



Strengthening child and adolescent mental health systems in South Africa: A multi-stakeholder implementation science initiative

By

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Abstract

Background: Child and adolescent mental health services and systems (CAMHSS) in low- and middle-income countries (LMICs), including South Africa, face significant challenges despite 10–20% of under-18-year-olds experiencing mental and neurodevelopmental disorders. In South Africa the mental health treatment gap remains at 90%. This thesis used multi-methods across three aims to explore CAMHSS strengthening innovations in LMICs, the state of CAMHSS in South Africa, and potential strategies for improvement.

Methods: A targeted literature review identified CAMHSS strengthening innovations in LMICs from the preceding 18 months. A narrative review examined the state of CAMHSS in South Africa, synthesising findings from two regional situational analyses. A nationwide electronic survey was conducted to assess the relevance of previous regional findings at a national level and to identify system strengthening priorities. Participatory Theory of Change (ToC) workshops were held across care levels in the Western Cape to co-create a shared vision for CAMHSS strengthening. Lastly, a qualitative study evaluated the acceptability, appropriateness, and feasibility of the child mental health module from the WHO Mental Health Gap Action Programme Intervention Guide (mhGAP-IG CMH) at the primary care level in Khayelitsha, Cape Town.

Results: CAMHSS innovations in LMICs were identified across WHO health system building blocks, including service provider training, school-based programmes, and digital tools. The integrative review of CAMHSS in South Africa highlighted 38 critical gaps, particularly in clinical care and human resources. Findings from the nationwide survey supported 63% of the previous regional findings, and priorities included quality services close to home, competent teams, and widespread CAMHSS engagement. ToC workshops identified six pathways to strengthen CAMHSS, with a focus on care pathways, capacity building, and political buy-in. The qualitative study on the mhGAP-IG CMH module noted potential utility but also identified many contextual barriers such as time constraints and lack of support.

Conclusion: The original contributions of this thesis include a comprehensive assessment of CAMHSS in South Africa including current gaps and priorities, a co-produced roadmap for CAMHSS strengthening, and findings on the mhGAP-IG CMH module as a potential tool in primary care. Actions from the thesis could bridge the treatment gap to improve CAMHSS in the country.

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Style, abbreviations, and key terms

Style

A note on spelling and style convention: South African English spelling has been used throughout this thesis with the exception of standard international terminology, e.g. World Health Organization. I have used Harvard referencing throughout the thesis and compiled all references at the end of this thesis.

Abbreviations

AIDS	Acquired immunodeficiency syndrome
AIM	Acceptability of intervention measure
ADHD	Attention-deficit/hyperactivity disorder
CAMH	Child and adolescent mental health
CAMHS	Child and adolescent mental health services
CAMHSS	Child and adolescent mental health services and systems
CHW	Community health worker
CHC	Community health centre
CMH	Child and adolescent mental and behavioural disorders
CNP	Clinical nurse practitioner
COVID-19	Coronavirus disease 2019
D&I	Dissemination and implementation
DBE	Department of Basic Education
DMHT	District Mental Health Team
DoH	Department of Health
DoJ	Department of Justice
DSD	Department of Social Development
ECD	Early Childhood Development
EBPAS	Evidence-Based Practice Attitude Scale
FGD	Focus group discussion
FIM	Feasibility of intervention measure

HIC	High-income country
HIV	Human immunodeficiency virus
HREC	Human research ethics committee
IAM	Intervention appropriateness measure
KZN	KwaZulu-Natal
LMICs	Low- and middle-income countries
MDT	Multidisciplinary team
NMHPF	National Mental Health Policy Framework and Strategic Plan
mhGAP	Mental Health Gap Action Programme
mhGAP-IG	Mental Health Gap Action Programme Intervention Guide
NGO	Non-governmental organisation
NHI	National Health Insurance
OT	Occupational therapist
SDG	Sustainable development goal
SDQ	Strengths and Difficulties Questionnaire
SLT	Speech and language therapist
SSA	Sub-Saharan Africa
TB	Tuberculosis
ToC	Theory of Change
UCT	University of Cape Town
WC	Western Cape
WCED	Western Cape Education Department
WHO	World Health Organization
WHO-AIMS	World Health Organization Assessment Instrument for Mental Health Systems

Key terms

Acceptability

Adolescent

Appropriateness

Child

Child and adolescent mental health

Child and adolescent mental health landscape

Child and adolescent mental health services

Child and adolescent mental health systems

Feasibility

Health systems

Health systems strengthening

Local adaptation

Low- and middle-income countries

Mapping

Mental health GAP action programme-intervention guide

mhGAP mhGAP-IG

Provider perspectives

South Africa

Survey

Theory of change

Western Cape province

Chapter 1: Child and adolescent mental health services in the Western Cape of South Africa: a health system strengthening initiative

1.1. The vast burden of child and adolescent mental disorders

Children and adolescents make up almost a third (30%) of the world's population, with nine in ten children living in low- and middle-income countries (LMICs) (United Nations, 2019). Mental and neurodevelopmental disorders have been shown to represent a large burden of disease in those under 18, with studies suggesting a global prevalence of approximately 10–20% in this age group (Polanczyk et al., 2015; Vasileva et al., 2021). Although the majority of the evidence comes from high-income countries (HIC), prevalence rates are thought to be similar in sub-Saharan Africa (SSA) (Cortina et al., 2012; Erskine et al., 2017). The prevalence of mental and neurodevelopmental disorders in South Africa is unknown given that no formal and comprehensive national prevalence studies of child and adolescent mental disorders have been conducted to date. In a study conducted in 2006, it was estimated that up to 17% of children and adolescents in the Western Cape province of South Africa had diagnosable and treatable mental disorders (Kleintjes et al., 2006).

South Africa is an upper-middle income country at the southernmost tip of Africa with a population of approximately 59 million people, of which 36% are under the age of 18 years (Statistics South Africa, 2020; The World Bank, 2021). The country has great socio-economic, linguistic and cultural diversity. There are 11 official languages as well as many non-official languages, with some languages representing different cultural groups. These groups are differentially represented across the nine South African provinces, and each province has different predominant groups. Although there is national oversight of provinces, each province is governed independently with its own localised policies, budgets, and legislation based on the overarching national policy and legislation. South Africa has both rural and urban areas distributed differently across the provinces. The child and adolescent mental health services and systems (CAMHSS) landscape may therefore look different from province to province.

South Africa has competing health challenges, and limited resources have meant that priority was placed on health areas that affect mortality rates in the country such as HIV/AIDS and tuberculosis (TB), maternal and child mortality, cardiovascular diseases and their risk factors,

and trauma (Pillay-van Wyk et al., 2016). The mental health ‘treatment gap’ is estimated to be in excess of 90% for child and adolescent mental health (CAMH) in South Africa (Kohn et al., 2004; Mokitimi, Schneider & de Vries, 2022). This means that of those that have mental disorders, only one in ten have access to health care services required for diagnosis and treatment. Recent years have seen increased attention placed on mental health, but little has been done to address challenges in CAMHSS. The National Mental Health Policy Framework and Strategic Plan (NMHPF) 2023–2030 acknowledges the severe lack of services for children and adolescents, identifying strengthening CAMH services as a key action area (South African National Department of Health, 2023). Planned actions include promotion and prevention at key developmental stages, strengthening CAMH training for general health staff, and improving detection and management of child and adolescent mental disorders at primary and community levels (South African National Department of Health, 2023). Additionally, the plan emphasises the need for inpatient care facilities for children and adolescents at regional hospitals and enhanced school systems for CAMH promotion, prevention, detection, and management in line with the School Health Policy (South African National Department of Health, 2023).

1.2. Child and adolescent mental health services and systems (CAMHSS)

The World Health Organization (WHO) proposed a pyramid of care model with five tiers to optimise mental health services across different levels of care (World Health Organization, 2008a). The South African health service is divided into district health services, hospital services and emergency medical services. In practical terms, services are arranged into primary level (primary health clinics and community health centres), secondary level (district and regional hospitals), and tertiary level (tertiary, central, and specialised hospitals). This WHO pyramid of care was adopted by South Africa in the NMHPF 2013–2020 (recently superseded by the 2023–2030 version) but is yet to be fully implemented for CAMH (South African National Department of Health, 2013).

The WHO pyramid model is based on the principle that most people can be managed by informal community services, which will have a high frequency of use but can be run at a lower cost than specialised hospital services. Formalised services, which are targeted at those at risk of and with prevalent mental disorders, include early identification, accurate diagnosis, and correct management and monitoring (Eapen, Graham & Srinath, 2012). In this ideal

model, children and adolescents with uncomplicated mental disorders would be seen at the primary care level where healthcare is less time- and resource-intensive. Cases with increased complexity would be seen at higher levels, with more time and resources required for each case. This includes specialist care overseen by a psychiatrist at general regional hospitals, and management by highly specialised multidisciplinary teams at tertiary, central, and specialised hospitals.

Any actions taken to strengthen health services need to take the multi-level nature of health services into account. However, it is important to note that services do not exist in isolation, but rather in the context of a broader health system (World Health Organization, 2007). The health system, in turn, exists in a broader national context with interplay with other sectors. In South Africa, mental health care provision is not just the preserve of the Department of Health (DoH) but involves interplay with other departments including the Departments of Social Development (DSD), Basic Education (DBE), and Justice (DoJ) (Flisher et al., 2012).

The WHO defines health systems as “all activities whose primary purpose is to promote, restore, and maintain health” (World Health Organization, 2007). This includes all the parts and players that make up the health system, their functions, and relationships with each other. The WHO proposed six ‘building blocks’ as a framework through which the key elements of health systems can be understood. These building blocks include (i) service delivery, (ii) health workforce, (iii) health information systems, (iv) access to essential medicines, (v) financing, and (vi) leadership/governance (World Health Organization, 2007).

A 2018 *Lancet Global Health* Commission report on took a critical look at health systems in LMICs and found that, although health outcomes had improved in LMICs, health systems were of low-quality with low end-user satisfaction and confidence (Kruk et al., 2018). In addition, health outcomes were still below standard with millions of preventable deaths (Kruk et al., 2018). As a result, there was a call for the development of health systems that were not only well organised, but also of high-quality (Kruk et al., 2018). The development of high-quality CAMHSS in LMICs is essential given the high prevalence of mental disorders in children and adolescents. Designing and strengthening health systems requires research approaches based in real-world settings rather than ideal laboratory conditions (Greenhalgh & Papoutsis, 2018). Such approaches should be designed to be responsive a) to how the system reacts, and b) to feedback from stakeholders as it emerges.

1.3. The CAMHSS landscape in South Africa

A review of CAMH policy in South Africa found that, although the country has had a standalone national policy guideline since 2003, the policy had never been reviewed or updated (Mokitimi, Schneider & de Vries, 2018). There were also no provincial plans for implementation, and no legislation specific to children and adolescents with mental disorders in South Africa (Kleintjes et al., 2010; Mokitimi, Schneider & de Vries, 2018).

The most nuanced evidence about the CAMHSS landscape in South Africa to date comes from two situational analyses performed over the last five years. These studies described their local CAMHSS through a health system lens using the WHO Assessment Instrument for Mental Health Systems (WHO-AIMS) and the WHO health system building blocks (Babatunde et al., 2020; Mokitimi, Schneider & de Vries, 2022).

A situational analysis was conducted by Mokitimi and colleagues (2022) in the Western Cape province using data from 2016 (Mokitimi, Schneider & de Vries, 2022). The authors found no dedicated provincial budget for CAMHSS in the province, and no disaggregated budgetary information available to determine the proportion of health funds spent on CAMHSS in the province. Outpatient CAMH services were delivered at all three formal levels of care. Inpatient services were available at secondary and tertiary level in the City of Cape Town, but not in rural settings where no tertiary services were available. At secondary level, children aged 12 and under were admitted to paediatric wards with physically ill patients placing them at risk of contracting infections, and adolescents were admitted to adult psychiatric wards placing their safety at risk. Children and adolescents were seen alongside adults both at primary and secondary level. Psychotropic medication was available at all levels of care, but there were limited psychosocial services and no CAMH appropriate resources (e.g., assessment tools or play materials) at primary and secondary level. Although there were anecdotal accounts of training and supervision of service providers at primary care level, there was no formal documentation of this. There was no evidence of human resources dedicated to CAMH at primary and secondary level, but there were multidisciplinary teams dedicated to CAMH at the tertiary level. Even though CAMHSS is known to involve multiple governmental departments such as the Department of Health (DOH), Department of Social Development (DSD), and Western Cape Education Department (WCED), there was no evidence of formal intersectoral collaboration. Lastly, there were no publicly available reports related to CAMH

statistics and no disaggregated data that could differentiate between under- and over-18year olds.

The second situational analysis was conducted by Babatunde and colleagues (2020) in the rural Amajuba district in KwaZulu-Natal (KZN) province using data from 2018 (Babatunde et al., 2020). The study found no policies or plans specific to CAMH in the district and that only 2% of the district health budget was allocated to general mental health. There was no separate time or physical space dedicated to CAMH services at any of the facilities. Outpatient services were only available at one hospital, and children and adolescents requiring hospitalisation had to be admitted outside the district, at a hospital more than 250 km away. Perhaps the most alarming finding was that there were no CAMH services offered at the primary care level at all. This was a highly concerning observation given that primary care facilities are meant to be the most accessible health care point for the communities they serve. Primary care practitioners felt ill-equipped to provide CAMH services, with no standardised guidelines, training, or supervision available to support them. Although medication was available, no age-appropriate equipment such as toys or play materials were available to assist with evaluation and psychosocial interventions.

The WHO pyramid of care suggests that most children and adolescents should be managed at the lower levels of care, but the limited evidence from within South Africa currently shows that services at these levels are insufficient and not age-appropriate. The projects in KZN and the Western Cape provide a reasonable foundation for next steps to improve CAMH services and systems in the country. However, it would be of value to synthesise the findings across these two provinces to identify similarities and differences in CAMHSS in a more systematic way (given that two slightly different methodological frameworks were used) and to check whether any recent interventions may have been implemented in either province to improve services. Given the diverse socio-economic, cultural, linguistic, and services profiles across South African provinces, it would also be important seek the views of national stakeholders across provinces on the landscape of needs for CAMHSS in comparison to the findings from these regional studies.

1.4. Moving from 'mapping' to 'strengthening'

All systems-level interventions require a comprehensive understanding of the multi-level landscape of needs of that specific system in context (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019; Babatunde et al., 2020). 'Mapping' the landscape therefore allows for the emergence of appropriate responses or innovations for 'strengthening' the system. Health systems strengthening requires a careful and highly participatory approach to ensure appropriate, scalable, and sustainable solutions to the system under examination (Gilson, 2012).

Implementation research is the study of how evidence-informed practices (including policies, programmes, and clinical interventions) are implemented in real-world settings to improve patient and population outcomes (Peters et al., 2013). Implementation science allows us to understand *how* implementation activities lead to the desired impact and to unpack the process of implementation, including factors that will influence successful implementation. Figure 1.1 shows the simple analogy of adjusting the shape of two mismatched puzzle pieces with the aim of improving their 'fit' (where one piece is the evidence-informed practice, and the other piece is the organisation and broader context in which the practice will apply) (Damschroder et al., 2009). The characteristics of the practice, the organisation, and the broader context need to be understood and may need to be adapted (Sanson-Fisher, 2004; Aarons, Hurlburt & Horwitz, 2011) to optimise the contextual fit.

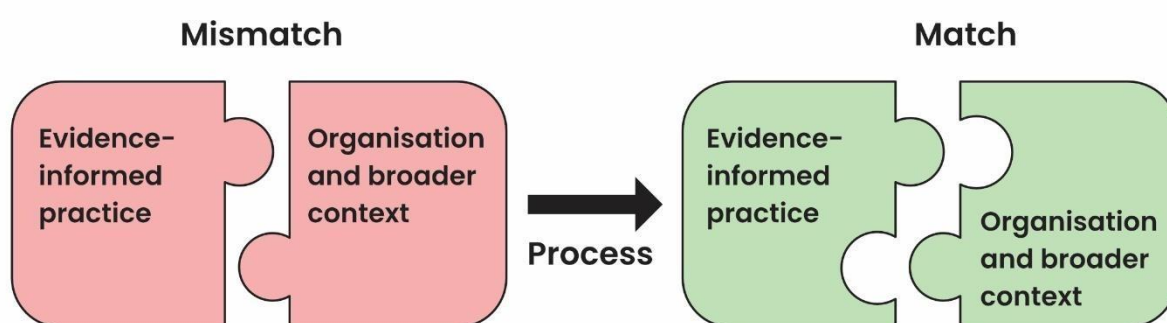


Figure 1.1. Puzzle and 'fit' analogy for implementation science (adapted from the Consolidated Framework for Implementation Research (CFIR) figure) (Damschroder et al., 2009)

Seward and colleagues (2021) proposed that implementation research can be used to strengthen health care at a systems level through the implementation of practices that address the WHO health system building blocks (Seward et al., 2021). The authors described four broad phases: 1) a pre-implementation phase, 2) a piloting phase, 3) an implementation and evaluation phase, and 4) a post-implementation and dissemination phase. The preimplementation phase involves identifying a problem, formulating an aim to potentially address it, gaining an understanding of the organisational characteristics and socio-political context, and identifying a practice for strengthening. Given the needs and complexities in CAMHSS, stakeholder engagement would need to take place from the pre-implementation phase. Involving stakeholders from the outset of a project allows them to be co-producers of the strengthening plan and may give them a sense of ownership so that they are more invested as implementation actors.

The Theory of Change (ToC) model is an example of a theoretical framework that provides an understanding of how an implementation plan is expected to cause the desired outcomes and impact (Breuer et al., 2014). ToC is a participatory theory-informed approach that aims to produce a clear picture of how a programme will lead to the intended outcomes (Weiss, 1995). This resulting plan is referred to as a 'programme theory' or 'ToC map' (Seward et al., 2021). These terms will be used interchangeably throughout this thesis. Unlike most strategic plans that detail 'what' needs to happen, ToC highlights the underlying dynamics and assumptions that explain why and how the change happens (Barnett & Gregorowski, 2013). Its participatory nature allows for 'buy-in' and active input and participation from stakeholders, who will ultimately be the ones to action the implementation plan.

