acute Care if possible, if not let us spread these simulation cases throughout the blocks."* ***Student participant 1 (FGD2)***

*"I feel Acute Care needs to be longer like there's a lot of time spent in ward care teaching HIV and TB, and yes, that is a lot of what you see, but…as interns, they are going to be spending their time in the emergency room, so even if they are doing medicine or psychiatry or whatever they will be doing their overtime in their emergency room and if they lack those skills and the knowledge, then we're producing interns that essentially can't work in an emergency room and that is what I mean. The entry point for all the hospitals in South Africa, so more time towards it." (**Educator 2).***

*"…so unless people would have to extend Acute Care and make it maybe 8 weeks or 10 weeks because it's a lot of stuff to be exposed to if you want to be exposed to all of them." **Student participant 3 (FGD 1)***

i. Address misalignment

As noted in various earlier sections, educators recognised the misalignment between the NMFC curriculum and the SA health system, as well as the gaps in knowledge and skills that resulted from this misalignment. They suggested addressing these gaps by providing additional teaching and support in areas such as TB management, HIV treatment, and basic clinical skills. They also emphasized the importance of reinforcing knowledge of infectious diseases, as well as improving communication and language proficiency.

Student participants highlighted the need for educators to identify their educational needs and to ensure that the overall curriculum is designed to address those needs within a feasible timeline:

"…..they should just think about what we've been exposed to and what we are coming into…" ***Student participant 2 (FGD1),***

*"In terms of curriculum overall, I think for the 7 subjects that we're doing now, I feel like it's just a waste of time… they don't like help us the way they're supposed to help us, like ENT I've done, I think of overload because even the time that we get for them it's 2 weeks for 3 of them, so it's better just cancel them or maybe put one into another specific subject, like maybe Acute Care…**Student participant 7 (FGD1)***

Following the suggestion on increasing time in Acute Care, student participants further elaborated on the duplication between the SA and Cuban curricula as it pertained to the surgical specialities through which they rotated immediately after Acute Care, highlighting the need to review both curricula to identify where else such duplicity may exist. Concerning the surgical specialities, in particular, the students felt that it exceeded generalist competencies and further questioned the value within the SA curriculum. Students were stark in the reporting of other placements. This reticence likely stemmed from the perceived irrelevance of these placements to the Acute Care rotation, when asked how the module could be enhanced:

*"We did ENT for quite some time, we did ophthalmology for quite some time, we did urology for quite some time, so as fam med, in Cuba, we did it on integral medicine…for 6 months or plus, that's the reason why we are not doing fam med because we are well equipped in that, we did general medicine for 6 months, one block, we also did ENT for quite some time, not just 2 weeks but 4 weeks I think, we did urology, I think it was 4 weeks right? And all those specialities, we did them, that's why I'm proposing [that] we cut those because really, in as much as obviously, we did all those blocks in a different language, but I mean you can recognise that [indistinct] yo! this looks scary, I need to refer or whatever.." **Student participant 1 (FGD2)***

"Those surgical specialities guys, they are really a complete waste of time, let us cut those down, we are not specialising, if ever you want to specialise in neurology, specialise in neurology, at this point you just need general things… we just need to be doctors who are competent, doctors who can manage common cases, common emergencies that we'll be faced with when we are interns somewhere.." ***Student participant 1 (FGD2)***

ii. Need for assessments

Although the SDLs had opportunities for self-assessment in the form of multiple-choice questions (MCQ), student participants felt that this was insufficient to facilitate learning and felt that end-of-block practical assessments would be of value.

"…there was no evaluation or maybe something that was pushing us to do, it was if maybe you are not interested in them you're not going to do them and no one was interested if maybe you did them or not." ***Student participant 1 (FGD2)***

iii. Facilitate integration

Even though NMFC students are returning to their home country, the context of the ED and the domain are largely unfamiliar to them. So too the context in which they experience society - and more especially, societal ills - is new and largely unfamiliar. For this reason, it is necessary to support student integration into the ED.

Despite the positive experiences with UCT students described in the sub-theme 'feeling part of the learning environment' above, educators felt that an 'us versus them' culture (*Educator 1)* existed between NMFC and UCT students and questioned how much of that observed interaction was due to the personality traits of individuals as opposed to a reflection of the culture between the two groups:

*"They don't really talk to the other students. They kind of tend to stick to themselves or be quiet…but I get the feeling when talking to them…they also felt like outsiders, and they kind of stuck together and talk to each other. They didn't really make many friends or acquaintances or relationships with other people…", ... "I guess one needs a kind of outward personality in order to do that…" (**Educator 2)***

In sub-theme 5 of 'challenges experienced', Educators highlighted the need for facilitated integration between NMFC and UCT students to promote peer-based learning and mutual support. They suggested pairing NMFC students with UCT students to encourage interaction and collaboration. Additionally, they recommended providing support to address discrimination or othering experiences that NMFC students may face.

*"...but I've seen more that they stick to each other and I think it would probably be better even it has, even if it has to be forced into action, is to kind of provide that forced interaction. I think it would be a benefit them." (**Educator 2).***

"*I think if they were integrated a little bit more and learned from each other, the peer teaching also has a positive outcome to their learning, but now what happens, because of the disparities in the rotations, in terms of time, I think they miss out from learning from the other kids." (**Educator 3),***

The challenges of transitioning between countries and institutions highlight the need for bridging programs or support systems that address gaps in knowledge, skills, and cultural adaptation for NMFC students.

iv. Structured orientation

NMFC students and educators reflected on the constraints related to integration into the UCT education and SA health systems. Suggestions from student participants were to better prepare educators in the workplace for their arrival and learning needs and a more robust orientation into the clinical space.

v. Minimum Acute Care expectations of a graduate

Educators expected graduates to emerge with competencies in Advanced Life Support, Basic and advanced airway management; and basic ventilation skills; as well as to have an approach to the management of undifferentiated critically ill patients; and possess essential procedural skills for working in an ED. One educator (**Educator 1)** included triage within his list of core competencies.