The ToC model has previously been used to develop mental health systems. In the United States, two studies described the use of the theory for the development of community-based CAMH services (Hernandez & Hodges, 2003, 2006; Walker & Matarese, 2011). Furthermore, the approach has been used in sub-Saharan Africa and South Asia for the Programme for Improving Mental Healthcare (PRIME) project – a cross-country consortium that aimed to develop general mental health care plans in five LMICs (Breuer et al., 2014). Breuer and colleagues described how ToC was used to develop a comprehensive mental health care plan for a pilot site in the North-West province of South Africa, with the aim of integrating the mental health care plans into the Integrated Chronic Disease Management programme (Breuer et al., 2014; Schneider et al., 2016).

The ToC process can be informed by reviewing programme documentation, interviews and focus groups, building on existing theory or research and ToC workshops (Mason & Barnes, 2007). As illustrated in figure 1.2, the formulation of the ToC often takes place in a reverse fashion, where the intended impact is first agreed upon by stakeholders (Breuer et al., 2014). This is followed by working backwards to determine the short, mid, and long-term outcomes necessary to ensure that the impact is realised (Vogel, 2012). The interventions required to achieve the outcomes and the rationale for selecting specific interventions, as well as the indicators that will be used to measure whether an outcome has been achieved, are then determined (Vogel, 2012).

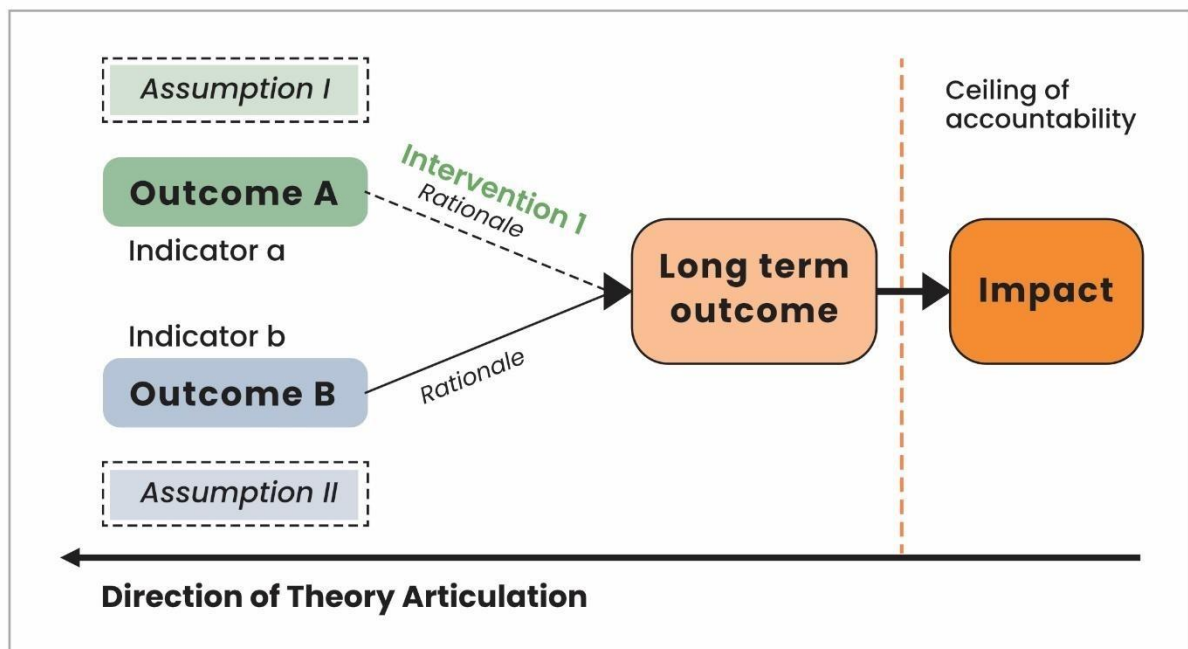


Figure 1.2. Elements of Theories of Change (Breuer et al., 2014) (adapted from Anderson, 2006)

Once a programme theory has been developed and potential evidence-informed interventions have been selected, the extent to which the intervention is a good fit for the organisation and socio-political context can be evaluated. The implementation outcomes of acceptability, appropriateness, and feasibility can be used during the pre-implementation phase to determine whether the intervention is perceived to be a good fit by stakeholders. Acceptability is defined as the perceived agreeability of an intervention, appropriateness is the perceived relevance or compatibility of an intervention, and feasibility is the extent to

which the intervention can be used in a given context (Proctor et al., 2011; Weiner et al., 2017).

1.5. A potential tool to strengthen CAMH in primary care

The Mental Health Gap Action Programme (mhGAP) was introduced by the WHO in 2008 in response to the widening gap between the burden of mental, neurological, and substance use disorders on the one hand, and the availability of mental health services on the other (World Health Organization, 2008b). It encourages governments and international organisations to commit to improving mental health care. The programme aims to scale up services for so-called 'priority conditions' in WHO member states, especially those in LMICs. The priority conditions include depression, psychoses, suicidal ideation, epilepsy, dementia, disorders due to use of alcohol and psychoactive substances, mental and behavioural disorders in children (CMH), and other significant conditions. The mhGAP consists of various programmes to guide sets of activities targeted at different stakeholders. These include the mhGAP 'community toolkit' aimed at equipping programme managers with tools to identify and meet community needs, the mhGAP 'operations manual' that offers practical mhGAP programme implementation guidance to district managers, and the mhGAP 'intervention guide' (mhGAP-IG).

The mhGAP-IG was developed in consultation with global technical experts as a simple clinical decision support tool (World Health Organization, 2016). The tool provides guidance on the evaluation and management of priority conditions and can be reviewed and adapted to meet the needs of local contexts. It is targeted at 'non-specialist' health care providers (defined by the WHO as doctors and nurses who are not mental health specialists) working at primary and secondary levels of care. The tool includes a module for each of the priority conditions described above (depression, psychoses, suicidal ideation, epilepsy, dementia, disorders due to use of alcohol and psychoactive substances, mental and behavioural disorders in children (CMH), and other significant conditions), with each module covering the assessment, management and follow-up required. The mhGAP-IG follows a diagnosis-based approach to assessment.

In the CMH module, disorders are divided into three categories rather than specific diagnoses (World Health Organization, 2016). These are 1) developmental disorders, 2) behavioural

disorders, and 3) emotional disorders. The assessment section of the module starts with providing common presentations. This is followed by a series of flow charts with clinical assessment questions to assess for developmental disorders, ADHD, conduct disorder, emotional disorders, and about the home environment. Each of the clinical assessment questions will have the answer yes or no, and the clinician is given further instructions based on the answer until a final clinical assessment is made. The management section then provides a management plan for the condition based on the assessment. The management plan for each condition consists of psychosocial interventions and prompts on when to refer for further evaluation and management. Pharmacological interventions are only described for depression (under emotional disorders) and ADHD (under behavioural disorders). The follow up section details how the clinician should continue with patient care after the initial assessment and management plan.

A recent systematic review exploring the use of the mhGAP-IG for CAMH in LMIC settings identified twelve diverse studies of varying quality (Petagna et al., 2022). Most of the studies reported on the outcomes of the implementation phase of their projects, identifying improvements in provider outcomes such as knowledge gains, and patient level outcomes such as improved access to care (Petagna et al., 2022). A study by Kane and colleagues (2016) was the only study identified in the review that reported findings from the preimplementation phase (Kane et al., 2016). The study evaluated the contextual barriers and facilitators to the implementation of the mhGAP-IG module on conditions specifically related to stress for all age groups in Uganda (Kane et al., 2016). It was, therefore, not specific to the CMH module of the mhGAP-IG or to children and adolescents. No study to date has evaluated the feasibility, appropriateness, and acceptability of the mhGAP-IG CMH module in any LMIC settings. Given the urgent need for CAMH service and systems strengthening, this may represent an important first step in evaluating the potential for this tool to be used in such contexts.

1.6. Aims and objectives of the thesis

Study rationale

There is now a need to shift from ‘mapping’ of child and adolescent mental health services and systems towards developing strategies that will strengthen them. Stakeholder-informed research to identify current priorities for service strengthening would be an important next step. In order to move from mapping to strengthening, we first need to examine what, if any, strengthening innovations have been used in LMICs for CAMHSS to generate ideas or potential models for South Africa. Thereafter, we need to determine the national profile of needs for CAMHSS and identify priority areas for strengthening that could inform strategies that will be easily translated to the diverse South African contexts. Key stakeholders should then be engaged to develop a shared ‘vision/model’ for CAMHSS using a TOC-informed approach to ‘backwards engineer’ steps towards such a goal. Current evidence suggests that CAMH services at the primary care level require significant strengthening. Thus, it would be helpful to evaluate clinical decision-making tools that can be implemented at primary care level, such as the mhGAP-IG CMH module, to determine its ‘fit’ for implementation in South Africa.

Aims and objectives

1. To understand CAMHSS strengthening innovations in LMICs and the landscape of needs for strengthening CAMHSS in South Africa
 - a. To conduct a targeted literature review of recent CAMH system strengthening innovations in LMICs.
 - b. To conduct an integrative narrative literature review of recent situational analyses of CAMHSS in South Africa.
2. To generate contemporary data on the national profile of CAMHSS needs and priorities in South Africa and develop a shared vision for CAMHSS in one South African province.
 - a. To conduct a nationwide survey to examine the applicability of regional situational analysis findings to national CAMHSS needs.
 - b. To conduct a series of multi-level theory of change-informed workshops to develop a programme theory for CAMHSS strengthening in the Western Cape Province of South Africa.

3. To evaluate the contextual fit of an existing clinical decision support tool to strengthen CAMH services in primary care.
 - a. To evaluate the acceptability, appropriateness, feasibility, and recommendations for adaptation of the mhGAP-IG CMH module for children to strengthen CAMHSS in primary care in one City of Cape Town substructure.

1.7. Context and boundaries of the study

Geographical boundaries

Data for Aim 1a were limited to studies conducted in LMICs.

Data for Aim 1b were limited to studies and grey literature (unpublished materials) from South Africa.

Data for Aim 2a were collected from all nine provinces in South Africa (Western Cape, Eastern Cape, Northern Cape, Free State, KZN, North-West, Gauteng, Limpopo, and Mpumalanga). This was done to gain an understanding of the national landscape of needs.

Data for Aim 2b were collected in the Western Cape province only. The Western Cape province of South Africa was selected as the local context this sub-aim for three reasons: 1) it was the research context of the situational analysis that informed survey development for Aim 2a, 2) the province has an existing CAMH system with multiple levels of care, and 3) it represented the provincial context and base of the research team.

Data for Aim 3 were collected in the Khayelitsha Eastern substructure in Cape Town. This substructure was selected because, at the time of the study, a provincial CAMH service coordinator had been appointed, with their base at the tertiary hospital in the substructure. Additionally, a mental health nurse coordinator was also appointed in this area. Thus, the substructure was actively engaged in CAMH strengthening activities, making it a focus area for local facilities.

Service boundaries

The study only focused on the health sector. Although we acknowledge the importance of engaging with other sectors, this was beyond the scope of this project.

1.8. Structure of the thesis

The thesis is divided into seven chapters. In Chapter 1, a broad introduction to the burden of disease for CAMH, and the concept of CAMHSS is provided. The landscape of CAMHSS in South Africa is briefly described, and the concepts of ToC and implementation science are outlined, explaining how these can be used to strengthen CAMHSS. The mhGAP-IG as a potential tool for strengthening CAMHSS at the primary care level is also introduced.

Chapter 2 provides a targeted literature review of studies published in the past 18 months on the current state of CAMHSS and health system strengthening innovations in LMICs. The review synthesises key findings using the WHO-AIMS framework and highlights recent developments in CAMH service delivery and system innovations.

Chapter 3 provides an overview of CAMHSS in South Africa, highlighting key gaps and proposing actions for strengthening services. The chapter is based on a narrative literature review of peer-reviewed articles, grey literature, and policy documents, conducted between August 2021 and April 2022. The findings, compiled without statistical analysis, offer insights into current services and suggest short- and long-term strategies for improvement.

Chapter 4 evaluates the ongoing relevance of the 2016/2017 Western Cape study findings and identifies priorities for strengthening CAMHSS from service providers' perspectives. An electronic survey was conducted from January to November 2022 with CAMHSS providers across various sectors. Using a Likert scale and an open-ended question, participants shared their views on the state of CAMHSS and priorities for strengthening CAMHSS. Data were collected via REDCap and analysed using descriptive statistics and qualitative content analysis.

Chapter 5 describes a ToC-informed engagement process with service providers to develop a shared plan for strengthening CAMHSS in the Western Cape. Frontline clinical providers were recruited for ToC workshops where participants collaboratively mapped outcomes and developed priorities. The final ToC maps were refined through feedback sessions.

Chapter 6 evaluates the potential 'fit' of the mhGAP-IG CMH module for strengthening CAMHSS at the primary care level in South Africa. Through qualitative focus group discussions with primary-level service providers in Cape Town, the study assessed the module's acceptability, appropriateness, and feasibility, as well as recommendations for adaptation.

Chapter 7 summarises the findings through the lens of five key lessons learnt from the thesis, relating them to the South African context and existing literature. The limitations of the PhD study, its practical implications, and recommendations for future research are also discussed.

Chapter 2: Child and adolescent mental health services and systems in low- and middle-income countries: from mapping to strengthening

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2.1. Introduction

In recent years, there has been increasing attention on facilitating the physical health and social support of children and adolescents to foster their optimal development and overall well-being (Moore et al., 2015). The sustainable development goals (SDGs) published in 2015 represented the first global prioritisation of mental health in the context of other preexisting needs (United Nations General Assembly, 2015).

There is also an increasing realisation that as many as 20% of children and adolescents develop mental health disorders, representing the highest burden of all diseases in young people (Kieling et al., 2011). Furthermore, 50–75% of adult mental health disorders have their onset before the age of 18 (Kieling et al., 2011). Despite these well accepted facts, child and adolescent mental health services and systems (CAMHSS) around the globe are limited (Kieling et al., 2011). The COVID-19 pandemic firmly put the spotlight on global health disparities and emphasised the importance of child and adolescent mental health (CAMH) but accentuated the challenges of access to mental health services for many young people (de Figueiredo et al., 2021).

The majority of the world's children and adolescents live in low- and middle-income countries (LMICs), and these countries are culturally, socioeconomically and linguistically highly diverse (Patel et al., 2008). There is therefore an even greater impetus to consider the mental health needs of children and adolescents in LMICs, and to identify strategies to meet those needs in the coming decades. Here, we review emerging findings from the CAMHSS literature in LMICs over the last 18 months. First, we summarise key publications mapping the current landscape of CAMHSS in LMICs across different WHO regions. Next, we present key findings of innovations to strengthen CAMHSS in various LMICs.

Box 2.1. Search strategy and selection criteria

Key databases were searched for peer-reviewed publications between 1 Jan 2019 and 1 June 2021. A small number of earlier studies were included where they were deemed highly relevant to the topic and contributed important contextual insights. Databases searched included PubMed, APA PsycInfo, APA PsycArticles, Health Source: Nursing/Academic Edition, MEDLINE, Academic Search Premier, Africa-Wide Information, CINAHL, and Google Scholar, using search terms such as “child and adolescent mental health system strengthening,” “child and adolescent mental health service strengthening,” “child and adolescent mental health financing,” “child and adolescent mental health innovation,” “child and adolescent psychiatry programmes,” “low- and middle-income country,” and “low resource setting.” Inclusion criteria focused on English language original and review articles describing CAMHSS and system strengthening innovations in LMICs published within the preceding 18 months, while exclusion criteria filtered out studies based exclusively on findings from high-income countries and commentaries or opinion articles.

2.2. The current landscape – a well-described problem

To ensure a comprehensive understanding of the current landscape of CAMH services, it is important to examine the clinical services of interest in the context of the systems in which they are embedded (World Health Organization, 2005; Mokitimi et al., 2019). The WHO created a tool – the WHO Assessment Instrument for Mental Health Systems (WHO-AIMS) – to describe mental health systems systematically (World Health Organization, 2005). The WHO-AIMS divides health systems into six domains: policy and legislative framework, mental health services, mental health in primary care, human resources, public information and links with other sectors, and monitoring and research (World Health Organization, 2005). Although the WHO-AIMS was not designed for CAMHSS (it includes only one item specifically on CAMH), the framework can provide a useful structure to reflect on CAMHSS in LMICs.

Table 2.1 provides a summary of recent work describing the landscape of CAMHSS in LMICs (Mokitimi, Schneider & de Vries, 2018, 2022; Hossain & Purohit, 2019; Mokitimi et al., 2019; Roy et al., 2019; Babatunde et al., 2020; Clausen et al., 2020; Estrada et al., 2020; Zhou et al.,

2020). In a situational analysis of the Western Cape province of South Africa, Mokitimi *et al.* (Mokitimi, Schneider & de Vries, 2022) adapted the WHO-AIMS for CAMHSS. Their situational analysis, as well as related policy analysis and SWOT (strengths, weaknesses, opportunities and threats) analysis, revealed significant deficits across all WHO-AIMS domains (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019). The authors estimated that fewer than 10% of children and adolescents with diagnosable and treatable mental health disorders had probably accessed any diagnosis or treatment in the year of their situational analysis (Mokitimi, Schneider & de Vries, 2022).

Table 2.1. Overview of recent publications on child and adolescent mental health services and systems in low- and middle-income countries

Authors (year)	Country	Study design	Aim
Mokitimi et al. (2019)	South Africa	Thematic analysis	To seek perspectives of senior CAMH senior stakeholders from the Western Cape province of South Africa to conduct a strengths, weaknesses, opportunities and threats (SWOT) analysis.
Mokitimi, Schneider & de Vries (2022)	South Africa	Situational analysis	To conduct a descriptive situational analysis of child and adolescent mental health systems in the Western Cape Province of South Africa.
Mokitimi, Schneider & de Vries (2018)	South Africa	Policy analysis	1) To determine whether South African provinces have developed provincial CAMH policies and implementation plans based on the national CAMH policy. 2) To perform policy analysis of all identified CAMH-related policy documents.
Roy et al. (2019)	India	Policy analysis	To assess the policy environment for addressing adolescent mental health in India.
Hossain & Purohit (2019)	India	Literature Review	To discuss the severity of CAMH disorders, existing measures to address the same and policy recommendations to improve the prevention of protection strategies for CAMH in India.
Zhou et al. (2020)	Multinational	Systematic Review	To identify challenges and lessons for LMICs to develop and implement CAMH policy.
Estrada et al. (2020)	Philippines and Japan	Meeting report	To describe a training program on the promotion of mental health focused on treatment and care in Japan and the Philippines in September and November 2019.
Clausen et al. (2020)	East Mediterranean Region	Cross-sectional study	To provide an assessment of current postgraduate programs, services and what is needed to build workforce capacity in the East Mediterranean Region.
Babatunde et al. (2020)	South Africa	Situational analysis	To conduct a situational analysis as part of formative work to inform the development of community-based mental health services for children and adolescents at a district level.

Mental health policy is the backbone of any mental health system. It determines how services are developed, outlines standards of care and provides targets for measuring service quality and resource allocation (World Health Organization, 2005; Mokitimi, Schneider & de Vries, 2018). The lack of CAMH policies is a global problem. In the 2017 WHO Mental Health Atlas, only 46% of the responding 78 countries had a standalone CAMH policy in place (World Health Organization, 2018). In an example from India, Roy *et al.* (2019) found that, although CAMH

was mentioned in six different policy documents, there was no standalone policy for CAMH (Roy et al., 2019). In South Africa, although a national policy for CAMH did exist, none of the provinces had implementation plans (Mokitimi, Schneider & de Vries, 2018). In a systematic review of CAMH policy in LMICs, Zhou *et al.* (2020) identified the following key challenges to policy development and implementation: poor public awareness and low political willingness, stigma against mental health, cultural biases against children and adolescents, lack of CAMH data, shortage of CAMH resources and international support resulting in decreased local responsibility and unsustainable programmes (Zhou et al., 2020).

High-income countries (HICs) are reported to spend 20 times more per capita on mental health than LMICs (World Health Organization, 2018). This is concerning because low state expenditure on mental health is associated with high out-of-pocket payments (Chisholm et al., 2019). In a report comparing CAMHSS in Japan (a HIC) and the Philippines (an LMIC), Japan was found to cover 100% of inpatient and outpatient care for children under 15, and 70% for young people under the age of 18 (Estrada et al., 2020). In contrast, CAMH services in the Philippines required 100% out-of-pocket payments by families (Estrada et al., 2020).

Another barrier to the delivery of quality CAMH services has been the paucity of mental health workers in LMICs. As illustrated in figure 2.1, the ratio of mental health workers to the population in HICs is 3.5 times greater than that of upper-middle-income countries, 11.5 times that of lower-middle income countries and 44 times that of low-income countries (World Health Organization, 2018).



Figure 2.1. Median number of health workers per 100,000 population (Simelane & de Vries, 2021)

A cross-sectional study of 15 countries in the Eastern Mediterranean Region, eight of which were LMICs, examined the state of their specialised CAMH workforce (Clausen et al., 2020). Only 10 countries reported having at least one board-certified child and adolescent psychiatrist, of which seven countries had fewer than 10 (Clausen et al., 2020). This highlights the gross deficiency in specialists available to treat CAMH disorders, underlining the reality that there will never be enough specialists in LMICs to meet the need.

Babatunde *et al.* (2020) described service gaps in a rural district in the Kwa-Zulu Natal province of South Africa. A lack of staff with skills in CAMH meant that there were no CAMH services offered at the primary care level (Babatunde et al., 2020). There were no youth-friendly facilities at the district or regional hospitals, and no inpatient care was available for children under 12 with severe mental health disorders (Babatunde et al., 2020). Furthermore, there was poor access to psychological therapies and other allied therapies, which are often the primary interventions for CAMH disorders (Babatunde et al., 2020). These findings were very similar to those of Mokitimi *et al.*, in a different South African province (Mokitimi, Schneider & de Vries, 2022).

2.3. A call for high-quality child and adolescent mental health services and systems in LMICs

A 2018 *Lancet Global Health* Commission provided a critical examination of health systems in LMICs and called for health systems that are of high quality (Kruk et al., 2018). Despite improved health outcomes, existing systems were typically of low quality with low end-user satisfaction (Kruk et al., 2018). In line with their recommendations, innovative solutions are required to strengthen CAMHSS across all the WHO-AIMS domains.

Achieving this goal is not likely to be easy, particularly given the multi-level nature of CAMHSS (Mokitimi et al., 2019; Mokitimi, Schneider & de Vries, 2022) and the major resource limitations in LMICs. However, despite these challenges, several systems strengthening innovations have emerged in recent years across LMICs in different WHO regions. Next, we will therefore review some of these innovations in policy development, clinical services, human resource development, collaboration with other sectors, and monitoring and research. The findings are summarised in Table 2.2.

Table 2.2 Health systems strengthening projects of CAMHSS in LMICs

Strengthening Domain	Authors, year	Project aim	Mental health specific?	CAMH Specific?
Policy and Financing	Erismann <i>et al.</i> , 2021	Strategies for bringing research into policy in LMICs	X	X
	Chisholm <i>et al.</i> , 2019	Mental health financing challenges, opportunities and strategies in six LMICs	✓	X
	Docrat <i>et al.</i> , 2019	Sustainable financing options for mental health care in South Africa	✓	X
Clinical Services and Primary Care	Salamanca-Buentello <i>et al.</i> , 2020	Ethical and socio-cultural dimensions of screening for CAMH of the developing world	✓	✓
	Aoki <i>et al.</i> , 2021	Validation of the parent version of the Strengths and Difficulties Questionnaire to screen CAMH problems in Mongolia	✓	✓
	de Vries <i>et al.</i> , 2018	Psychometric properties of the self-report Strengths and Difficulties questionnaire in South Africa, and comparison with UK, Australian and Chinese data	✓	✓
Human Resources	Rukundo <i>et al.</i> , 2020	A collaborative approach to the development of multidisciplinary teams and services for CAMH in Uganda	✓	✓
	Kutcher <i>et al.</i> , 2019	Description of the Integrated Approach to Addressing the Issue of Youth Depression (ACD) in Malawi and Tanzania	✓	✓
Public Information and links with other Sectors	Kutcher <i>et al.</i> , 2019			
	Alonge <i>et al.</i> , 2020	Pathways for large-scale implementation of a school-based mental health programme in the Eastern Mediterranean region	✓	✓
	Hamdani <i>et al.</i> , 2019	Using technology to advance school mental health: experience from the Eastern Mediterranean region	✓	✓
	Okeyo <i>et al.</i> , 2020a	Policy adoption and the implementation woes of the Intersectoral First 1000 Days of Childhood Initiative, in the Western Cape province of South Africa	X	X
	Okeyo <i>et al.</i> , 2020b	Impact of differing frames on early stages of intersectoral collaboration: the case of the First 1000 Days Initiative in the Western Cape province, South Africa	X	X
	Kivumbi <i>et al.</i> , 2019	Utilising a family-based economic strengthening intervention to improve mental health wellbeing among female adolescent orphans in Uganda	✓	✓
	Angeles <i>et al.</i> , 2019	The government of Malawi's unconditional cash transfer improves youth mental health	✓	✓

Monitoring and Research	Ahuja <i>et al.</i> , 2019	Experience of implementing new mental health indicators within information systems in six LMICs	✓	✗
	Imran <i>et al.</i> , 2021	Pakistan's first child & adolescent psychiatry inpatient unit: characteristics of admitted patients and response to treatment over a 7-year period	✓	✓
	Ssewamala <i>et al.</i> , 2021	Child mental health in HIV-impacted low-resource settings in developing countries- Global Research Fellowship: a research: Training program protocol	✓	✓
Digital Technologies	Malhotra <i>et al.</i> , 2019	Model for digital mental healthcare: Its usefulness and potential for service delivery in low- and middle-income countries	✓	✓
	Malhotra <i>et al.</i> , 2020	Assessment of knowledge, perception, and willingness of using telemedicine among medical and allied healthcare students studying in private institutions	✗	✗

2.4. Strengthening policy and financing

The development of a standalone CAMH policy is an important step towards making CAMHSS a national priority. However, the development of a policy without concrete implementation strategies and buy-in from implementation actors is futile. We identified no literature on CAMHSS policy strengthening published in the 18-month period of this review. However, a recent Swiss study evaluated strategies that promoted uptake of research into policy in five LMIC research projects outside the area of mental health (Erismann *et al.*, 2021). The authors proposed three key strategies to increase uptake of research into policy: policymakers directly seeking evidence from researchers, involving policymakers in research design, and joint implementation and co-production of knowledge by researchers and policymakers (Erismann *et al.*, 2021).

Prioritisation of CAMHSS also requires a financial commitment from governments. As part of the EMERALD project, an adult mental health project in six LMICs in Africa and Asia, Chisholm *et al.* (2019) suggested innovative income-generation strategies to cover mental healthcare costs, which included raising private funds, accessing global funds and raising public funds.

The authors also suggested results-based financing and public-private partnerships to improve public sector performance (Chisholm et al., 2019). Docrat *et al.* (2019) suggested that universal health coverage approaches such as the national health insurance scheme under development in South Africa could also provide an alternative to out-of-pocket payments.

In spite of these examples, much further work will be required in most LMICs to develop, implement and deliver high-quality CAMH policies and plans, and to create mechanisms that would provide adequate and ring-fenced financial systems and overall governance of CAMHSS.

2.5. Strengthening clinical services including primary care

A recurring theme in the literature is the need to integrate mental health services into primary care (Stein et al., 2019). Grassroots service providers often have little to no training or formalised refresher training in CAMH and therefore lack the confidence and skills to assess and manage CAMH disorders (Mokitimi et al., 2019; Rukundo et al., 2020). Simple screening tools may be a useful adjunct to the initial assessment of young people in primary care. However, most screening tools for CAMH come from high-income, English-speaking, 'western' countries and careful evaluation of their feasibility in LMIC settings is required.

In a Delphi survey completed by 135 mental health experts, 86 of which came from LMICs, Salamanca-Buentello *et al.* (2020) examined the challenges of screening in LMIC settings. Emerging themes included the need for adequate design and validation of screening tools that will be correctly applied within a robust screening programme, the need for the development of CAMH services so that 'screen positive' children can receive next-step diagnosis and intervention, fear and lack of trust and the threat of stigmatisation and marginalisation, ethical considerations such as autonomy, informed consent and confidentiality, the need to empower healthcare workers, teachers and nonspecialists to play a role in screening programmes, and public awareness to raise the profile of CAMH for its prioritisation (Salamanca-Buentello et al., 2020). An important pragmatic theme not raised in the study was the vast linguistic diversity in LMICs, which poses significant challenges in translation and cultural adaptation of any screening tool.

A handful of screening tools have been validated in low-resource settings. The Strengths and Difficulties Questionnaire (SDQ) was recently validated in Mongolia resulting in a different cut-off for 'caseness' in comparison to UK and European cut-off values (Aoki et al., 2020). Similarly, a study evaluating the psychometric properties of the SDQ in South African adolescents also identified the need for different cut-offs for the abnormal range when compared with other countries, thus underlining the importance of validating screening tools in each context (de Vries et al., 2018).

Despite the importance of CAMH at primary care level, all countries, provinces and districts will require a 'pyramid of care' that should be embedded into the philosophy of all CAMHSS strengthening activities (de Vries, 2016). That is, in every context, systems need to be established so that children and families can progress from self-care to primary, secondary and tertiary services, where they should have access to increasing levels of expertise, and to increasing intensity and frequency of interventions (de Vries, 2016).

2.6. Strengthening human resources

Capacity-building requires commitment from governments to increase the number of mental health staff and training in CAMH. In Uganda, a 2-year programme to train multidisciplinary teams to deliver CAMH services in peripheral regions was introduced (Rukundo et al., 2020). Fifty health workers were trained and allocated to regional hospitals and NGOs, resulting in a more than 10-fold increase in the number of children seen in CAMH services over 6 years between 2012 and 2019 (Rukundo et al., 2020). Providers reported an increase in confidence in managing CAMH disorders, increased thoroughness in assessments and increased use of psychological therapies (Rukundo et al., 2020). Sustainability was addressed through a 'trainees-become-trainers' approach to increase the number of providers over time (Rukundo et al., 2020).

'Task-sharing' models can also be used to increase human resource capacity, for example by training non-specialists to deliver CAMH services at the community and primary care level (Raviola et al., 2019). This is a key conceptual shift in CAMHSS given that there will never be enough specialist mental health workers in LMICs to meet the needs. An integrated approach to addressing the needs of adolescents with depression was developed in Malawi and Tanzania, referred to as the 'ACD' programme (Kutcher et al., 2019). As part of this

programme, community health workers received training based on a Canadian adolescent depression programme adapted to be culturally and contextually relevant (Kutcher et al., 2019). The programme included training on principles of psychological therapies, and on a data capturing system to record adolescent depression statistics more accurately (Kutcher et al., 2019). Results showed a positive impact on provider knowledge, confidence and stigma, and improved the detection of depression and provision of nonpharmacological treatments (Kutcher et al., 2019).

Even though task-sharing is an important conceptual shift in CAMHSS, it will require strategies to evaluate and maintain competency, fidelity, ongoing supervision and support for nonspecialist providers. All countries should therefore also support the development of an expert workforce representative of the sociocultural and linguistic diversity of their country, who will become the future trainers, teachers, supervisors, expert clinicians and researchers.

2.7. Strengthening through public information and links with other sectors

CAMHSS is characterised by the involvement of multiple sectors frequently participating in different aspects of care and support. In addition, families, caregivers and young people are key partners in the pathway to diagnosis and intervention. Intersectoral collaboration and partnership with families are therefore philosophical principles required to meet the needs of young people in CAMHSS. One of the key challenges, however, is to ensure that all stakeholders are aware of how services are run and their role in the system.

The ACD programme in Malawi and Tanzania, outlined earlier (Kutcher et al., 2019), aimed to increase public awareness about mental health and provided training to increase the mental health literacy of adolescents and teachers (Kutcher et al., 2019). The research team created a youth-friendly weekly radio programme, which included a mental health-themed ‘soap opera’, an ‘ask the expert’ segment and facilitated discussion on topics raised. This resulted in improved knowledge and help-seeking behaviour in adolescents exposed to the programme (Kutcher et al., 2019). Teachers were trained to recognise depression, which facilitated referrals to primary care, and were equipped with a simple mental health literacy curriculum to teach students (Kutcher et al., 2019). Results showed positive outcomes on the sustained mental health literacy of educators and successful application of the curriculum in the classroom setting (Kutcher et al., 2019).

The School Health Implementation Network: Eastern Mediterranean Region (SHINE) project developed a school-based mental health programme in Egypt, Pakistan, Iran and Jordan (Alonge et al., 2020). A theory of change (ToC) model was used to identify pathways for the implementation of the project during the planning phase (Alonge et al., 2020). Thereafter, an implementation science framework was used to assess the pilot cluster randomised control trial in Pakistan from 2019 to 2021 (Hamdani et al., 2019). The study applied evidence-based practices to improve the mental health literacy of teachers enabling them to identify children with emotional and behavioural problems, assist with their therapy and refer them if needed (Hamdani et al., 2019).

In South Africa, the first 1000 days (FTD) initiative in the Western Cape province was an intersectoral collaboration between the departments of health, social development and education, to foster optimal brain development in the first 2 years of life (Okeyo, Lehmann & Schneider, 2020a). Even though this was a very creative and theoretically well-founded initiative, Okeyo and colleagues (2020a,b) detailed some of the obstacles encountered during the implementation of the initiative. Differing frames of understanding the problem led to tensions between the different sectors, with a lack of clarity on roles and responsibilities for each sector's implementation actors (Okeyo, Lehmann & Schneider, 2020a,b). The FTD initiative eventually narrowed from an intersectoral project to a traditional 'health only' initiative (Okeyo, Lehmann & Schneider, 2020a).

In examples of collaboration between the health, social development and finance sectors, the impact of financial aid on adolescent mental health outcomes was evaluated. A Ugandan study randomised female adolescent orphans to receive 'usual care' with no financial assistance or intervention including financial aid and guidance on income generation and financial management (Kivumbi et al., 2019). There was a significant reduction in depressive symptoms and increased self-concept in adolescents in the intervention arm (Kivumbi et al., 2019). In Malawi, an intersectoral cluster randomised control trial in which ultra-poor families were given an unconditional cash transfer showed significantly reduced depressive symptoms in adolescents whose families had received the financial intervention (Angeles et al., 2019).

Despite the positive initiatives described in a handful of LMICs, many structural barriers to intersectoral collaboration remain, particularly as sectors are often limited in their own resources, frequently leading them to focus on 'core business'. Similarly, the mental health literacy of most communities in LMICs remains limited and is profoundly influenced by cultural

belief systems and stigma. Public information and intersectoral working will require ongoing strengthening in the coming years.

2.8. Strengthening monitoring and research

Data collection and knowledge generation is key to CAMHSS strengthening. Mokitimi *et al.* (2022) commented on significant challenges to access disaggregated data on under-18-year-olds to describe and monitor CAMHSS (Mokitimi, Schneider & de Vries, 2022). In a description of Pakistan's first CAMH hospital, Imran *et al.* (2021) showed that dedicated CAMH services can improve data collection about the prevalence and distribution of CAMH disorders and to monitor treatment outcomes of the wider population (Imran *et al.*, 2021). As part of the EMERALD study, the measurement of mental health indicators was incorporated into routine mental health services at the district level (Ahuja *et al.*, 2019). This method of data collection was found to be acceptable amongst providers and end-users who could appreciate the usefulness of the information (Ahuja *et al.*, 2019). Although the study did not include any indicators specific to CAMH, it at least provided a proof of principle.

In implementation science research, it is generally accepted that the lag time between research being shown to be effective to its implementation in practice is 17 years, a gap that young people cannot afford. With this in mind, a dedicated dissemination and implementation science (D&I) research capacity-building programme was established in Uganda to train a generation of high-quality CAMH and HIV researchers with D&I expertise (Ssewamala *et al.*, 2021). Such programmes should facilitate the generation of high-quality, context-relevant new knowledge in LMICs. Moreover, the targeted training in D&I research may create a pipeline for research to be readily translated to policy.