The 'Moving Out' phase analysis reveals that while the Acute Care curriculum significantly enhanced NMFC students' competencies and confidence, there are substantial opportunities for improvement. Key areas highlighted for development include extending the curriculum duration, enhancing integration and support mechanisms, addressing misalignments with the Cuban education system, and ensuring a structured orientation process. These findings provide a solid foundation for curriculum renewal efforts, addressing the primary research question of identifying educational challenges and opportunities for improvement in Acute Care teaching-learning for NMFC students at UCT.

5.4 Conclusion

The analysis of themes 1 to 4 sheds light on key aspects of the existing Acute Care module and strategies that can enhance the curriculum for NMFC students in Acute Care. By utilizing both Schlossberg's Transition Theory and the lens provided by the concept of community of

practice, it is apparent that there is an interplay between individual experiences, coping mechanisms, and social learning dynamics. These theories allow for a nuanced understanding which highlights not only individual needs but also emphasizes how communities can foster supportive environments that facilitate successful transitions for NMFC students.

In Chapter 6, these findings will be discussed and applied within a curricular framework and suggestions made for teaching-learning of Acute Care for returning Cuban-trained students.

Chapter 6: Discussion

This study aimed to explore the educational challenges and opportunities for improvement in the teaching-learning of Acute Care that can be applied in the curriculum renewal for NMFC students at UCT, in South Africa. In Chapter 5, the findings were described, interpreted, and analysed by applying Schlossberg's transition theory along with the concept of Community of Practice. In this discussion, the study findings will be described and then interpreted in the context of existing literature. This will follow with suggestions for teaching-learning of Acute Care for returning Cuban-trained students at UCT, South Africa.

6.1 Contextual Considerations and Curriculum Misalignment

The study revealed a significant misalignment between the Cuban and SA medical education systems. The Cuban curriculum is congruent with a desired future health system focused on primary health care, but it does not fully align with the current social climate and quadruple burden of disease in South Africa (Bradshaw et al., 2003). This misalignment poses significant transition-related challenges for NMFC students at various levels, particularly in Acute Care.

While this study could not engage with the quantum of a transition, it seems evident that Acute Care may be the most far removed from the learning opportunities offered and outcomes achieved in Cuba. The "distance" between the Cuban and UCT curricula does not seem to have been a factor in the planning of the South African component of the NMFC students' education. This potentially results in graduates who may not be sufficiently competent to manage undifferentiated critically ill patients in SA while enabling graduates with primary health care (PHC) competencies. This mismatch aligns with previous research on international medical graduates' transitions to new healthcare systems, which often emphasizes the importance of targeted curricula to address specific gaps (Norcini et al., 2010). The challenge lies in bridging this gap while maintaining the strengths of the PHC focus instilled in Cuba.

6.2 Time as a Critical Resource

The critical challenge identified in the study was the lack of time dedicated to Acute Care learning. Both students and educators alike felt that 2 weeks of Acute Care was insufficient time for the teaching-learning of Acute Care. Educators also questioned the fairness of the summative assessment which expected NMFC students to fulfil equivalent outcomes to UCT students despite disproportionate time dedicated to the module. This needs to be considered because the two-week Acute Care skills orientation which took place upon arrival of this cohort of NMFC students was not part of the existing Acute Care curriculum. It was specifically created at a time during the pandemic when access to certain areas of the hospitals was limited, and COVID-19 restrictions resulted in the delay of students' arrival in SA to undertake their planned 4-week rotation in a different speciality. This additional time was then utilised to skills orientate this cohort of students - to the basic, emergency, neonatal and paediatric emergencies. It is interesting to note then, that despite the initial orientation, educators still perceived Acute Care competencies that students achieved, to be significantly limited. Educators did not make comparisons with previous cohorts of NMFC students who were not exposed to the initial 2-week orientation, however, students perceived it favourably and reported that it prepared them well for the 2-week Acute Care rotation. It is, therefore, important that the results are interpreted with the additional 2 weeks in mind. This finding highlights the challenge of balancing comprehensive content coverage with the time constraints of medical education, a common issue in curriculum design(Harden, 2000).

The issue of time is crucial, as skills development and retention require spaced repetition and repetitive practice(Cepeda et al., 2006; Pusic et al., 2012). The syllabus, including the duration required to meet these outcomes, remains the construct of individual institutions. Although these implications suggest a system that values flexibility and institutional autonomy, it may bring challenges in terms of standardisation and quality assurance and require robust quality control mechanisms and clear communication about program content and outcomes to stakeholders including students, employers, and other educational institutions. There is wide variability in how emergency care is taught globally, particularly the duration allocated to achieve specific outcomes. A systematic review of emergency medicine training programmes

in LMIC identified the duration for only one undergraduate programme located in India, which dedicated one month to achieving emergency care outcomes in the medical undergraduate component of training (Rybarczyk et al., 2020). This aligns with the suggestions of student participants in this study, to extend the Acute Care block to 4 weeks, in addition to a two-week basic skills orientation.

6.3 Transition and Integration Challenges

The study revealed significant challenges related to the transition and integration of NMFC students. These included feelings of exclusion or being unwanted, perceptions of being less competent, and experiences of discrimination. These findings align with previous research on the experiences of international medical graduates in various countries(Kehoe et al., 2016).

Despite reports of a well-coordinated Acute Care programme, data highlighted the need to improve orientation, and for facilitated integration and directed supervision, to ensure exposure to higher acuity patients. The literature reviewed highlighted the value of clinical attachment in emergency medicine departments to increase student confidence, teamwork, and competency in practical skills (Celenza et al., 2001). This exposure is crucial to meet the outcomes of the Acute Care module and permits an authentic learning experience by allowing the students to apply the content from SDL and skills learnt during simulation sessions to real patients. We know from Marsh (1992) that failure to maintain such congruence results in discrepancies between the planned curriculum, enacted curriculum, and the experienced curriculum. From this, the hidden curriculum emerges(Marsh, 1992). This was the experience of some student participants who were exposed mainly to lower acuity patients not dissimilar to their exposures in Cuba, yet this was not the intended design of the module.