As previously articulated, CAMH research in LMICs continues to lag significantly behind that of HICs (Kieling *et al.*, 2011). Much further work will be required in the coming decades to support research capacity-building to train the next generation of culturally and linguistically diverse CAMH researchers in LMICs. Such initiatives should ensure that the emphasis is on local capacity-building, and on research methodologies relevant to the contextual needs of countries.

2.9. Strengthening through digital technologies

Even though digital technologies are not a prespecified domain of the WHO-AIMS, the global emergence of health technologies may have relevance across all domains of health systems and their strengthening. Digital technologies should therefore be given serious consideration as potential tools to increase the accessibility of CAMH services in currently underserved areas. The COVID-19 pandemic and its associated lockdowns has not only led to unprecedented growth in the use of telemedicine but also highlighted the 'digital divide' in access to technology itself (The World Bank, 2016; Kumm, Viljoen & de Vries, 2022). Potential challenges such as access, affordability, feasibility and acceptability, therefore, require careful reflection (Kumm, Viljoen & de Vries, 2022).

Even before the pandemic, the use of telemedicine to increase the reach of CAMH services was under investigation in LMICs. In India, an automated clinical decision support system was rolled out in remote areas (Malhotra, Chakrabarti & Shah, 2019). The programme assists nonspecialist clinicians with the diagnosis and management of patients with little to no supervision needed from a psychiatrist (Malhotra et al., 2020). The SHINE project also had a technology component, as the training was digitalised and ongoing support for educators was provided through a SHINE 'bot' (Hamdani et al., 2019). Given this shift towards digital technologies in CAMHSS, Malhotra *et al.* (2020) examined the knowledge, perceptions and willingness of the next generation of Indian CAMH workers to use telemedicine. In a cross-sectional survey of 428 medical and allied health students, almost half of the students reported insufficient knowledge about telemedicine and its application, but more than 90% were willing to use it in their practice once they qualified (Malhotra et al., 2020). This may indicate a need for medical school curricula to expose future health workers to training in telemedicine.

There is great excitement about the potential value of digital and health technologies in LMICs. However, as outlined by Kumm *et al.* (Kumm, Viljoen & de Vries, 2022) this will require careful consideration of the contextual needs of such technologies.

2.10. Conclusion

CAMHSS have been neglected over many decades in LMICs despite the global burden and need. Research, clinical practice, policy development and implementation need to progress from mapping the challenges to the active generation of systems strengthening initiatives that will improve access and quality of care for children and adolescents with mental health disorders. Solutions need to be articulated with a whole-systems perspective, mindful of the cultural, socio-economic and linguistic diversity of LMIC communities, and use participatory approaches throughout all phases of development, implementation and scale-up. Importantly, dissemination and implementation science research may provide important conceptual frameworks to evaluate the feasibility and appropriateness of evidence-based practices developed in high-income countries for LMIC contexts.

2.11. Chapter summary

Most of the world's children and adolescents live in LMICs where mental health services are very limited. Here, we reviewed literature over the last 18 months describing the current landscape of CAMHSS in LMICs, and present findings from systems strengthening research.

The challenges in CAMHSS are well described with little change over the last two decades. Fortunately, research has started to move from 'mapping' towards systems 'strengthening'. Using the WHO-AIMS framework, we reviewed recent CAMHSS innovations. Clinical care and human resource innovations focused on primary care with validation of screening tools, training and task-sharing for capacity-building. Intersectoral collaboration emerged as a priority domain for strengthening, alongside a theme around the importance of participatory research to inform policy reforms. The potential role of digital technology to strengthen CAMHSS was identified as an emerging theme.

There is an urgent need to increase the priority of CAMHSS in LMICs. This will require innovations at multiple levels aimed at all CAMHSS domains, with active participation of all relevant local stakeholders to ensure the translation of research into policy and practice.

Chapter 3: Health services and systems for child and adolescent mental disorders in South Africa: Towards a better future

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3.1. Background

Few people know that mental illness represents one of the leading causes of disease and disability in children and adolescents worldwide (Lopez et al., 2006; Gore et al., 2011; Murray et al., 2012). Despite increasing global awareness about the importance of mental health services and systems for children and adolescents, their development lags behind (World Health Organization, 2020). The majority of young people with mental disorders remain untreated – a phenomenon referred to as the 'treatment gap' (Kohn et al., 2004; World Health Organization, 2020). This treatment gap is bigger for vulnerable groups such as children and adolescents, and for people living in low- and middle-income countries (LMICs) (World Health Organization, 2020). Considering that the majority of the world's children and adolescents live in LMICs, children and adolescents with mental disorders in these countries are faced with a double disadvantage. In South Africa, the treatment gap for children and adolescents is about 90% (Mokitimi, Schneider & de Vries, 2022); in other words, only one in 10 children with a diagnosable and treatable mental disorder is able to access care.

To address the treatment gap, it is important to understand the clinical and service needs of children and adolescents with mental disorders, and the systems in which these services are provided. This is not an easy task because health systems are complex, open to multiple influences, and changes to one part of the system may affect other parts in an unpredictable way (Plsek & Greenhalgh, 2001). Child and adolescent mental disorders require active and integrated participation of multiple sectors including health, social services, education and non-governmental organisations (NGOs). In addition, the needs of children and adolescents may emerge or change over time, requiring different kinds of supports from the systems and communities around them.

Box 3.1. Search strategy and selection criteria

Key databases were searched for publications and grey literature published before April 2022. Databases searched included PubMed, APA PsycInfo, APA PsycArticles, Health Source: Nursing/Academic Edition, MEDLINE, Academic Search Premier, Africa-Wide Information, CINAHL, Google Scholar and Google. The search terms included “child and adolescent mental health policy,” “child and adolescent mental health services,” “child and adolescent mental health financing South Africa,” “mental health policy,” “mental health services South Africa,” “mental health financing South Africa,” and “situational analysis child and adolescent mental health South Africa.” Inclusion criteria encompassed English-language documents that described child and adolescent mental health policy, services, and financing in South Africa, while studies conducted outside South Africa or published in languages other than English were excluded.

3.2. Why is it important to invest in CAMH services?

Even with the best possible mental health promotion and prevention strategies, approximately 10–20% of children and adolescents will develop a mental disorder and/or a neurodevelopmental disability (Patel et al., 2007; Kieling et al., 2011; Cortina et al., 2012). Each of these children will require identification and intervention strategies as appropriate to their level of severity, risk and complexity. The focus of this chapter is on the ‘illness’, ‘disorder’ or ‘disability’ end of the mental health continuum, with all three of these terms used throughout the chapter. We will therefore place an emphasis on systems strengthening requirements of clinical and therapeutic services — particularly those within child and adolescent psychiatry — aimed at providing diagnosis, treatment, and stabilisation for children and adolescents with mental disorders or neurodevelopmental disabilities.

Prevalence of mental disorders and their treatment gap

It is difficult to give an exact number of children and adolescents in South Africa who live with mental disorders, given that no representative national epidemiological studies of CAMH disorders have been conducted to date. The only national study on the prevalence of mental disorders in South Africa (the South African Stress and Health or SASH study) did not include data on children and adolescents (Herman et al., 2009). The likely rates of mental disorders in children and adolescents in the country, therefore, have to be deduced from other LMICs, from studies of specific ages or disorders, and from data in high-income countries. A 2012 review found that almost 20% of children and adolescents in sub-Saharan Africa scored above the cut-off values for risk of mental disorders on screening tools, and that 10% had a specific mental disorder diagnosed by clinical diagnostic tools (Cortina et al., 2012). An authoritative review by Belfer (2008) concluded that about 20% of children and adolescents worldwide have a mental disorder that requires diagnosis and treatment (Belfer, 2008). In a South African study, Kleintjes and colleagues (2006) used international prevalence data to estimate the number of children and adolescents in the Western Cape who might have mental disorders (Kleintjes et al., 2006). They estimated that 17% of children and adolescents in the Western Cape would have a diagnosable and treatable mental health disorder (Kleintjes et al., 2006). Importantly, a situational analysis by Mokitimi and colleagues, also using Western Cape data, identified that fewer than 10% of children and adolescents in the province who need diagnosis and treatment for a mental disorder ever receive it (Mokitimi, Schneider & de Vries, 2022). These data suggest that the vast majority of children and adolescents with mental disorders in South Africa still fall through the cracks and receive no or very limited support.

The impact of mental illness on children and adolescents

Mental disorders in young people not only cause distress and impair their functional abilities in daily life, but they also often have long-term ramifications that last into adulthood. It is estimated that half of adult mental illness starts before age 14, reinforcing the need for early detection and intervention to achieve the best possible outcomes (Kessler et al., 2007; Kieling et al., 2011). In addition, inadequately treated and undiagnosed children and adolescents with mental disorders may develop secondary or additional disorders, e.g. substance use or resort to self-harm to cope with their symptoms.

Mental illness in young people may also disrupt family relationships and routines, and the costs of care can affect the family's financial security. Importantly, the converse is also true, with mental illness in parents and caregivers significantly affecting the lives of children and adolescents in their care. Children and adolescents with mental illness have significantly lower rates of school-readiness and higher rates of absenteeism, grade repetition and drop out (Raver, 2002; Breslau et al., 2008; Finning et al., 2020) undermining their economic potential and driving an intergenerational cycle of mental illness and poverty (Belfer, 2008; Breslau et al., 2008; Lund et al., 2011).

In addition, children presenting with disruptive behaviour are often labelled as 'badly behaved' or 'difficult' and are more likely to experience difficulties with peer relationships and a likelihood of criminal behaviours (Juvonen, Graham & Schuster, 2003). Children and adolescents in the criminal justice and social service systems have higher rates of mental disorders than the general population (McMillen et al., 2005; Kutcher & McDougall, 2009; Colins et al., 2010).

Taken together, it is clear that unidentified and untreated child and adolescent mental illness is a powerful driver of a vicious cycle of further mental health problems, poor family functioning, as well as poor educational and economic outcomes and high rates of criminality. It is therefore essential to intervene early to prevent and treat child and adolescent mental disorders if we wish to minimise the immediate and long-term costs for children, families and society.

3.3. What should CAMH services look like?

The South African government's goal is for mental health services to be decentralised and integrated into general health services, mainly at the primary care level (South African National Department of Health, 2013; Petersen, van Rensburg, et al., 2019). This community-based model of care would promote more equitable access to health care, which is crucial in South Africa given that most communities do not have access to specialist care.

According to the Norms for South African Child and Adolescent Mental Health Services (a report commissioned by the National Department of Health in 2004), the World Health

Organization (WHO) three-tier approach should be available to all communities (Dawes et al., 2004). This model starts with community-based ‘informal’ services, supported by three tiers of formal care at primary, secondary and tertiary level as illustrated in figure 3.1. The community-based services, which form the base of the pyramid, should be able to cater for the majority of children’s mental health needs and have lower associated costs than specialised services in the higher levels of the pyramid (Funk et al., 2004). In an ideal situation, children and adolescents should have access to mental health services that range from health promotion to preventative, curative and rehabilitative services. Promotion and preventative services should be offered mainly at the community level and can leverage environments that children and adolescents already access on a routine basis, such as schools and religious organisations. These activities would be aimed at all children and adolescents on the mental health continuum, with the aim of promoting resilience, positive coping skills and creating a supportive environment in which they can thrive.

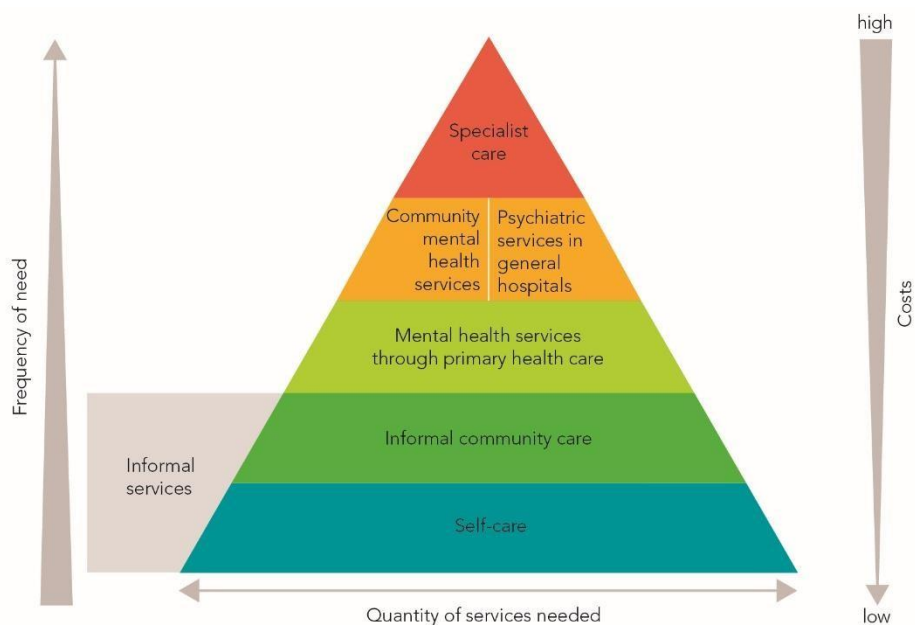


Figure 3.1. WHO optimal mix of mental health services (Simelane et al., 2022 adapted from Funk et al., 2004)

As illustrated in figure 3.2, a young person who is mentally ill should be identified early by a primary caregiver, school, community health workers or through screening in routine health services, supported by programmes to enhance mental health literacy in families and

community stakeholders. They should then be able to access care at a primary care clinic or community health centre, which should be close to their home, and be offered services in their own language. The child should be assessed, diagnosed and managed at this level, with access to a range of health care professionals, including general medical practitioners trained in early detection and management according to their patients' needs.

If the child's condition is too complicated, they should be referred to secondary level services at their district or regional hospital to be assessed and managed by a team that includes a general psychiatrist. Tertiary services should be available to young people with complex or severe illness who require sub-specialist input from child and adolescent psychiatrists and their multi-disciplinary teams. Once stabilised at the higher levels of care, children and adolescents should then be referred back to their secondary or primary community team to continue their care. This pyramid of care structure requires ongoing supervision and training of community and primary healthcare workers.

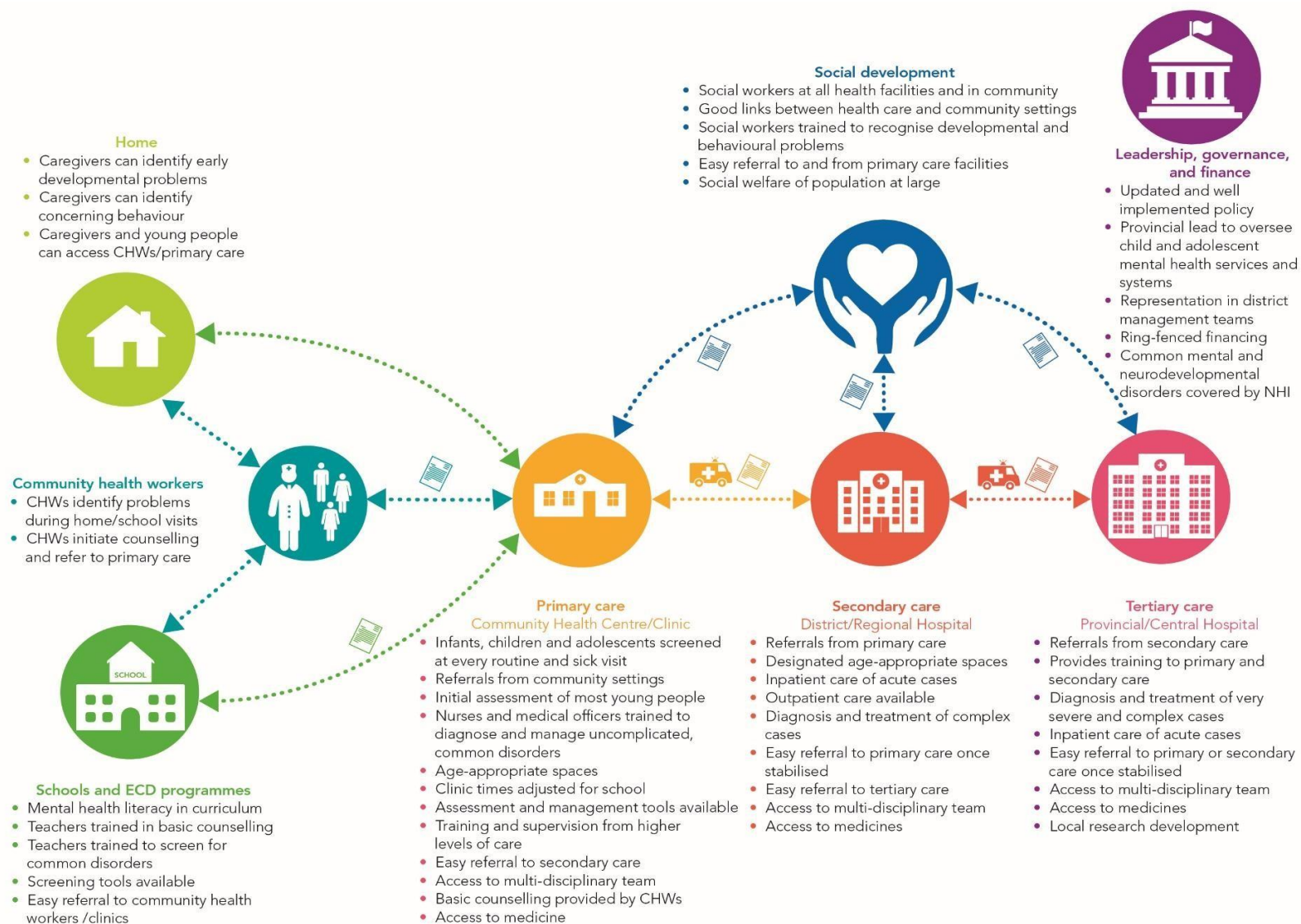


Figure 3.2. Contextualised model of an ideal child and adolescent mental health service and systems in South Africa (Simelane et al., 2022)

3.4. Adopting a health systems approach to CAMH

Child and adolescent mental health services function in the context of health (and other) systems. It is therefore important to approach CAMH from a health systems perspective and consider all the factors, organisations and people that ultimately shape the availability and quality of services. The WHO proposed six ‘building blocks’ of health systems including service delivery, the health workforce, health information systems, access to essential medicines and technologies, financing, and leadership/governance (World Health Organization, 2007). These components of the health system include both ‘hardware’ (resources, people, medicines etc.) and ‘software’ (knowledge, attitudes, beliefs etc.) (Gilson, 2012). A ‘healthy’ system should have adequate hardware, positive software and a responsive and responsible interaction between the two (Gilson, 2012). Figure 3.3 outlines some of the key building blocks of a ‘healthy’ child and adolescent mental health system (World Health Organization, 2005, 2007). A healthy CAMHSS needs to be rooted in a broader health care system that is healthy, responsive and well-integrated with other systems in education, social development, justice and the NGO sector in order to ensure optimal child and adolescent mental health. Some of the links between sectors are shown in figure 3.3.

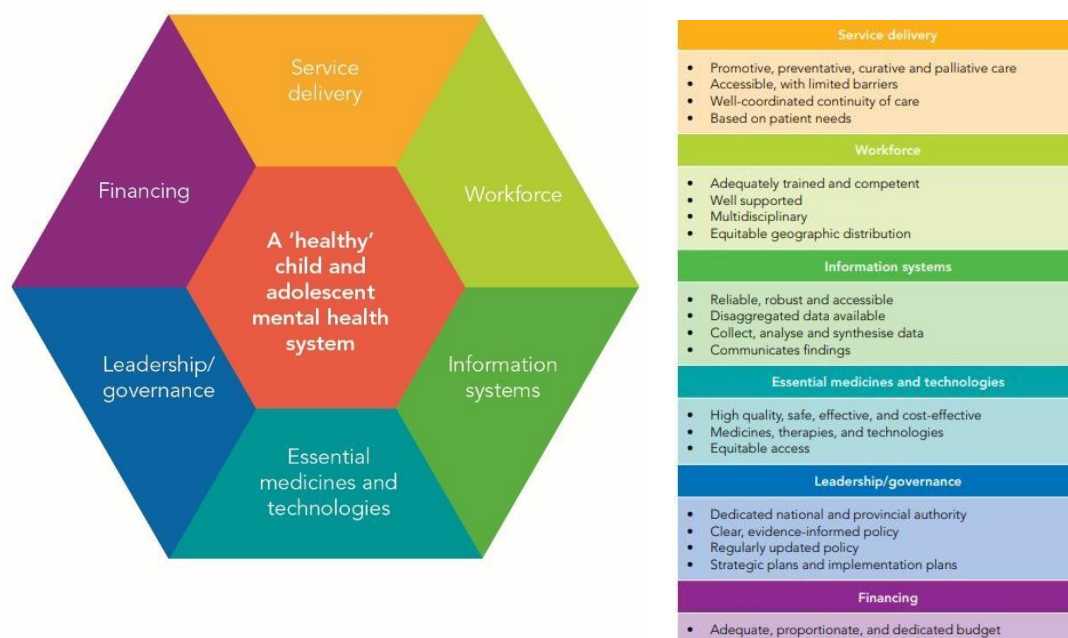


Figure 3.3. The building blocks of a ‘healthy’ child and adolescent mental health system (Simelane et al., 2022 adapted from World Health Organization, 2007)

3.5. What services and systems are currently in place?

Strengths

It is important to acknowledge the existing strengths in South African CAMHSS that can be leveraged for further system strengthening. South Africa has more child and adolescent psychiatry specialists than any other country in sub-Saharan Africa. In addition, CAMH has been on the radar of government and policymakers for over two decades. Although not yet implemented, the policy guidelines on CAMHSS were developed in 2003, and the norms for South African CAMHSS were commissioned in 2004 (Flisher et al., 2012). The publication of the Nurturing Care Framework (World Health Organization, United Nations Children's Fund, 2018) and Sustainable Development Goals (SDGs) have further added impetus towards actions that support the mental health of children and adolescents (United Nations General Assembly, 2015). Over the last two decades, medical, nursing, and allied health undergraduate training has evolved to include more mental health training (albeit with very limited exposure to CAMH). Furthermore, community service programmes, which are compulsory for all health disciplines, have attempted to improve distribution of the health workforce by deploying junior staff to rural areas. In general, health care facilities have access to at least one drug in each class of psychotropic medication.

Weaknesses

Even though South Africa has the most child and adolescent psychiatrists in sub-Saharan Africa, there are currently fewer than 60. Of those, no more than 20 posts are in the public sector, and only five funded training posts exist nationally. Therefore, children and families only have access to multidisciplinary CAMH teams in a handful of centres where government-funded specialist CAMH services are available (Cape Town, Johannesburg, eThekweni (Durban) and Tshwane (Pretoria)). Child and adolescent psychiatrists practicing in the private sector are also concentrated in these cities.

The National Mental Health Policy Framework and Strategic Plan 2013–2020 detailed the central role of district health services in strengthening general mental health services (including CAMHSS) in South Africa (South African National Department of Health, 2013).

District health services were meant to be overseen by a specialist district mental health team (DMHT) responsible for a broad range of activities, including a) the implementation of collaborative care and task-sharing approaches, b) mental health training and supervision of staff at lower levels of care, with support from specialist mental health teams, c) the development of clinical protocols, community based rehabilitation programmes and inpatient mental units, and d) the facilitation of intersectoral collaboration (South African National Department of Health, 2013).

Unfortunately, there were no clear provincial implementation plans for DMHTs, and by 2019, there were only two DMHTs in the country – one in the Free State and the other in Mpumalanga (South African Human Rights Commission, 2019). The policy was not accompanied by any ring-fenced budget, grants or guidelines on minimum expenditure (South African Human Rights Commission, 2019). Most provinces did not appoint mental health directorates to lead the implementation process, and training and supervision of primary care and community health workers (CHW) was not standardised (South African Human Rights Commission, 2019). There was also no process put in place to improve data collection and monitoring over the seven-year period to allow problems in implementation to be identified and addressed along the way (South African Human Rights Commission, 2019). In essence, there was a failure to engage all the WHO building blocks in a practical way. This, combined with a lack of stakeholder participation and buy-in into the development of the policy, meant that those on the ground were not committed to its implementation.

South Africa is currently reviewing the National Health Insurance (NHI) Bill. The Bill aims to provide universal healthcare coverage by ensuring access to quality health care for all South Africans without financial hardship (South African Government, 2019). The Bill notes that all children will have access to ‘basic health care services’, but does not define what will be included in the services (Children’s Institute, 2019; South African Government, 2019). This is particularly concerning because there are currently no CAMH-specific disorders on the chronic disease list or the minimum prescribed benefits in South Africa, and these conditions may therefore be overlooked when the basic services are defined (Discovery Health Medical Scheme, 2021). There are also no child and adolescent health experts represented on the benefits advisory committee that will decide what service benefits will be covered by the fund (Children’s Institute, 2019). The Bill also notes that school health services will be available to

cater for the physical and mental health of school-going children (South African Government, 2019). However, there is no clarity on how these services will be structured, which is likely to hinder their successful implementation.

Recent studies in the Western Cape and KwaZulu-Natal have identified gaps in CAMHSS (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019; Babatunde et al., 2020) and despite the different contexts, the findings were surprisingly similar, with critical gaps outlined in Table 3.1.

Table 3.1. Gap analysis of Child and Adolescent Mental Health Services and Systems in South

Africa

WHO health system building block	Amajuba district, KwaZulu Natal (KZN) (Babatunde et al., 2020) and various Western Cape districts (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019)
Service delivery	• Not age-appropriate* (KZN+WC) • No or limited psychosocial interventions* (KZN+WC) • No services at primary care facilities (KZN) • Limited space and lack of privacy (KZN) • Inappropriate referral pathways (KZN) • Limited community-based interventions (KZN) • Limited CAMH promotion and awareness (KZN) • Poor mental health literacy of school health teams (KZN) • No inpatient facilities (KZN) • No specialist services in rural districts (WC) • No dedicated hospitals or residential units (WC) • Limited CAMH forensic services (WC) • Low patient satisfaction (WC) • Emphasis on quantity of patients seen rather than quality of care (WC)
Health workforce	• Limited training* (KZN+WC) • No CAMH specialists (KZN) • No CAMH trained nursing staff (KZN) • No allied health staff at primary care facilities (KZN) • Lack of human resources (WC) • Inequitable geographical distribution (WC) • Excessive workload demands (WC) • Lack of supervision/support* (WC) • Lack of acknowledgement for innovations to improve services (WC) • Negative staff attitudes* (WC) • Siloed working (WC)
Information systems	• No age disaggregated data (KZN+WC) • Inadequate and inaccessible data (WC) • Limited research (WC)
Access to essential medicines and technologies	• Lack of equipment required for therapy e.g., toys for play therapy (KZN+WC) • Inconsistent availability of psychotropic medications (WC) • No technologies to support data collection (WC)
Financing	• No ring-fenced budget (KZN+WC) • Low priority compared to adult mental health and general healthcare (WC)

Leadership and governance	• No district or provincial CAMH policies or implementation plans (KZN +WC) • No functional intersectoral collaboration system (KZN+WC) • No reference to CAMH in general health policies (WC) • No involvement of CAMH experts/users in policy development or review (WC) • No dedicated provincial leadership (WC)
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* Findings at primary and secondary levels of care

These weaknesses have severely undermined the quality of care for children and adolescents who present with emerging or definite mental health disorders, as outlined in illustrative Case 3.1.

Case 3.1. Three patient journeys into mental health services

Zachary was two years old when his mother noticed that he was not speaking any words. She was worried about this, and took him to the community clinic. At the clinic the nurses told her that ‘he is just a boy’ and that he will start to speak soon enough. Four years later Zachary was diagnosed with autism spectrum disorder with associated language disorder and many challenging behaviours because he did not know how to communicate with people. His mother had to stop working because no-one else was able to look after him. When the diagnosis was finally made by the specialist child and adolescent psychiatry team, she said: ‘If only people had listened to my worries when he was two, our lives could have been so much better’.

Fatima is a 13-year old girl who suffered with anxiety symptoms since early childhood, but she was still able to go to school where she had very supportive teachers. When she started in secondary school, the anxiety became overwhelming. She started having severe panic attacks and was unable to go to school. She became so unwell that she needed to be admitted to hospital. However, she lived in a rural district and was admitted to a psychiatric hospital ward with adults. Fatima found it a terrifying experience. Fatima said: “Why would the doctor send me to a hospital with adults? Why would the doctor send me to a hospital where people are tied up? I hate it here!”

Andile is a 15-year old boy who has attention deficit/hyperactivity disorder (ADHD) and lots of difficulties learning in school. He regularly needs to go to the community clinic to have a check-up for his medication. He is very motivated to do schoolwork, in spite of his difficulties. His mother has to take a day off work to bring him to the clinic every time. However, Andile and his mother are very frustrated by the services: “The last time I was there the nurse told me I must be there on Friday, but we only see the psychiatrist on Tuesday. So, I missed the school day and on that day we had to do a project. I could have done my project. It was a waste of money.” Andile’s mum also explained how files are not always available in the clinics, how they are told to come back the next day, and how they sometimes have to wait for a very long time at the pharmacy without staff seeming to realise that children need to get to school.

3.6. What can be done to strengthen systems and enhance quality of care?

With CAMHSS in crisis, there is an urgent need to progress from describing the problem to thinking how to strengthen services and systems for CAMH. This includes developing a long-term vision for CAMH services and identifying innovative ways to strengthen the system in the immediate, short and medium term.

A long-term vision

Given that one in five children and adolescents presents with a diagnosable and treatable mental disorder, we should ideally establish a multidisciplinary CAMH team in each South African district to ensure a more equitable distribution of child and adolescent psychiatric services and to bring those services close to home.

An ideal district CAMH Team should include a child and adolescent psychiatrist, psychologist, speech and language therapist, occupational therapist, child and adolescent mental health nurse practitioner, social worker and dedicated link professionals from the departments of Basic Education and Social Development. These district CAMH teams would then guide and provide services across primary and secondary levels of care and would be supported by – and refer to – specialist CAMH teams based at tertiary/university institutions.

Specialist CAMH teams from tertiary hospitals and university institutions would lead the training of the CAMH workforce, guide development and delivery of services for highly complex disorders, support and supervise district CAMH teams, and conduct CAMH research relevant to the needs of South African communities.

To staff the district CAMH teams, child and adolescent psychiatry would need to be reclassified as a 'specialty' rather than as 'sub-specialty' in the same way that Paediatrics became distinct from General Medicine. This would reconceptualise Child and Adolescent Psychiatry as a community speciality, rather than as a highly specialised ('sub-specialist') discipline.

Immediate, short- and medium-term goals

We acknowledge that the ideal vision of a community CAMHSS is unlikely to be realised in the short term, given the current context of staff shortages and budget cuts. It is therefore important to identify strategies that could strengthen CAMHSS in South Africa in the immediate, short and medium term. Table 3.2 outlines a set of immediate, short-term (1–5 years) and medium-term (5–10 years) CAMHSS strengthening actions across the building blocks of health systems.

Table 3.2: Strengthening CAMH services and systems in South Africa – actions across the building blocks of health systems (Mokitimi, 2020; Babatunde et al., 2022)

Health system building block	Immediate action	Short-term actions (1–5 years)	Medium to long-term actions (5–10 years)
Service delivery	Create separate clinic days with guidelines for how to run a child/adolescent friendly clinic ○ Times adjusted to suit school times ○ Limit number of visits ○ Have medication and folders ready Set up designated room for children and adolescents with mental health disorders admitted at secondary level	Develop appropriate screening tools for common CAMH disorders Improve use of routine developmental screening in Road to Health booklets by caregivers, CHWs and nurses Train community (e.g. early childhood development (ECD) workers and teachers) on early symptoms of CAMH and neurodevelopmental disorders Establish mental health literacy training for local teachers and youth leaders, and provide them with basic counselling skills for children and adolescents Rollout of established caregiver interventions (such as WHO caregiver skills training) Establish clear referral pathways from schools (including ECD centres) to community and primary care health services Establish clear, transparent referral pathways across all levels of care in urban and rural districts	Determine and implement standards for age-appropriate infrastructure in facilities at all levels Develop and implement packages of services and competencies expected at each level of care Develop and implement clear clinical guidelines/protocols for common CAMH disorders and emergencies for each level of care Develop and implement school-based interventions that can be added to curriculum e.g. in life orientation Develop counselling skills of community health workers (CHWs) to deliver psychosocial support at primary care level Develop digital clinical decision support systems

Health workforce	Introduce supervision for primary care staff with designated, ring-fenced supervision time	Allocate a provincial/central hospital to supervise each regional hospital Allocate a regional hospital to supervise each district hospital Allocate a district hospital to supervise each Community Health Centre/clinic Establish nationwide training of all primary care providers using existing guidelines e.g. PACK and WHO mhGAP. Training could be provided using various modalities including online self-paced learning	Develop accredited CAMH short courses for community and primary health workers (e.g. CHWs, nurses, medical officers, general practitioners, OTs, SLTs, psychologists etc.) Establish specialist CAMH teams in provincial hospitals in all provinces Re-evaluate existing health science curricula to increase academic training and practical exposure to CAMH Develop postgraduate diplomas and master's programmes for non-specialised health professionals Establish specialist integrated CAMH teams at district level Re-classify child and adolescent psychiatry as a speciality instead of a sub-speciality
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Information systems	Set up regular (monthly) facility and (quarterly) subdistrict-based meetings, where the compiled statistics are presented, and poor outcomes discussed	Develop clear indicators specific to CAMH and tools to gather these data Create disaggregated data systems for under 18-year-olds vs over-18-year olds	Capture and analyse CAMH indicators at a provincial and national level Establish annual reporting of CAMH indicators
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		Make the generation and provision of CAMH statistics mandatory for facilities	
Access to medicines and technologies	Ensure good and continuous supply chains for all essential medicines used in CAMH		Allow some medications that are traditionally only be dispensed at tertiary level to be dispensed at secondary and primary level
Financing		Disaggregate budgets to allow calculation of CAMH-specific budgets and costings	Establish representation of CAMH in National Health Insurance Benefits Advisory Committee(s) Advocacy to add more child and adolescent mental disorders to the Chronic Disease and Prescribed Minimum Benefits lists Implement universal basic income grant

Leadership and governance		Introduce provincial CAMH Lead Professionals in all South African provinces	Review and revise the national CAMH guidelines/policy) Develop provincial CAMH implementation plans Make national policies and provincial plans easily accessible, including to the public Government to create suitable communication mechanisms for interaction with service providers and service users
ECD: Early childhood development, CHW: Community health worker, CAMH: Child and adolescent mental health, PACK: Practical application to care kit, mhGAP: Mental health gap action programme, OT: Occupational therapist, SLT: Speech and language therapist, WHO: World Health Organization.			

Case 3.2 describes local initiatives to make immediate improvements in the CAMH system in the Khayelitsha Eastern Substructure in Cape Town. This provides a very inspiring example of how local enthusiasm and coordination combined with good and clear evidence-based information can transform clinical services and systems without any significant additional resources.

Case 3.2. Transforming CAMH services in the Khayelitsha Eastern Substructure – a practical step towards a better future

As described in previous research, there are a lack of dedicated CAMH services at primary health care (PHC) facilities in the Khayelitsha Eastern Substructure (KESS). Services for children and adolescents with mental health disorders are mixed with adult mental health services at primary and secondary care level, with age-appropriate services only available at tertiary level. Children aged 12 and under are admitted to paediatric medical wards, exposing them to potentially contagious medical conditions, while adolescents are admitted to adult emergency psychiatry units, which may exacerbate psychological trauma and reduce compliance to treatment.

Considering these challenges, KESS set out to establish age-appropriate CAMH services within their resource constraints. A stakeholder engagement process was initiated in August 2021 with community mental health nurses and district hospital facility managers. As a result, community mental health nurses were trained on how to develop a mental health service structure with separate child and adolescent and adult services. Facility and operational managers of primary health care (PHC) clinics were also engaged to ensure buy-in of management for the implementation of the new service structure.