However, this is not to diminish the accounts of discrimination reported by the students. We know from Motala (2021) and Pasha(2021), that this has been the experience of many cohorts

of returning Cuban-trained students, who not only felt discriminated against but were also made to feel as though they were foreigners in their own country. Although the educators' observations in this study described an ‘us versus them’ culture between NMFC and UCT-trained students, it is interesting to note that this narrative has not been the lived experience of UCT NMFC students. This contrasts with the findings from the studies above and may point to an opportunity to include UCT students in a community of support.

The findings, when viewed through the lens of Community of Practice theory, highlight the importance of social learning and interaction within the medical education community. The challenges faced by NMFC students in integrating into the UCT medical community and forming their professional identities align with research on the importance of legitimate peripheral participation in communities of practice (Lave & Wenger, 1991).

The study also revealed that NMFC students valued the integration into the mainstream UCT curriculum, as opposed to being part of a separate programme, as experienced in other universities. The integration with other students provided a ‘benchmark’ of competencies for them and exposed them to the strategies adopted by UCT students to maximise learning opportunities, e.g.: seeking out opportunities for exposure to higher acuity patients. This suggests an opportunity for a peer mentorship programme with UCT students upon entry into UCT, to enhance peer-based teaching-learning and to facilitate better integration into the student CoP.

The NMFC experience is formed by multiple transitions in time, space, and place – each contributing to students’ competency as emerging graduates and their identity as SA doctors. These factors must be considered for successful integration. Integration into the UCT and undergraduate Acute Care CoP, as fully fledged students who matter, must transform approaches towards all four S’s of Self; Situation; Support; and Strategies. This transformation should intentionally mitigate marginalisation and instead create a sense of belonging. This sense of mattering should extend beyond the education sector to society as

well. Building inclusive CoP will help ensure that students are motivated to learn and share in the goal of serving the vulnerable communities for which they are trained.

6.4 Teaching-Learning Methodologies

6.4.1 Simulation-based Medical Education (SBME)

The study findings strongly supported Simulation-Based Medical Education (SBME) as an effective teaching methodology. SBME was appreciated for its ability to engage students in active participation, provide exposure to high-acuity presentations that may not be guaranteed in the workplace, enhance teamwork, develop leadership skills, and facilitate integration with UCT students. Learning by simulation was also considered fun and motivated students to learn.

SBME is appreciated for its ability to engage students in active participation and thereby facilitating effective learning according to constructivist principles(Hunter, 2015; Zebroski, 1989). This has been achieved in this context according to the study findings. Simulation is able to offer appropriate fidelity by creating artificial representations of complex real-world processes to teach and assess critical clinical and non-clinical skills thereby enabling proficiency in real-world scenarios(Datta et al., 2012; Rao et al., 2016). Furthermore, it can supplement clinical experience by providing required exposures to both simple and complex clinical scenarios and adverse events(McGaghie et al., 2014) and improving patient safety(Sá-Couto et al., 2016; White, 2012). SBME enhances professional attributes by providing opportunities skills enhancement in critical thinking, problem-solving, decision-making and collaboration(Reime et al., 2017; Zhang et al., 2015). In so doing, achieves significant improvement in focused patient assessments and emergency intervention skills (Hardenberg et al., 2019) which enhances clinical competence(Al-Elq, 2010; Langhan et al., 2009). To derive the full benefits of SBME, concepts such as “direct feedback, deliberate practice, outcome measurement, mastery, and transfer of knowledge must be included”(McGaghie et al., 2014, p. 378). In addition, training by simulation must incorporate an appropriate level of skill complexity, motivation, repetitive practice, and immediate feedback(Dagnone et al., 2016).

Learning is therefore facilitated through immersion in deliberate practice, and better than clinical experience alone as the exposure is followed by reflection, feedback, and structured debriefing(Datta et al., 2012; McGaghie et al., 2016; Rao et al., 2016; Stefan et al., 2011).

Research shows that incorporating simulation training into medical education, as a fixed component of the curriculum, offers dual benefits: Firstly, it promotes the implementation of competency-based medical education principles in the hands-on practice and assessment of required key clinical and non-clinical skills for all members of healthcare teams(Arab et al., 2017; Dagnone et al., 2016). Secondly, SBME will aid traditional teaching methodology by allowing the adaptations needed to promote cultural awareness and critical consciousness by providing contextually relevant learning experiences suited to African healthcare settings(Arab et al., 2017; Halman et al., 2017; Perumal, 2016). Importantly, SBME has the potential as an educational utility to support educational transitions in medical pathways(Cleland, Patey, et al., 2016). The study findings confirm the benefits for NMFC students, particularly in the opportunity this methodology provides to scaffold clinical skills and enhance competency in critical resuscitation skills in a safe environment. SBME must be explored further, in the NMFC context, to enhance cultural awareness of the SA health system.

Before expanding on the SBME offering in the Acute Care curriculum for NMFC students, it is crucial to consider the barriers of SBME. Time and financial constraints are frequently cited as significant obstacles(Savoldelli et al., 2005). Consistently across these studies, time emerges as the foremost barrier to implementing simulation. To address this challenge, developing a curriculum that allows for individualized, independent learning could help overcome time constraints by enabling engagement with materials at the student's own pace(McGaghie et al., 2014).

In the field of Emergency Medicine (EM), factors such as reduced available teaching hours, increased focus on patient safety, more complex diagnostic and management considerations,

and diminished faculty teaching time are key challenges(Meguerdichian et al., 2012). The main faculty barriers to simulation were time constraints (75%) and lack of faculty experience (56%)(Russell et al., 2018). Although these studies focussed on postgraduate education, it has relevance to undergraduate education, in UCT, considering the reliance on the same faculty for training. Strategies that can be incorporated to scaffold competencies require additional time. So too do the assessments for and of learning, immediately after sessions, and at varied time intervals in the programme(Rybarczyk et al., 2020). However, such an initiative is imperative to reach the transfer of learning and to develop student agency in this unfamiliar environment with new methodologies.

Strategies to mitigate barriers include faculty training in simulation and continuing medical education to address perceived obstacles(Chiu et al., 2017; Takayesu et al., 2010). Additionally, allocating appropriate simulator fidelity to achieve high validity may help reduce costs associated with SBME(Curtis et al., 2012; Issenberg et al., 2005; Satava, 2015). By implementing these strategies, institutions can work towards overcoming the identified barriers and more effectively integrate simulation into their medical education programs.

6.4.2 Self-Directed Learning and Student Agency

While the study highlighted a role for better orientation by supervisors, findings also highlighted how self-direction by students enhanced their learning experience. This study found variable responses to self-directed learning. In this study, students who engaged with the SDLs found that this method enhanced learning. However, some students did not utilise the SDL because it was not compulsory and was not formally assessed.

Although it is crucial in undergraduate education that supervision is applied in the workplace, student agency and motivation to learn are also important. It was evident that students felt that the extent of exposure and therefore learning was proportionate to student initiative to

integrate and inclination towards self-directed learning. This sense of agency and ability to integrate was demonstrated by UCT students who were familiar with the context of the ED.

The concept of student agency emerged as important in the integration process. One definition describes student agency as the capacity to set a goal, to reflect, and to act in the pursuit of change – to play an active role in their learning(OECD, 2018). Equally, it refers to a student making responsible decisions and choices in their learning, as opposed to accepting those decisions made by others(OECD, 2018). Some students demonstrated the ability to develop social agency, integrate within the emergency care team, and ensure they had equivalent teaching-learning opportunities as UCT students. This aligns with current literature on the importance of student agency in higher education(OECD, 2018; Stenalt & Lassesen, 2022).

Indeed, supervisors have a role to create an enabling environment in which students can exercise agency. This has relevance with NMFC students who are unfamiliar with the ED environment and culture within SA health systems. In addition, language remains a barrier as they negotiate their understanding and communication in English. With guided support, student agency can be learned and developed(OECD, 2018).

Research has shown that several factors must be considered for the successful implementation of SDL. Curricular factors include clear learning objectives and expectations(Gilman et al., 2014), a supportive learning environment, faculty development to effectively facilitate SDL(Premkumar et al., 2018), and SDLs must be integrated into the broader curriculum(Murad & Varkey, 2008). There must also be appropriate assessment methods to encourage reflection and self-evaluation(Sandars & Walsh, 2016a). Technological infrastructure can greatly facilitate SDL, if appropriate(Brydges et al., 2012). Learner factors include learner readiness and motivation(Eslaminejad & Nakhaee, 2012). Students need to develop effective time management skills (Saks & Leijen, 2014) and receive regular feedback(Sargeant et al., 2009). When these elements are properly implemented, they can

contribute to the effective use of SDL in medical education programs, potentially addressing time constraints and allowing for more individualised learning experiences.

In the context of the NMFC programme specifically, Quintana, et al.(2012), posited that time and student motivation must be supported for self-directed learning methodologies to be successfully included for NMFC students in the curriculum(Quintana et al., 2012).

Students' description of their learning experience closely approximates the four-component instructional design model (4C/ID) model(Van Merriënboer et al., 2002). These four components: (1) learning tasks, (2) supportive information, (3) procedural information, and (Sewnet Tesfaye*) part-task practice are often considered integral in a curriculum for reaching transfer of learning, and to help ensure that learners can apply the competencies gained to new situations in practice.

In the current format, opportunities for task learning occur both in the workplace and through simulated practice, where opportunities are provided to learn and practice simple and complex skills, with variability in practice. Students are guided by facilitators during skills teaching and supervised in the workplace. Scenarios provided in the simulation environment closely approximate high-frequency presentations, seen in the workplace, to provide whole and authentic learning experiences, as suggested(Van Merriënboer et al., 2002). Supportive information, or the theory component is provided utilising an online LMS, with integrated self-assessments. Procedural information and learning are mostly situated in the first two weeks of skills-based teaching, to ensure basic skills are learnt. These skills are then advanced and incorporated within an algorithmic approach to the critically ill patient, and the patient in cardiac arrest. Thus, learning is scaffolded. Part-task practice, such as history taking, investigations, formulation of a differential diagnosis, and patient management and disposition does assume a longitudinal approach in NMFC students' medical education and aims to focus these cumulatively as a whole task, within the Acute Care context, in an SA ED.

The current curriculum contains most elements within the syllabus to enhance learning, however, there is a need to reevaluate three key aspects: orientation, integration, and student agency. By addressing these areas, we can better ensure that the intended curriculum is effectively translated into the experienced curriculum, thereby enhancing the overall educational outcomes for these students.

6.5 Implications for practice – The UCT Acute Care Curriculum

The study findings highlight the importance of considering time constraints and the need for alignment with the local healthcare system and student support to enhance the learning experience. These suggestions can inform curriculum development and implementation to better meet the needs of NMFC students in their transition to the Acute Care curriculum. Compounding these situational and educational challenges were the personal challenges related to transition, as described in the previous chapter, and the inadequate educational support provided in the work placements. Due to the complexities described, it is my opinion that a multipronged strategy must be applied that is initiated before students arrive in SA.

The following recommendations are proposed:

1. Curriculum Extension: Extend the Acute Care rotation to a minimum of six weeks to provide adequate time for skills development and integration.