By January 2022, only five months after the initiation of the process, all nine of the PHC facilities that fall within KESS had confirmed that they had created a separate service for CAMH within their existing service structures (100% implementation). CAMH services are offered either in the morning (7am–1pm) or in the afternoon (1–4pm) in different facilities depending on their contexts and user needs. As caseloads increase, service hours will also increase.

Following ongoing discussions and hospital walkabouts to try and identify possible locations for children and adolescents requiring inpatient care, some progress has also been made at the secondary level of care. At least one hospital now has a dedicated adolescent room in the emergency psychiatry ward. This room will be available for all adolescents in KESS who require admission. Two other hospitals have identified 'low-risk' areas in their adult psychiatric wards. These 'low risk' areas are close to the nurse's station and can be used for vulnerable adolescents to ensure better monitoring and visibility. These 'low risk' beds will act as overflow admission areas, should the dedicated adolescent room be full. Shortcomings in ward infrastructure have also been identified, with plans in place to make the spaces more youth friendly.

To formalise this process, a first draft of the standard operating procedures for developing separate CAMHS at primary and secondary level has been circulated to facility managers in KESS for comment and approval. The new service structure will be monitored to measure progress and effectiveness. Important next steps for the programme include training of providers and provision of CAMH resources for assessment and intervention.

This initiative by the KESS service providers and facility managers is an example of how services can be optimised within existing resource constraints. Furthermore, it illustrates the importance of buy-in from all stakeholders to ensure successful uptake and implementation. The documentation and monitoring of this process is an important step towards creating practical guidelines and providing quality care that is feasible in such settings. This may be scaled up to other parts of the province in collaboration with the provincial CAMH coordinator should it prove to be successful.

A recent review by Simelane and de Vries examined a range of CAMH strengthening innovations from various LMICs to inform potential CAMHSS strengthening activities in South Africa (see chapter 2 and Simelane & de Vries, 2021). Innovations identified included interventions to promote mental health at a broader socio-economic level, to develop intersectoral collaboration, to build the CAMH workforce, to use digital technologies and develop tools and guidelines for clinical use. Here we summarise some of the key findings from the review and their relevance to the South African context and list some local initiatives of potential relevance.

Upstream socio-economic intervention

There is a clear association between poverty and mental illness, and ‘economic’ interventions are emerging as intervention modalities alongside pharmacological and ‘talking’ treatments for mental health problems (Lund et al., 2011). Recent studies in Malawi and Uganda have shown cash transfers to be effective in reducing symptoms of depression in adolescents (Angeles et al., 2019; Kivumbi et al., 2019). South Africa has one of the highest rates of unemployment in the world, with an official national unemployment rate of over 30% in 2021 (Statistics South Africa, 2021). It is therefore important to consider the broader socioeconomic context of young people living in South Africa when thinking about their mental health. This may provide an important argument for the implementation of the universal basic income grant in South Africa.

Intersectoral collaboration

School mental health programmes and mental health literacy initiatives may have an important role in improving the health-seeking behaviour and coping skills of school-going children and adolescents and their teachers (Hamdani et al., 2019; Kutcher et al., 2019; Alonge et al., 2020). Findings from Malawi showed improvement in the self-confidence of learners and improved detection of at-risk learners. Such programmes may, therefore, represent another important strategy to strengthen CAMHSS in South Africa (Simelane & de Vries, 2021). However, school mental health and mental health literacy programmes require strong and sustained collaboration between the health and education sector, with clarity about roles, responsibilities and funding, as well as buy-in and support from the highest levels of government.

In South Africa, the First Thousand Days of Life Initiative represents an example of a promotive, intersectoral activity focused on maternal mental health, parenting and the nurturing care of infants and young children (Bamford, 2019). This involved collaboration between the Department of Basic Education, Department of Social Development, and Department of Health. The initiative provides important lessons about the complexities of intersectoral work and the importance of buy-in and agreement across stakeholders (Okeyo, Lehmann & Schneider, 2020b; Simelane & de Vries, 2021). Even though the First Thousand Days of Life Initiative stops at age two (which is far from school-going age), principles of implementation

and lessons learnt from the initiative could provide a foundation on which school mental health programmes, as proposed in the NHI Bill, can be built (Okeyo, Lehmann & Schneider, 2020a).

Capacity-building and supervision

Capacity-building is another priority area and can be used to promote task-sharing through the training of non-specialist health workers. This was done in Uganda, where general health workers from different disciplines were purposively selected from different regions in the country for a two-year training programme (Rukundo et al., 2020). The programme resulted in increased CAMH expertise in the peripheral regions of the country and a more than 10-fold increase in the number of children who were seen and treated for mental disorders (Rukundo et al., 2020). The Ugandan study adopted a trainees-become-trainers model to increase the sustainability of the initiative, with increasing numbers of trainees each year (Rukundo et al., 2020). Adopting a similar approach would not require increased numbers of staff in South African public health facilities but could increase the efficiency and quality of services offered by those already working in the health system.

Digital technologies

One of the emerging innovations in CAMHSS is the use of digital technologies. In an innovative study in India, a digital clinical decision support system was developed (Malhotra, Chakrabarti & Shah, 2019). This meant that general practitioners at a primary level of care were able to access supervision from a digital platform, with prompts to guide them through the assessment and management of children and adolescents (Malhotra, Chakrabarti & Shah, 2019). It was less labour intensive than one-on-one supervision from a child psychiatrist and had the dual purpose of being a training tool for the clinicians (Malhotra, Chakrabarti & Shah, 2019). Such technologies have great potential to increase the reach of CAMH services in South Africa, but it will be important to consider potential barriers to the implementation of digital technologies very carefully to ensure that the pre-existing digital divides between rich and poor, and between urban and rural communities, are not inadvertently increased (Simelane & de Vries, 2021).

Clinical service toolkits

Although clinical toolkits were not included in the review by Simelane and de Vries, a scoping review by Babatunde and colleagues identified the lack of contextually relevant screening and assessment tools as a major barrier to improving CAMH services in South Africa (Babatunde et al., 2021). The WHO developed the mental health Gap Action Programme (mhGAP) as a tool to support primary care training and clinical decision-making across a range of mental health presentations and includes child mental health modules (World Health Organization, 2016). The PACK Child programme, developed by the Knowledge Translation Unit at the University of Cape Town, was developed to provide primary care clinicians with a basic guide on the identification and management of a range of childhood conditions, including some mental health presentations (such as the depressed or disruptive child) (Picken et al., 2018). These kinds of tools may have the potential to be implemented in South Africa. However, it is crucial first to understand which conditions should be managed at which levels of care and in which sectors, then to identify the most appropriate people to perform the tasks, to ensure that the training tools provided are a good 'fit' to the practitioner's needs and baseline knowledge. Such training programmes, therefore, need to be accompanied by clear guidelines on what services and competencies are expected at each level of care, including the roles and responsibilities of different members of the team and the referral criteria between each level of care to ensure continuity of care and a smooth functioning CAMH system.

These investments in strengthening CAMH systems in South Africa have the potential to enhance the quality of care and to improve outcomes for children, adolescents and their families, as outlined in Case 3.3.

Case 3.3. A better future for children and adolescents with mental health disorders

Zachary (introduced in case 3.1) has a younger brother, Sam. Since Zachary's diagnosis of autism spectrum disorder at the age of six, a programme had been introduced to train community-based and primary care staff on 'red flags' or risk markers for autism. When mum took Sam to the clinic worried about his language development, the nurse immediately recognised his language delay and family history of autism. She used a screening tool that identified many other developmental concerns, and referred Sam to the neurodevelopmental team, who diagnosed his autism within a few months. Sam's mother was offered home-based coaching by a community health worker (who was supervised by an expert from the district team) to

help him with his development and communication. She said it was very helpful to do the coaching at home, and that it also helped her with Zachary's communication. In spite of having two children with autism, she felt supported, understood and empowered.

Fatima continued to need support for her anxiety, but the local district hospital created a dedicated 'adolescent-friendly' area and bed for young people like her who needed admission. Fatima said it made a huge difference knowing that she did not have to fear going into hospital with severely mentally ill adults.

Andile's community health clinic got a new nurse who was passionate about the mental health of children and adolescents. The nurse negotiated a dedicated day for CAMH, made sure that files were ready and prepared the day before, and checked with families whether they would prefer a morning or afternoon appointment to cause the least disruption to school attendance. She also organised that on those days the pharmacy would be ready to dispense medications to children and families in a dedicated queue. Andile and his mum were very impressed. The clinic nurse realised that Andile's ADHD medication was not optimal and, through a new collaborative care plan, referred him to secondary and tertiary care. He received an additional multidisciplinary intervention from the specialist CAMH team, where his medication was also adjusted. He is now back at his local community clinic for regular check-ups without interrupting his schooling. He is doing very well.

3.7. Conclusion

We do not underestimate the procedural requirements of the changes and strengthening innovations proposed in this chapter. However, the paradigm shift from hospital-based, highly-specialist CAMH services to community-based specialist services may represent our best chance to meet the urgent and increasing mental health care needs of children and adolescents in South Africa, and to ensure parity for the mental health of children and adolescents alongside their physical health. We argue that investing in CAMHSS now will provide the early interventions needed to prevent the long-term, multi-level costs associated with poorly functioning CAMHSS.

We acknowledge that comprehensive strengthening of CAMH services and systems in South Africa does not depend on a single action, but rather on sustained action across multiple services, systems and levels of care. Crucially, the journey towards sustainable and scalable

systems strengthening will require participatory engagement with stakeholders across all levels of the health care system, including senior government policy-makers, funders, grassroots service providers, and families and young people themselves (Breuer et al., 2014; Erismann et al., 2021).

3.8. Chapter summary

Mental and neurodevelopmental disorders affect approximately 10–20% of children and adolescents, with similar prevalence expected in South Africa. Untreated mental disorders in youth have significant health and socio-economic implications, with many adult disorders originating before the age of 14. This chapter explored the landscape of CAMHSS in South Africa.

This narrative literature review, conducted between August 2021 and April 2022, synthesised peer-reviewed articles and grey literature, including policy documents, to provide a comprehensive overview of CAMHSS in South Africa.

In South Africa, an estimated 17% of children and adolescents experience mental disorders or neurodevelopmental disabilities. However, significant treatment gaps persist due to resource limitations and restricted service access. Challenges such as workforce distribution, funding shortages, and insufficient training hinder effective CAMH initiative implementation. The recommended approach advocates for decentralised, community-integrated CAMH services aligned with the World Health Organization tiered care model. Shifting from hospital-based to community-based specialist CAMH services is crucial to meet the escalating demand for mental health care among South African children and adolescents, ensuring parity with physical health.

Chapter 4: The national profile of needs and priorities in child and adolescent mental health services and systems (CAMHSS) in South Africa – the perspective of service providers

4.1. Background

Mental disorders represent the largest burden of disease among children and adolescents globally, yet CAMH services and systems have historically been overlooked as a public health priority, particularly in LMICs (Kieling et al., 2011), where 90% of these young individuals reside (United Nations, 2019). In South Africa, the mental health treatment gap for children and adolescents stands at a staggering 90%, meaning that only one in ten in need of mental health services can access them (Mokitimi, Schneider & de Vries, 2022).

CAMHS in South Africa, catering to individuals from birth to 18 years old, were last comprehensively examined in a national situational analysis conducted in 2003 (Dawes et al., 2004; Flisher et al., 2012). Since then, regional analyses, notably in the Western Cape province and a rural district in KZN, have revealed minimal progress in improving CAMHS over the past two decades (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019, 2022; Babatunde et al., 2020).

Using the World Health Organization (WHO) health system building blocks as a framework (World Health Organization, 2007), Simelane and colleagues reviewed child and adolescent mental health services and systems (CAMHSS) in South Africa (see Chapter 3 and Simelane et al., 2022). Their findings highlighted significant gaps (see Table 3.1) such as the lack of appropriate services available at primary (local clinic) and secondary (local hospital) levels, and the lack of financing for CAMH (Simelane et al., 2022). They also called for a move from ‘mapping’ the landscape of CAMHSS to a focus on ‘strengthening’ activities to improve the state of CAMHSS in the country (Simelane et al., 2022).

The lack of progress in developing CAMHSS over the last twenty years in South Africa highlights the importance of regular monitoring of the landscape to gauge whether it is stagnating, improving, or worsening. Given that the Western Cape and KZN studies were based on data collected in 2016–2017 and 2019, respectively (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019; Babatunde et al., 2020), it was important to gain an up-to-date

perspective on the state of CAMHSS to inform policies and practices. The overarching aim of the study was therefore to elicit service provider perspectives on the current state of CAMHSS across the nine South African provinces and had two main objectives: 1) to assess the ongoing relevance of the 2016/2017 Western Cape study findings, and 2) to identify priorities for strengthening CAMHSS from participants.

4.2. Methods

Study design

An electronic, cross-sectional survey was conducted with service providers across the nine provinces of South Africa. Data were collected from January to November 2022.

Study setting and study population

The study was conducted with service providers from the private, public, nongovernmental/non-profit, and academic sectors. Participants were eligible if they were over the age of 18 and were currently or previously employed in a CAMH-related role.

Recruitment

Purposive snowball sampling was used to recruit participants. A survey invitation with an introductory message and a survey link was sent to potential participants. The link directed potential participants to a platform where they could access the full information sheet, consent form, and survey questions. Fifteen known CAMH practitioners were contacted directly using email or WhatsApp. Potential participants were encouraged to forward the invitation to others within their network. In addition, the survey invitation was shared on Facebook within health professional groups with members from specific professional categories, e.g., “South African Medical Officers”.

Data collection

Study data were collected and managed using the secure, web-based, data capture software platform 'Research Electronic Data Capture' (REDCap), hosted at the University of Cape Town (Harris et al., 2009, 2019). The survey was administered in English and was accessible on a smartphone, tablet, or computer. Informed consent was obtained electronically (see Appendix D and E). Data were automatically stored on REDCap. Access to the internet was required for participants to complete the survey.

Survey questionnaire

The questionnaire (Appendix F) consisted of three sections: 1) basic demographic information, 2) a series of statements about CAMHSS, and 3) an open-ended question asking participants to recommend one area or action to strengthen CAMHSS. Only demographic information represented compulsory fields on the electronic survey.

Each statement in the survey was derived from findings from the 2016/2017 Western Cape research study conducted by Mokitimi and colleagues (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019, 2022). The survey statements were categorised into the six WHO health system building blocks. The final survey questionnaire had 87 statements divided into service delivery (48 statements), health workforce (19), information systems (3), access to medicines and technologies (6), financing (4), and leadership and governance (9). Participants were asked to rate their level of agreement with each statement on a 5-point Likert scale ('strongly disagree', 'disagree', 'neutral', 'agree' or 'strongly agree'). Participants were asked to recommend one area or action to strengthen CAMHSS in an open field question.

Data analysis

The data were collected, stored and managed on REDCap. Duplicate records and records without a completed informed consent form were deleted.

The responses for each survey statement, ranging from strongly disagree to strongly agree, were tallied using REDCap. Unanswered questions (missing data) were omitted. Descriptive statistics were used to calculate valid percentages indicating the level of agreement (strongly disagree, disagree, neutral, agree, or strongly agree) for all statements. The five-point Likert

scale responses were recoded into three categories: 'agree' (combining strongly agree/agree), 'neutral', or 'disagree' (combining disagree/strongly disagree). Participants were categorised as having 'agreed' with a statement if the majority (>50%) selected 'agree/strongly agree', 'disagreed' if the majority (>50%) selected 'disagree/strongly disagree', or 'neutral' if >50% chose 'neutral'. Items without a clear majority response were labelled as 'neither agree nor disagree'. The survey results were then compared to the findings of the 2016/2017 Western Cape research to assess whether participants endorsed or rejected the initial conclusions. This comparison aimed to determine the continued relevance of the 2016/2017 study findings in light of the current survey results.

Out of the 87 statements included in the survey, seventeen items were excluded during data analysis. Twelve of these items pertained to service delivery for intellectual disability, a topic beyond the scope of this study. The remaining five items were considered irrelevant during data analysis because they were not aligned with the original 2016/2017 Western Cape research study findings. During the segmentation of these findings to develop the survey statements, additional items were introduced that did not stem from the original data. For example, the item 'adolescents are admitted to adult wards at secondary level' was split into two separate items: 1) adolescents are admitted to adult wards at secondary level, and 2) adolescents are admitted to adult wards at tertiary level. However, during the analysis, the item regarding tertiary-level admissions was removed, as it was not relevant to the original findings from 2016/2017.

The open-ended question was analysed using inductive qualitative content analysis following the method outlined by Elo and Kyngäs (2008) (Elo & Kyngäs, 2008). The data from the open-ended question were transferred to NVivo version 12 for storage and management. The author conducted the coding process, first becoming familiar with the data and generating an initial code list consisting of 27 items. The 59 responses were then coded using the established code list. The 27 initial codes were organised into eleven subthemes and then grouped into three overarching themes. Each response was analysed in its entirety, without breaking it into content units; therefore, some responses received multiple codes. Consensus about the codes, subthemes, and themes was reached through discussions between the author and the PhD supervisor.

Ethical considerations

The data collection and analysis for this study were approved by the Human Research Ethics Committee (HREC) of the Faculty of Health Sciences, University of Cape Town (UCT) (reference numbers: 188/2016; 096/2023). Anonymity of participants was maintained throughout the study. Each participant was automatically allocated a participant number on REDCap, and no data extracted from REDCap contained any identifiers.

4.3. Results

Participant demographics

The study comprised a total of 76 participants. Table 4.1 presents details of demographic characteristics. Most participants were female (n=60; 78.9%) and employed in the Western Cape (WC) (n=34; 44.7%) and Gauteng (n=17; 22.4%). Even though more than a third of participants were in the 25–34 age group (n=28; 36.8%), more than half had more than five years of experience in the field (n=43; 56.6%). The majority of participants were from the health sector (n=71; 93.4%) and worked in the public sector (n=51; 67.1%).