2. Enhanced Integration and Peer Mentorship: Improve orientation processes and facilitate better integration of NMFC students into the clinical teams and UCT student community. Implement a peer mentorship program pairing NMFC students with UCT students to facilitate integration and learning. The concept of community of practice offers valuable insights into the role that social learning and collaboration play in supporting NMFC students' transitions. Through the establishment of peer-based learning initiatives, such as pairing NMFC students

with UCT students, opportunities for knowledge sharing and skill development can be created. This not only enhances the learning experience for NMFC students but also promotes integration and a sense of belonging within the broader student community.

3. Increased SBME: Expand the use of simulation-based education to ensure exposure to a wide range of high-acuity scenarios prioritising those which the students are less likely to encounter in the workplace.

5. Address Discrimination: Develop strategies to address and mitigate experiences of discrimination and exclusion. Addressing issues related to discrimination or othering experiences is crucial for creating an inclusive learning environment. By acknowledging and actively working to eliminate these barriers, educators can create a safe space where all students feel valued and supported. This involves providing additional support mechanisms, resources, and training for workplace educators to ensure they are equipped to meet the unique needs of NMFC students.

6. Curriculum Alignment: Review and align the Cuban and South African curricula to identify and address gaps, particularly in areas like infectious diseases and Acute Care. In this study, the surgical specialities were identified as redundant, requiring review.

7. Structured Assessments: Implement end-of-block practical assessments to facilitate learning and provide feedback on skill development.

8. Essential Competencies: Although not an intended objective of the study, expected competencies emerged for the Acute Care module for NMFC students, from the educator group of student participants, which is worth consideration. The ability of the graduate to manage the undifferentiated critically ill patient emerged as a clear expectation of both

graduates and educators in the study. Competencies in Basic and Advanced Life Support; Basic and Advanced airway management; and basic ventilation strategies were named as integral for successful progression to internship. These findings centred around the knowledge and skills required to resuscitate the critically ill patient, of all ages. In addition to the above, the Acute Care curriculum at UCT includes outcomes related to high yield, high-frequency disease presentations, as well as triage systems, and pre-hospital and major incident approaches. These outcomes were not specifically mentioned by educators. However, these outcomes will be required if the minimum core competence above, is to be achieved. There is a paucity of published literature in Africa to compare these, but the study findings align with the IFEM curriculum's core outcomes (Hopgood, 2010). Outcomes related to professional attributes were not stipulated in this study. It may be that many of the approaches currently employed in the curriculum already include outcomes around teamwork, communication, and professionalism, although not explicitly stated here. The existing curriculum meets most of the expectations of educators and those outlined by IFEM. However, there is compelling evidence for the importance of explicitly defining, communicating, and assessing professional attributes in medical education, and integrating such assessments throughout the curriculum(Wilkinson et al., 2009).

9. Work placements to maximise learning opportunities: Consider placing NMFC students in district-level hospital ECs for maximum opportunities for exposure to critically ill, undifferentiated patients. One of the core outcomes of the existing module is to graduate practitioners who identified and managed undifferentiated critically ill patients. Opportunities for exposure to undifferentiated critically ill patients were minimal in their work placements not only due to the hidden curriculum but also since students were placed in a tertiary level hospital setting where a considerable proportion of patients are referred for definitive care and present either stabilised or with a provisional diagnosis. A lower-level healthcare facility such as a district-level hospital, may provide a better opportunity for exposure to undifferentiated critically ill patients and should be considered(Burch & Reid, 2011). It may also offer integration into a smaller team and facilitate easier supervision and orientation.

The study findings have contributed to the suggested curriculum map below (Table 3).

Table 4: Suggestions for the renewal of the UCT Acute Care Curriculum

Core Competency The graduate must be able to manage the undifferentiated critically ill patient in any setting.							
Cuba	**UCT**						
Shared resources	**Duration**	**2-weeks on arrival**	**4-weeks Acute Care rotation**				
	Outcomes	To demonstrate competency in Basic Adult and Paediatric Life Support Skills	To demonstrate competency in Basic Adult Life Support Skills	To demonstrate competency in Basic & Advanced Airway Management	To demonstrate competency in basic ventilation	To demonstrate an approach to the undifferentiated critically ill patient	To know high-yield, high-frequency emergencies in the SA setting, and to apply that knowledge in the assessment and management of undifferentiated patients.
	Teaching-Learning Methodologies	Self-Directed Learning and SBME					SDL and work placements
	Resources	Peer mentors/EM clinical supervision teams/Clinical Trainers					
	Assessments	Formative	Formative	Formative	Formative	Formative and exit summative assessment.	Formative

6.6 Broader Implications of the Study

Although this study focussed specifically on Acute Care at UCT, it may have broader implications.

It is not the purpose of a qualitative study to generalise but to provide insights to the reader that may be transferrable to other contexts. In seeking to interpret this research and transferability to other contexts, the reader must carefully consider the uniqueness of UCT and South African contexts and the suitability of the findings for transferability to their setting.

6.6.1 Implications Beyond Acute Care within UCT:

The opportunities and challenges in Acute Care identified by NMFC students may be relevant to other rotations in the NMFC programme at UCT. Insights gained regarding curriculum misalignment, time constraints, and challenges of integration, could lead to broader curriculum reforms.

The findings pertaining to peer interactions between UCT and NMFC students may have implications for all UCT students, as an opportunity for enhanced integration and learning.

6.6.2 Implications in South Africa:

The transition-related challenges identified from moving from the Cuban to the SA health system are likely to be common across all institutions. Convenors at the other institutions that host NMFC students may find the suggestions for enhanced integration, time considerations, and the value of SBME, particularly useful.

At a government level, this research could inform policy decisions regarding the SACMC programme, especially as it pertains to the need for Cuban-SA curricula alignment and considerations for Acute Care competencies.