Table 4.1. Participant demographics in the study (N=76)

Demographic characteristics		n (%)
Age	25–34	28 (36.8)
	35–44	19 (25.0)
	45–54	14 (18.4)
	55–64	12 (15.8)
	65+	2 (2.6)
Gender	Female	60 (78.9)
	Male	16 (21.1)
Department	Health	71 (93.4)
	Education	11 (14.5)
	Criminal justice	1 (1.3)
	Social services	1 (1.3)
	Other	2 (2.6)

Sector	Public	51 (67.1)
	Private	26 (34.2)
	Non-Profit Organisations	2 (2.6)
	Research	2 (2.6)
Years of experience	0–5	33 (43.4)
	6–10	12 (15.8)
	11–15	12 (13.2)
	16 or more	21 (27.6)
Province	Western Cape	34 (44.7)
	Gauteng	17 (22.4)
	KwaZulu-Natal	6 (7.9)
	Eastern Cape	5 (6.6)
	Free State	5 (6.6)
	Mpumalanga	4 (5.3)
	North West	3 (3.9)
	Limpopo	1 (1.3)
	Northern Cape	1 (1.3)

Comparison with 2016/2017 Western Cape study findings

A summary of participant endorsement (agreement with) or rejection (disagreement with) of the findings from the 2016/2017 Western Cape research study is shown in Table 4.2. Overall, participants endorsed 62.6% (41 out of 70) of the 2016/2017 Western Cape findings and rejected 10% (11 out of 70) of findings.

Table 4.2. Comparison of study findings with historical Western Cape study findings (2016/2017). The table shows the number (%) of 2016/2017 findings endorsed by participants across the WHO Health Systems Building Blocks.

WHO Health Systems Building Block	Comparison with previous findings n (%)		
	Endorsed	Rejected	Neither endorsed nor rejected
Service delivery	19/30 (60%)	4/30 (20%)	7/30 (20%)
Health workforce	14/19 (73.7%)	3/19 (15.8%)	2/19 (10.5%)
Information systems	2/3 (66.7%)	1/3 (33.3%)	0/3 (0%)
Access to medicines and technologies	4/5 (80%)	1/5 (20%)	0/5 (0%)
Financing	2/4 (50%)	1/4 (25%)	1/4 (25%)
Leadership and governance	3/9 (33.3%)	1/9 (11.1%)	5/9 (55.6%)
Overall	44/70 (62.6%)	11/70 (10%)	15/70 (21.4%)

Provider perspectives on the national state of CAMHSS

The comprehensive details of participant responses to the survey statements, including item-by-item denominators, are provided in figure 4.1. Participants agreed with 29 out of 70 statements (41.4%), disagreed with 25 out of 70 statements (35.7%), and neither agreed nor disagreed with 16 out of 70 statements (22.9%).

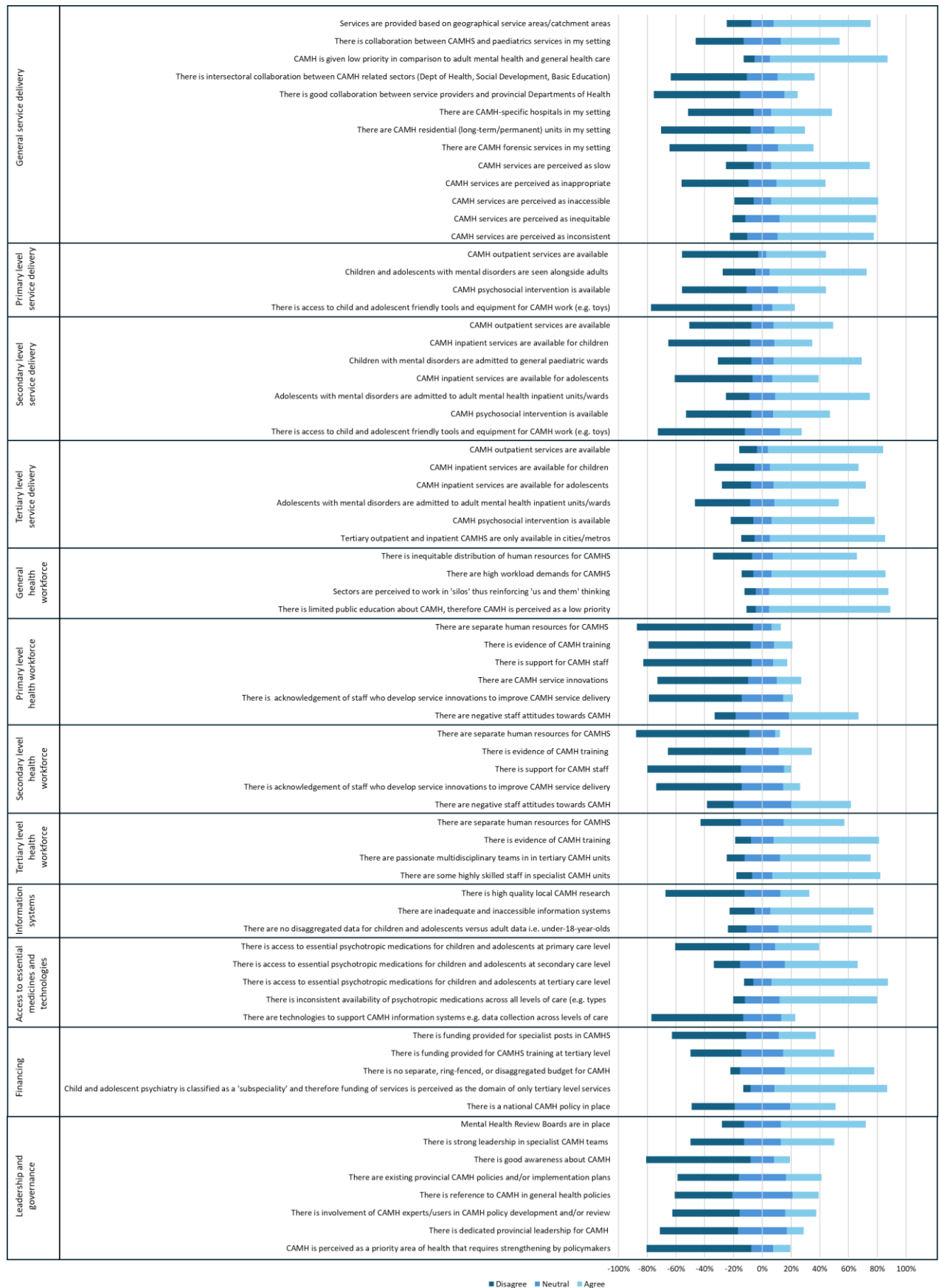


Figure 4.1. Participant responses to survey statements *Service delivery health system building block*

Participants felt that CAMH was given low priority (81.8%) and that services were not provided according to geographical area (67.7%). They did not think that there was collaboration between different CAMH related government sectors (53%) or between the Department of Health and service providers (60%). They also reported that there were no CAMH residential units (62.1%) and forensic services (53.9%) in their settings. While participants felt that tertiary services were only available in metropolitan areas (80%), their responses reflected positively on CAMH services at the tertiary level. They expressed that outpatient services (80%), inpatient services for children (61.5%) and adolescents (64%), and psychosocial services (71.9%) were available. Their responses reflected negatively on CAMH services at the primary and secondary levels, with no CAMH services reported to be available. Participants agreed that CAMH services were perceived as slow (68.7%), inaccessible (74.6%), inequitable (67.2%), and inconsistent (67.2%).

Health workforce health system building block

Participants reported an inequitable distribution of human resources for CAMHS (58.7%), that there were high workload demands for CAMHS (79.4%), and that limited public education about CAMH meant that it was perceived as a low priority (84.4%). They also felt that sectors were perceived to work in 'silos' – thus, reinforcing 'us and them' thinking (82.8%). Similar to the pattern observed for service delivery, participant responses reflected more positively on the tertiary level than the primary and secondary levels. Participants felt that the primary and secondary level did not have separate CAMH human resources (80.7% and 78.7%, respectively), evidence of CAMH training (71% and 54.1%, respectively), support for CAMH staff (75.4% and 65%, respectively), or any acknowledgement of staff who develop service innovations (64.4% and 59.3%, respectively). In contrast, they reported that the tertiary level had evidence of training (73.4%), passionate multidisciplinary teams (63.1%), and some highly trained staff (75%).

Other health system building blocks

Participants felt that information systems were inadequate and inaccessible (71.9%) and that they lacked disaggregated data for children and adolescents (65.1%). They also did not think that there was high-quality local CAMH research (54.7%) or that there were technologies to

support CAMH information systems (63.9%). Participants expressed that there was inconsistent availability of psychotropic medications across all levels of care. While they thought that there was access to essential psychotropic medications for children and adolescents at secondary (50.8%) and tertiary (81%) level, they did not think there was access at the primary level (51.6%). Participants agreed that there was no separate budget allocated for CAMHS (62.3%) and that the classification of child and adolescent psychiatry as a subspecialty meant that funding for CAMHS was perceived as the responsibility of tertiary level services (78.3%). However, they disagreed that there was funding for specialist posts in CAMHS (51.6%). Participants neither agreed nor disagreed with five (55.6%) statements, making this the only building block where participants had no definitive response to most statements. They acknowledged that mental health review boards were in place (59.3%), but did not think there was good awareness of CAMH (72.6%), dedicated provincial leadership for CAMH (54.2%) or that CAMH was perceived as a priority area requiring strengthening by policymakers (72.9%).

What actions should be prioritised to strengthen CAMHSS?

The average length per response to the open-ended questions was 17 words. Three overarching themes emerged as participant priorities for CAMHSS strengthening: 1) quality CAMHS close to home, 2) competent multidisciplinary teams (MDTs) across all levels and sectors, and 3) CAMHSS is everyone's business. The subthemes and supporting quotations from the participants' responses are shown in Table 4.3.

Table 4.3. Themes derived from participant responses to open-ended question

Themes	Subtheme	Illustrative Quotes
Quality CAMHS close to home	Dedicated CAMHS spaces/places	"Inpatient long-term facilities to care for severely mentally disabled children and adolescents." Participant 55
	CAMHS in my community	"To have CAMHS in all levels not just tertiary level." Participant 70
	Improved access to specialist CAMHS	"More specialist level care including psychologists, psychiatrists and nurses are needed within the primary level." Participant 8
	Availability of screening, diagnosis and simple intervention	"...To make more access to appropriate, above standard care for child and adolescent MHCUs [mental health care users] at a primary level will mean earlier detection of conditions, earlier treatment..." Participant 34
	Improved coordination across levels and sectors	"Formalised and transparent pathways of care with each level aware of what is in their scope of practice competent to deliver the expected care." Participant 2
	Quality of CAMHS	"Proper therapy and well-educated therapists." Participant 40
Competent MDTs across all levels and sectors	Prioritisation of posts for CAMH MDTs at all levels of care	"In my province strengthening the CAMHS workforce through recruiting new staff members, from primary through to tertiary care." Participant 59

	CAMH trained workforce across all levels and sectors	“Training and mentoring of primary care healthcare workers as well as service personnel in other sectors who interact with children and adolescents (teachers, social workers, police, judicial officials).” Participant 26
	CAMH nursing subspeciality	“Develop CAMHS nurse specialist posts at all levels of care. Train CAMHS nurse specialists to fill these posts.” Participant 69
CAMHSS is everybody’s business	Formalised intersectoral collaboration with Department of Health (DoH), Department of Basic Education (DBE) and Department of Social Development (DSD)	“The sectors should link to strengthen and broaden service delivery specific to poorer communities.” Participant 57
	Increase public and policymaker awareness about CAMH	“To convince the politicians that there are definite Mental Health Care needs in children and adolescents and stop pretending there is nothing to be concerned about.” Participant 61

4.4. Discussion

The electronic survey presented here was the first ever systematic national assessment of CAMH service provider perspectives on the state of CAMHSS in South Africa. The results indicated that the current national state of CAMHSS as perceived by practitioners remained very similar to that reported in the 2016/2017 Western Cape studies by Mokitimi and colleagues (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019, 2022). In addition, CAMHS practitioners proposed “quality CAMHS close to home”, “competent MDTs

across all levels and sectors,” and “CAMHSS is everyone’s business” as three key themes for CAMHSS strengthening. Simelane and colleagues previously observed that the findings in the Western Cape and Amajuba district in KZN were largely unchanged from studies conducted between 2000 and 2010, suggesting more than two decades of neglect of CAMHSS in South Africa (Simelane et al., 2022).

The *Lancet Global Health* Commission on high quality health systems noted that although health outcomes in LMICs had improved, health services and systems were of low quality with low end-user satisfaction and confidence (Kruk et al., 2018). This study illustrates this – service providers endorsed CAMH services as slow, inaccessible, inequitable, and inconsistent. South Africa has attempted to strengthen the mental health system through the adoption of the WHO optimal mix of mental health services pyramid – where the majority of the population is intended to be served by primary care health services for the diagnosis and treatment of common, uncomplicated mental disorders (World Health Organization, 2008a). However, our findings showed that participants had a more positive perception of the tertiary level than of secondary and primary levels of care. This is not surprising, given findings from a recent review of mental health services that suggested an overemphasis on hospital level mental health care rather than community and primary care (Sorsdahl et al., 2023). This imbalance extends to financial resources with most funds for mental health care in South Africa allocated to specialised hospital care (Docrat, Besada & Lund, 2019; Docrat et al., 2019).

Contrary to the findings from the 2016/2017 Western Cape research study (Mokitimi, Schneider & de Vries, 2018, 2022; Mokitimi et al., 2019, 2022), participants in this study felt that CAMH outpatient services were not available at the primary level. Services at the primary level were characterised as not age-appropriate, with children and adolescents seen alongside adults, and a lack of child-friendly equipment. Alarming, service providers did not believe there was access to essential psychotropic medications at the primary level. These findings may be attributed to inconsistencies between the South African Primary Healthcare Standard Treatment Guidelines and Essential Medicines List (South African National Department of Health, 2020a) and the National Mental Health Policy Framework and Strategic Plan 2023–2023 (South African National Department of Health, 2023). While the latter adopts the WHO optimal mix of mental health services pyramid, suggesting that uncomplicated mental disorders be managed at the primary level (South African National Department of Health, 2020a), the former, which outlines the scope of primary care services, advises that all children

and adolescents with a mental disorder be seen at the hospital level (South African National Department of Health, 2023).

Most statements related to leadership and governance in this study received neither agreement nor disagreement, suggesting a lack of knowledge of the CAMHSS policy environment by service providers. Seward and colleagues emphasised the need to involve all stakeholders in the co-production of solutions for health services and systems through participatory research (Seward et al., 2021). This ambiguity is concerning given that a lack of oversight and governance has been implicated as a reason for the poor prioritisation of CAMH and the poor implementation of CAMH policy (Mokitimi, Schneider & de Vries, 2022). However, it is in keeping with previous studies that have reported poor engagement of service providers by policymakers during policy development (Mokitimi, Schneider & de Vries, 2018).

Service providers identified several actions that could be prioritised to strengthen CAMHSS in South Africa. The three priority themes identified here - “CAMHS close to home”, “Competent MDTs across all levels and sectors,” and “CAMHSS is everybody’s business,” – maps well onto some of the areas that had been targeted for strengthening in other LMICs (Simelane & de Vries, 2021). Strengthening CAMHS at the lower levels of care using digital technologies, building the capacity of health workers including non-physicians through creative training courses, and establishing intersectoral programmes, are some examples of how other LMICs have translated similar priorities into action (Simelane & de Vries, 2021).

We acknowledge several limitations of this national survey. First, we used findings from the Western Cape to generate the ‘statements’ for the electronic survey. Relying solely on findings from one South African province may have restricted participants’ ability to offer diverse views on the national CAMHSS landscape. However, considering the significant resources required for a comprehensive national situational analysis, this study offered a rapid and pragmatic approach to assess whether regional findings aligned with the broader national context. Second, while efforts were made to ensure a nationally representative sample, the small sample size and single participants from some provinces significantly limits the generalisability of the findings. Nonetheless, the insights gathered reflect the experiences of key stakeholders, offering a meaningful starting point for understanding the broader CAMHSS landscape and represents the largest ever (and only) national survey on CAMHSS to date. Third, we acknowledge that the overrepresentation of participants from certain provinces (e.g. Western

Cape and Gauteng) could bias results. However, the participant numbers mirror the current distribution of CAMH practitioners in the country (with most service providers based in the Western Cape and Gauteng). Despite these limitations, the study represents the most extensive survey of service provider perspectives on the CAMHSS landscape in South Africa to date.

This study highlights the poor progress towards improving CAMHSS and the urgent need to transition from identifying problems to generating effective solutions to strengthen CAMHSS. As next steps, it is recommended that research 1) use participatory research methods to develop CAMHSS strengthening strategies with stakeholder buy-in, and 2) use implementation science methodologies to identify and adapt programmes that have worked in other settings with similarities to our own.

4.5. Conclusion

Despite the high burden of child and adolescent mental illness in South Africa, CAMHSS have seen little improvement over the past five years. We recommend urgent prioritisation of CAMHSS with a shift towards research that focuses on strengthening CAMHSS through participatory methods and the adaption of successful programmes from other settings.

4.6. Chapter summary

CAMHSS are crucial, especially in LMICs like South Africa, where the treatment gap for the mental health of children and adolescents is substantial. Regional studies have identified major deficits in CAMHSS in South Africa. However, it is not known whether previous findings are still relevant locally or nationally, and no national study has been performed to date to identify provider priorities for CAMHSS strengthening. This study aimed 1) to assess the relevance of the 2016/2017 Western Cape study findings to national service providers, and 2) to identify priorities from these participants to strengthening CAMHSS.

An electronic survey was conducted between January and November 2022 of CAMHSS providers using a Likert-scale questionnaire and open-ended question. The survey was based

on findings from a previous analysis conducted in the Western Cape. Responses were analysed using descriptive statistics and qualitative content analysis.

A total of 76 national participants from several sectors completed the survey. Participants endorsed 62.6% of findings from the Western Cape study, highlighting persistent challenges in CAMHSS. Service providers expressed concerns regarding the accessibility, equity, and quality of CAMH services, particularly at primary and secondary levels. Priority areas for improvement included the provision of quality CAMHS close to home, competent multidisciplinary teams, and recognising CAMHSS as a collective responsibility.

This was the first systematic national assessment of CAMH service provider perspectives on the state of CAMHSS in South Africa. Despite the high burden of child and adolescent mental disorders in the country, progress in CAMHSS development remains slow. Focusing on priority areas identified by service providers may direct strengthening efforts towards areas where they will have the most impact. Thus, the use of participatory research to coproduce a research agenda is recommended, along with implementation science approaches to adapt and implement successful interventions and programmes from other settings.