There is a need for cross-border collaboration between Cuban and South African faculty to better prepare students for the transition. We know from Quintana et al. (2012), that attempts to scaffold skills within the Cuban curriculum were unsuccessful(Quintana et al., 2012). Importantly though, these sessions were facilitated by Cuban faculty who were unfamiliar with the SA context. These opportunities were also facilitated outside of clinical hours. There is an opportunity for collaboration by sharing key Acute Care content before students arrive in SA, and for SA faculty to facilitate online teaching methodologies in Acute Care concepts, while students are still in Cuba. In this way, there is an earlier introduction to the content and context and is a mechanism to extend learning *support* and an opportunity to introduce and include students in this CoP early on. As online content already exists within the UCT curriculum and following the pandemic most (if not all) faculty are competent in remote teaching, additional resources are minimal for this to be achievable. However, such a strategy must be carefully initiated to ensure engagements are short, interactive, and intentionally integrated into a spiral curriculum, but must not add significantly to the number of teaching hours for NMFC students. Similarly, this academic access support must be sustainable for SA faculty. Such an integrated curriculum, as suggested by the 4C/ID model(Van Merriënboer et al., 2002), may provide an opportunity to construct a rich integrated knowledge base which could be found in memory when students learn in the UCT environment and are exposed to new and complex situations.

6.6.3 International Implications:

Similarly, this research has value for educators and policymakers in Cuba. This research can inform Cuban curricula change to better prepare and transition NMFC students into the SA health and education systems.

Cuban medical internationalism implies that Cuba trains doctors for many countries. The findings here will have value for those countries in potentially understanding the challenges of transitioning between different health systems and potentially educational approaches.

This has relevance for stakeholders in any country where students train abroad and return to their country of origin, to practice.

6.7 Limitations

This section presents a critical reflection on this study's constraints and aims to equip readers to judge the credibility of the results and their applicability to other contexts, while also highlighting avenues for future research and methodological refinement.

6.7.1 Methodological Limitations:

a. Single Institution Focus:

Our study was conducted at a single institution (UCT) where NMFC students are integrated into the mainstream programme. This permitted an in-depth exploration of this specific context, as intended, but limits the generalisability of the findings to other institutions with different integration models for international medical graduates. Indeed, this is not the purpose of qualitative research, but acknowledging this limitation provides an opportunity to critically apply the findings to other institutions within South Africa, and potentially other LMICs whose HEIs include programmes for internationally trained students or FMGs. Had the study included respondents from institutions with a different approach to teaching NMFC students, this could have highlighted whether there are issues unique to the different approaches. There is an opportunity for multi-institutional studies that could compare and contrast different models of integrating international medical students or FMGs across South Africa and potentially internationally.

b. Single Cohort Focus

Our sample included 18 out of 20 students in the class group that year. Although this high participation rate strengthens the findings, it represents a single cohort's experience which

limits the ability to capture potential variations across different cohorts or years. expanding the study to include an additional cohort of students would have exceeded the degree program's prescribed duration. Longitudinal studies following multiple cohorts could provide insights into how the programme and student experiences evolve.

c. Educator Sample:

Our educator sample was limited to UCT faculty, despite initial plans to include educators from other universities. This limitation arose due to challenges in identifying responsible parties for Acute Care training at other institutions. Despite this limitation, the study emerged with in-depth insights into the UCT context. However, it does limit the ability to compare curricular approaches across institutions. This highlights the need for a more comprehensive mapping of Acute Care education across South African institutions and could lead to collaborative research initiatives.

6.7.2 Data Collection and Timing:

a. Timing of Data Collection:

Student focus groups were conducted at the end of their academic year while preparing for final exams. Such timing may have influenced their responses, potentially framing their reflections on the entire 18-month placement rather than isolating Acute Care experiences. This may have also introduced recency bias and conflated experiences across the entire programme. Future studies could implement periodic data collection throughout the academic year to capture evolving perspectives and experiences.

b. Rapid Analysis Between Focus Groups:

The two focus group discussions were conducted back-to-back, allowing only one hour for reflection and preliminary analysis between sessions. This allowed for quick adaptation of the second FGD based on initial findings but may have limited the depth of analysis and the

iterative development of our questioning and analysis between sessions. Future studies could space out data collection sessions to allow for more thorough interim analysis and iterative refinement of questions.

6.7.3 Researcher Limitations:

a. Insider Status:

Perspectives as a researcher embedded within the UCT medical education system may have been influenced by familiarity with the context. Although this perspective provided valuable insights, it may have also created blind spots in the analysis, which may have influenced the interpretations and potentially limited the ability to see the system from an outsider's perspective. Collaborative research with external partners could provide fresh perspectives and challenge potential assumptions.

b. Conceptual Framework

The chosen conceptual framework proved valuable during the research journey to position, and oftentimes, re-position the focus during the qualitative process.

6.8 Future Research Directions:

To address these limitations and capitalise on the opportunities they present, future research could:

- Expand to a multi-institutional, mixed-methods study to compare Acute Care curricula and experiences across different SACMC programmes in South Africa.
- To understand whether expanding the Acute Care placement will enhance the competencies of NMFC students during internship.
- Utilise quantitative measures of student performance and competency to complement qualitative insights.

- A study to explore whether peer mentorship will enhance the integration and academic success of returning NMFC students in South African institutions.
- Although the chosen theories facilitated a deeper understanding of NMFC students educational transition and the influence of social learning on achieving Acute Care outcomes, it was clear the need to delve into alternative theoretical frameworks, such as cultural adaptation theories or critical pedagogy, to further illuminate the NMFC student experience
- Explore 'moving out' further by researching the NMFC students in their year of internship to better understand how their Acute Care experience has changed behaviour or practice, or to ascertain readiness for Acute Care during internship.
- Delphi technique or other consensus methodology to define essential competencies and learning outcomes in Acute Care training

In conclusion, while these limitations constrain the broad applicability of our findings, they do not negate the value of the rich, contextual insights provided by this study. By explicitly acknowledging these limitations and framing them as opportunities for future research, I aim to contribute to the ongoing dialogue about enhancing research methodologies and advancing our understanding of complex educational interventions like the NMFC program. I encourage readers to consider both the strengths and limitations of this study when interpreting its findings and applying them to their contexts.

6.9 Conclusion:

This study set out to explore the educational challenges and opportunities for improvement in the teaching-learning of Acute Care for NMFC students at UCT. With a qualitative approach and utilizing Schlossberg's transition theory and the concept of Community of Practice, four key objectives related to student experiences were investigated: the student experience, the role of transition, the impact of simulation, as well as the perspectives of coordinators.

This body of research has provided good insights into the complexities of Acute Care education for NMFC students at UCT, revealing both strengths and areas for improvement in the current curriculum.

Regarding the experiences of NMFC students: The study explored the student experiences of the Acute Care curriculum. It highlighted the value of SBME and the exposure to diverse pathologies and elaborated on weaknesses such as insufficient time to achieve outcomes and the need for improved orientation and integration.

The role of transition on students' learning experience was addressed illuminating significant transition-related challenges including the impact of misaligned curricula between Cuba and South Africa, culture shock, and issues of integration and professional identity formation.

SBME was explored with findings strongly in support of its utilisation in the Acute Care curriculum, favoured for its exposure to high acuity patient scenarios without the risk to the patient, its ability to enhance teamwork and cultivate leadership skills.

Finally, the perspectives of UCT coordinators were woven through the study. They provided insight into the challenges of teaching and assessing NMFC students and offered pragmatic solutions for implementation into the curricula.

Empowering and graduating competent healthcare practitioners in Africa is pivotal to the transformation of our healthcare systems, ensuring quality care, innovation, and progress in meeting the diverse health needs of our communities. The SACMC offers a potential solution to the significant healthcare workforce deficit. However, this initiative has faced considerable challenges, particularly in assimilating students trained in a foreign healthcare system, culture and language into the South African health context.

The narrative extends to UCT's Acute Care curriculum, which also sought to address the learning gaps through scaffolding efforts, yet challenges in students' progression persisted. While acknowledging the admirable resilience of these students navigating foreign language and educational systems, the critical issue arises understanding the specific learning challenges faced by Cuban-trained medical students, particularly in meeting Acute Care outcomes, within the unique UCT student context, which this study has explored.

The findings of this study highlight the imperative of strategic pre-arrival interventions such as orientation and assigned peer mentors, innovative pedagogical approaches, curricular integration, and practical exposure to enrich the Acute Care learning journey for returning Cuban-trained students at UCT. While this study has addressed its research question, it also opens new avenues for inquiry. This represents a significant step forward in understanding the complex educational journey of NMFC students in Acute Care while acknowledging the ongoing need for further research and refinement in this critical area of medical education. The findings herein lay the foundation for further exploration and implementation of strategies that will better equip students to contribute to the realisation of a hoped-for healthcare system.

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Appendix A: Discussion schedule for Focus Groups:

Curriculum renewal in Acute Care: A South African based study for returning Cuban-trained students

Statement on confidentiality:

There are no right or wrong opinions to any of the topics of discussion. I am here to establish your individual view. Any opinions expressed will be treated in confidence.

Introduction to the session:

The study aim and objectives will be stated briefly.

Discussion Guide:

1. **Please could you start by introducing yourself and giving a bit of your background?**

PROBES AND PROMPTS
Demographic data: Age, Gender, Qualification, Location

2. **Can you describe your experience within the Acute Care module?**

PROBES AND PROMPTS
General: • **Describe your most significant learning experience (s) in the undergraduate program at the University of Cape Town?** • **What were you expecting of the Acute Care module?** • **How did you hope it would prepare you for your future?** **Strengths:**

3. **What would you consider to be the strengths of the module?**

Probes and Prompts
• **What is one thing you like about the Acute Care module?** • **What makes the program unique?** • **In your opinion, how will the program strengths enable you as a junior doctor working in South Africa?** • **What current strengths should the Acute Care module build upon?**

4. **Describe your experience with simulation as a method to teach Acute Care skills?**

Probes and Prompts

- **What impact has simulation had on your learning?**
- **Have you been exposed to simulation before?**
- **What methods of learning clinical skills do you find most beneficial?**
- **What method/s of learning hamper your learning of skills?**
- **How can the teaching using simulation be improved?**

5. **How can the Acute Care module be improved to suit your learning needs?**

Probes and Prompts
• **What key improvement could be made to the Acute Care module and why?** • **What would you remove from the curriculum? What would you add?** • **Drawing on your background and experience, what two key changes would you suggest if you were to redesign the program?** • **What emerging or new areas could the program focus on that would strengthen its value to you as a student?** • **What skills do you need to develop that are not being targeted in your program?**

6. **We appreciate that transitioning from Cuba to South Africa must come with its challenges. Can you describe your experience, and how you think this has impacted your learning and shaped you as an individual?**

Probes and Prompts
• **What impact has language had on your learning of medicine?** • **What has been your two greatest challenges with the existing Cuban curriculum?** • **In your opinion, what improvements can be made to the current structure of the Cuban or South African components of the curriculum to ease some of the challenges experienced?**

7. **Finally, what is the most important thing you would like to tell the curriculum committee as they work to enhance the Acute Care module?**

Appendix B: Interview Questions for Educators

General

- **Can you describe your role in the teaching and learning of Acute Care to NMFC students?**
- **Can you describe the Acute Care module currently taught to NMFC students?**
- **What key characteristics, knowledge, or skills do you look for in interns who manage patients in the acute presentation?**

Program Strengths

- **How does the program's structure or outcomes support your expectations of graduates (intern's)?**
- **Based on your experience of NMFC students, what are some key strengths that they possess?**
- **Of the courses that you have taught, where did you see the greatest improvement in students' knowledge, skills, and attitudes?**
- **Do you utilise SBME as an instructional method? What in your opinion is the role of SBME?**

Areas for improvement

- **What areas of the Acute Care curriculum are most challenging for returning NMFC undergraduates?**
- **What are the most frequent program/curriculum related questions students ask you?**
- **Are there program requirements that students find difficult to complete? Are there bottlenecks where they get stuck?**
- **What do you think is the main reason why students fail to progress in the assessment of Acute Care?**
- **Based on your experience of NMFC students, what are some key areas for improvement?**
- **What gaps, if any, do you see in the program's structure or outcomes?**
- **What two key changes would you propose if you were to improve the program to better prepare NMFC students for employment in clinical practise in South Africa?**

Appendix C: Consent Documents

Study Information Document

Title: Curriculum renewal in Acute Care: A South African based study for returning Cuban-trained
students

Dear Student participant

I am, Dr Waseela Khan, a lecturer at the University of Cape Town and Undergraduate Co-ordinator
for the Division of Emergency Medicine. I co-ordinate the Acute Care modules for year three to six.
This includes co-ordination of the Acute Care module for returning NMFC students.

I am particularly committed to the improvement of students' teaching and learning on the MBChB
programme at the university. To this end, I have been granted permission to explore the educational
experiences of students on the programme.

I have noticed that South African students returning after the Cuban training programme do need
additional support when entering the clinical setting in South Africa. I am therefore specifically
interested in your experiences and training in Acute Care at the University of Cape Town. I am keen to
hear about your specific needs in the teaching and learning of Acute Care, and any suggestions you may
have about how the current module can be improved. In addition, I would like to explore how your training in Cuba and your transition between countries and institutions has impacted you and your learning as a student.

I believe that the research will contribute to our understanding of your challenges and your specific needs when returning to complete the programme in South Africa. A better understanding will allow us to design an enhanced Acute Care curriculum that can provide more effective educational support in the future.

To this end, your participation will require:

- Participation in a discussion together with other NMFC students, otherwise referred to as Focus-Group Discussions.

- The discussion will last between 3-4 hours.
- You may be asked to participate in more than one discussion.
- The discussions will be audio recorded.

Voluntary Participation

Participating in this research is entirely voluntary. There will be no consequences to you should you accept or decline the invitation to participate.

Right to Refuse or Withdraw

You may withdraw your participation during the research study at any stage before the audio recording
transcription. The transcriptions will be completely anonymised and thus the researcher will have no way of identifying the student participant thereafter. Should you wish to withdraw please inform the primary researcher via the contact details provided below.

Confidentiality

The information that is gathered during the study will be kept confidential. If you agree to participate,
you are assured your identity will be protected (anonymised) during the transcription, analysis and
reporting of the data. All data recordings, transcripts and signed consent forms will be stored in safe,
locked cupboard. This data will be destroyed after the completion of the study.

Ethics Clearance and Approval

This proposal has been reviewed and approved by the University of Cape Town's Human Research
and Ethics Committee who's task it is to ensure that research student participants are protected from any

research-related harm. The research complies with the ethical codes of the Helsinki Declaration and the South African Good Clinical Practice Guidelines. Should you require any information, clarification,

assistance or details about the ethics of this study you may contact the ethics administrator (contact details listed below). Additional details of the study can be obtained from me, or my supervisor (contact details listed below).

Thank you, in anticipation, for your participation.

Approval No:

Ethics approval obtained from:

HREC RESEARCH OFFICE CONTACT DETAILS	PRIMARY RESEARCHER NAME AND CONTACT DETAILS:	SUPERVISOR NAMES AND CONTACT DETAILS
	Dr Waseela Khan Division of Emergency Medicine University of Cape Town Waseela.khan@uct.ac.za Tel: 0794216248	Mr Marvin Jansen & Professor Francois Cilliers Department of Health Science Education University of Cape Town Marvin.jansen@uct.ac.za / Francois.cilliers@uct.ac.za (021) 650-5426

Informed Consent Document

Title: Curriculum renewal in Acute Care: A South African based study for returning Cuban-trained

students

Declaration

I _____ (full names of student participant) hereby confirm
that I understand the contents of this document and the nature of this research project, and I consent to
participating in focus-group discussions and interviews.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF STUDENT PARTICIPANT _____ DATE _____

SIGNATURE OF WITNESS _____ DATE _____

Statement by the researcher/person taking consent:

Title: Curriculum renewal in Acute Care: A South African based study for returning Cuban-trained
students

I have accurately read the information of the research to the potential student participant. To the best of my ability, I have made sure that the student participant understands that the following will be completed:

- Participation in a discussion together with other NMFC students, otherwise referred to as Focus-Group Discussions.
- The discussion will last between 3-4 hours.
- You may be asked to participate in more than one discussion.
- The discussions will be audio recorded.

I confirm that the student participant was given an opportunity to ask questions regarding the research study; all the questions asked have been answered correctly and to the best of my ability. I confirm that the research student participant has not been coerced into giving consent for this research study and that consent has been given freely and voluntarily.

A copy of this informed consent form has been provided to the student participant.

Print Name of Researcher: _____

Signature of Researcher: _____

Date: _____

Appendix D: UCT HREC Approval Letter

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room G50- Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6492
Email: hrec-submissions@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

17 June 2021

HREC REF: 298/2021

Mr M Jansen
Health Science Education
E-52 OMB
Email: Marvin.Jansen@uct.ac.za
Student: Waseela.khan@uct.ac.za

Dear Mr Jansen

PROJECT TITLE: CURRICULUM RENEWAL IN ACUTE CARE: A SOUTH AFRICAN BASED STUDY FOR RETURNING CUBAN-TRAINED STUDENTS-MPHIL CANDIDATE-DR WASEELA KHAN

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee (HREC) for review.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

This approval is subject to strict adherence to the HREC recommendations regarding research involving human participants during COVID -19, dated 17 March 2020 & 06 July 2020.

Approval is granted for one year until the 30 June 2022.

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)

The HREC acknowledge that the student: Dr Waseela Khan will also be involved in this study.

Please quote the HREC REF 298/2021 in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate institutional approval, where necessary, before the research may occur.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, FACULTY OF HEALTH SCIENCES HUMAN RESEARCH ETHICS COMMITTEE

HREC/REF 298/2021sa