Chapter 5: A roadmap to strengthen child and adolescent mental health services and systems in the Western Cape: findings from a multi-level service provider Theory of Change process

5.1. Background

Globally, 10–20% of children and adolescents have mental and neurodevelopmental disorders (Belfer, 2008), and LMICs, where approximately 90% of the world's children live, bear a substantial proportion of this burden (United Nations, 2019). In sub-Saharan Africa, a review of community prevalence studies found that nearly 20% of children and adolescents scored above the cut-off values for being at risk of mental disorders on screening tools, with 10% diagnosed with specific mental disorders (Cortina et al., 2012). However, there are no nationally representative prevalence studies on the mental health of children and adolescents in any sub-Saharan African country, including South Africa (Cortina et al., 2012). Nonetheless, estimates from South Africa indicate a significant burden, with around 17% of children likely to have diagnosable mental disorders (Kleintjes et al., 2006).

Epidemiological studies in South Africa, focusing on community samples and specific age ranges, have found significant prevalence rates of mental health disorders among adolescents. For instance, a study in the Eastern Cape (n= 1526) reported a 10.9% prevalence of probable common mental disorders among adolescent mothers living with HIV (Roberts et al., 2022), while another study in the Western Cape (n=733) found that 57.7% of adolescents aged 15–18 showed symptoms of depression, 59.6% of anxiety, and 31.4% of post-traumatic stress disorder (PTSD) (Ward-Smith, Sorsdahl & van der Westhuizen, 2024). Additionally, a recent study of 621 adolescents in the Western Cape reported symptoms of depression in over 30% and of anxiety in over 20% (Mkhize, van der Westhuizen & Sorsdahl, 2024).

Despite recognition of the CAMH burden in South Africa, CAMHSS face significant challenges. As outlined in chapter 3, a narrative synthesis of CAMHSS research in South Africa exposed deficits across the six WHO health system building blocks: service delivery, the health workforce, information systems, access to medicines and technology, financing, and leadership and governance (Simelane et al., 2022). Although a policy guideline for CAMH had been available since 2003, it has not been implemented or developed further in any of the

nine provinces (Mokitimi, Schneider & de Vries, 2018). Additionally, the National Mental Health Policy Framework and Strategic Plan 2013–2020 (South African National Department of Health, 2013), recently superseded by the 2023–2030 version (South African National Department of Health, 2023), lacked clear guidance on provincial implementation plans, dedicated budgets, standardised training, and effective data collection and monitoring processes, resulting in minimal progress in CAMHSS (Simelane et al., 2022).

Chapter 4 described a national survey conducted in 2022 to explore the perspectives of service providers (n=76) on CAMHSS and revealed very little perceived progress in CAMHSS since 2003. Limited services and human resources were available at the primary and secondary levels compared with tertiary levels, and services were perceived to be of low quality. Service providers exhibited ambiguity regarding leadership and governance items, likely due to their low involvement in the policy development process. Taken together, there has been no meaningful engagement with existing policies, resulting in stagnation in national CAMHSS policy development and implementation over the past two decades (Simelane et al., 2022). Despite the introduction of new policies, successful implementation remains a concern, underscoring a broader systemic issue in translating policy intentions into tangible improvements in CAMHSS. The challenge of translating policy into practice is not unique to the health policy domain. In health research, there is typically a seventeen-year delay in integrating effective interventions into clinical practice and policy – a phenomenon known as the ‘evidence to practice gap’ (Morris, Wooding & Grant, 2011).

There have been growing calls to strengthen CAMHSS worldwide (Kieling et al., 2011; Simelane & de Vries, 2021; Babatunde et al., 2022) and an evaluation of such efforts in LMICs as outlined in Chapter 2 identified innovations that appear to strengthen CAMHSS, including financing, clinical services, human resources, intersectoral collaboration, public education, monitoring, research, and digital technologies (Simelane & de Vries, 2021). Notably, stakeholder buy-in was highlighted as crucial for translating these service strengthening innovations into effective policy and practice (Simelane & de Vries, 2021). Participatory research approaches such as Theory of Change (ToC) can help to promote stakeholder buy-in by engaging implementation actors throughout the research process, allowing them to be active co-producers of knowledge and providing a better understanding of how policies or evidence-based interventions will fit into real-world settings (Seward et al., 2021). ToC offers insights into how an implementation plan or programme is expected to achieve desired outcomes unlike typical

strategic plans that focus only on ‘what’ needs to happen (Barnett & Gregorowski, 2013). The formulation of a ToC typically occurs in a reverse fashion, starting with stakeholders agreeing on the intended impact and then working backwards to identify the necessary long- and intermediate-term outcomes (Barnett & Gregorowski, 2013). The pathways from one outcome to the next form the hypothesised causal pathways for change (Vogel, 2012; Breuer et al., 2014), with the final product referred to as a ‘programme theory’ or ‘ToC map’ (Seward et al., 2021). The other components of a ToC are shown in Table 5.1.

Table 5.1. Common terminology and definitions used in Theory of Change adapted from De Silva (2014)

Terminology	Definition
Impact	The broader, real-world change aimed at, which the programme contributes to but does not achieve alone.
Long-term outcome	The main outcomes directly altered by the programme, serving as the focus of the evaluation.
Intermediate outcomes	Necessary results of interventions required to ensure the causal pathway towards impact remains intact.
Ceiling of accountability	The point at which responsibility for outcomes is no longer measured or tracked.
Indicator	Metrics used to assess progress toward achieving outcomes.
Interventions	Components that make up the broader intervention.
Rationale	The underlying reasoning behind each step in the process, informed by evidence or experience.
Assumptions	External factors beyond project control that must be in place to achieve desired outcomes.

In this study, we set out to engage service providers from different levels of care in a ToC-based approach to develop a shared and clearly articulated plan for strengthening CAMHSS in the Western Cape province of South Africa. We chose the Western Cape as a case study for South Africa as it is the base for our clinical and academic activities. The Western Cape is one of South Africa’s nine provinces, with Cape Town as its capital and a population of 7.2 million, of which 2.2 million (30.6%) are under the age of 19 (Statistics South Africa, 2020). The Western Cape is better resourced in terms of specialist CAMH services compared with most other South

African provinces (Flisher et al., 2012). The study aimed 1) to identify a desired impact and hypothesised causal pathways, 2) to prioritise the most doable and most important outcomes, and 3) to determine indicators for prioritised outcomes. Due to the constraints imposed by the involvement of active clinicians, the workshops were limited to these specific objectives, and the other components of the ToC as outlined in Table 5.1 were not included in the workshops and were therefore beyond the scope of this study.

5.2. Methods

Setting

The study was conducted in the Western Cape province of South Africa between January and December 2022. The province includes the City of Cape Town – where two thirds of the population live – and five district municipalities (Division for Macro and Resource Economics, 2021). CAMH services in the Western Cape are divided into primary, secondary, and tertiary level. The primary level includes clinics and community health centres and is overseen by family physicians. The secondary level includes district and regional hospitals, and is overseen by general psychiatrists, while the tertiary level includes services at central and specialised hospitals overseen by child and adolescent psychiatrists.

Recruitment

Purposive sampling was used to recruit participants based on their availability and their active involvement as frontline clinical service providers in public mental health services in the Western Cape. Participants were recruited using an electronic survey invitation that was sent directly via email and contained an introductory message. The message contained a link to the full information sheet and consent form available on a secure, web-based, data capture software platform ‘Research Electronic Data Capture’ (REDCap), hosted at the University of Cape Town (Harris et al., 2009, 2019). Hard copies of the information sheet and the consent form were also made available at all ToC workshops.

Four distinct participant groups were targeted for recruitment and were recruited from different levels of care in the Western Cape, with most participants working in the City of Cape Town: Group 1. Mental health nurse practitioners were recruited from local community health

centres to represent the primary level. Group 2. District psychiatrists and family physicians were recruited from district and regional hospitals to represent the secondary level. Groups 3 and 4. Members of multi-disciplinary CAMH teams (including child and adolescent psychiatrists, psychiatry registrars, medical officers, occupational therapists, social workers, mental health nurse practitioners, and psychologists) were recruited from two specialist CAMH units to represent the tertiary level.

Theory of change workshops

The workshops were informed by the Theory of Change process described by Breuer *et al.* (2014) and consisted of two steps: 1) initial phase ToC workshops where individual ToC maps for each participant group were developed, and 2) refinement phase ToC workshops where each participant group refined their individual ToC map as well as a combined multi-level ToC map. Each workshop was moderated by a facilitator (the author) whose main role was to outline the state of CAMHSS in the Western Cape, introduce and describe the ToC approach, set out the objectives of the workshop, and moderate discussions. The author and supervisor co-facilitated one ToC workshop for Specialist Care Unit 1. Additionally, the author co-facilitated another ToC workshop at the primary care level alongside a senior researcher, who is also a mental health nurse coordinator.

Initial phase:

The initial phase consisted of one-day in-person ToC workshops. Recognising the constraints imposed by the active clinical commitments of participants, the workshops were strategically focused on specific objectives. These objectives encompassed defining the overarching impact, mapping out long-term and intermediate outcomes to formulate hypothesised causal pathways towards achieving the impact, prioritising two outcomes – deemed the most doable and important – and developing corresponding indicators for the prioritised outcomes.

Workshops lasted 3–5.5 hours.

Refinement phase:

Once a combined ToC map had been generated, ToC refinement workshops were held with participant groups. These sessions included presenting the individual ToC and the combined multi-level ToC map to each group to a) ensure that their ideas had been captured accurately, and b) ensure that their ideas had been accurately transferred onto the combined ToC map.

Changes were made to ToC maps using Microsoft PowerPoint in real time during the discussion. The refinement workshops were held online for the primary and secondary levels and were in-person for the two tertiary level units. The workshops lasted 1–2 hours.

Data collection

Participants were divided into smaller groups of four to five individuals to generate the ToC components—impact, long-term outcomes, and intermediate outcomes. Each group used sticky notes to capture ideas for each of these components. Subsequently, representatives from each small group presented their ideas, and the collective feedback was visually organised on flipcharts, grouping together similar concepts. The impact, long-term outcomes, and intermediate outcomes were refined collaboratively until consensus was achieved. These ToC components were transcribed and refined in real-time on flipcharts during the workshop sessions by the workshop facilitator. Each participant then selected the outcome that they perceived as the most doable and the most important using color-coded stickers. The small groups then reassembled to develop indicators for the prioritised outcomes. All workshops were audio-recorded, providing an additional layer of documentation.

Data analysis

Individual ToC maps, initially recorded on flipcharts, were transcribed into Microsoft PowerPoint. The impact and causal pathways from the individual ToC maps were then combined by two independent coders (the author and an independent second coder – a senior expert qualitative researcher). Microsoft PowerPoint was used to group similar outcomes from the individual ToC maps together, with the author and the second coder each developing a combined ToC map. Three consensus meetings were held between the author and the second coder to compare and refine their combined ToC maps. The author then combined the two combined ToC maps into a single combined multilevel ToC map and a final consensus meeting was held. The individual and combined multilevel ToC maps were presented to participants during refinement ToC workshops, where real-time feedback from participants was actively incorporated into the final consensus ToC maps.

Ethical considerations

This study was approved by the University of Cape Town Faculty of Health Sciences Human Research Ethics Committee (reference numbers: 188/2016 and 096/2023) (Appendices A and B). Consent forms were signed electronically or physically. While participation in the workshops was not anonymous, participants were asked to maintain confidentiality regarding the information discussed. Each participant was automatically allocated a number on REDCap. For data analysis, all data were pseudonymized to protect participant identities.

5.3. Results

Participant characteristics

The ToC workshops included a total of 41 participants. The characteristics of the workshops and participants are shown in Table 5.2. Eight participants represented the primary care level, eight represented secondary care level, and twenty-five represented tertiary care level. The participant groups represented a wide range of healthcare provider expertise with a total of twelve mental health nurses, six clinical psychologists, five child and adolescent psychiatrists, five general psychiatrists, four psychiatry registrars (training to become psychiatrists), four family physicians, two medical officers, two occupational therapists and one social worker.

Table 5.2. Workshop and participant characteristics

	Stakeholder group	Duration	Types of expertise	Number of participants
Primary level	Mental health nurse practitioner	4 hours	Mental health nurse	8
Secondary level	District specialists	3 hours	Family physician	4
			District psychiatrist	4
	Specialist multidisciplinary team ¹	5.5 hours	Psychologist	4
			Child and adolescent psychiatrist	3
			Registrar	2
			Mental health nurse	1
Tertiary level		3 hours	Psychologist	2

	Specialist multidisciplinary team 2		Child and adolescent psychiatrist	2
			General psychiatrist	1
			Medical officer	2
			Registrar	2
			Occupational therapist	2
			Social worker	1
			Mental health nurse	3
Total number of participants				41

ToC Maps

The results from the four individual ToC workshops and the combined multilevel ToC map are presented in this section. Each map illustrates the impact, long-term outcomes, and intermediate outcomes, with each outcome represented by an individual box. Green stars indicate the outcomes chosen as the most doable, while red stars highlight the outcomes selected as the most important. Solid lines connect outcomes within the same causal pathway, showing the sequential direction of progress, with different colours representing various pathways. Dotted lines link outcomes from different pathways that are interconnected. A dotted line labelled “ceiling of accountability” marks the boundary beyond which CAMHSS strengthening alone cannot achieve the desired impact.

Individual ToC Maps

In the primary care ToC (figure 5.1), mental health nurse practitioners described long term impact as, “Accessible and inclusive CAMH services that empower children and caregivers with well-trained multidisciplinary teams that offer age-appropriate, comprehensive services that are well-integrated in the community.” Long-term outcomes identified included welltrained teams, inclusive schools, digitised services, easily accessible facilities, and partnerships with NGO and civil society groups. Participants selected the availability of training that is frequent, scheduled, and discipline specific for multidisciplinary teams as their most doable outcome, and well-trained multidisciplinary teams as their most important outcome.

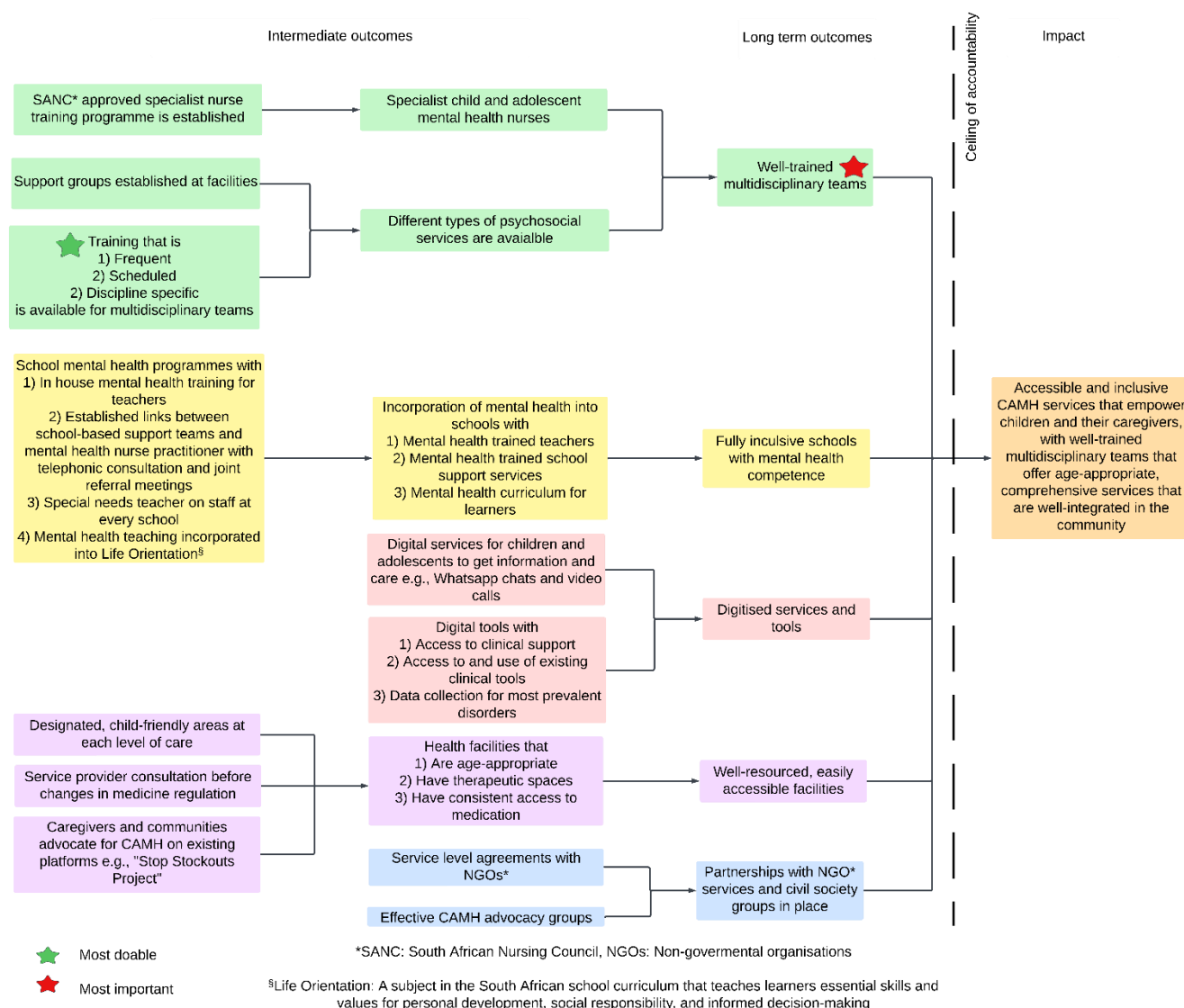


Figure 5.1. Primary care ToC map generated in this study

At the secondary care level (figure 5.2), participants described their impact as “Clearly defined, dedicated and uniform CAMH services and systems that promote healthy children, families and communities through services that are embedded in the community with clinical governance oversight.” Desired outcomes included uniform CAMH programmes, separate child and adolescent services, intersectoral collaboration, and clinical governance roles with authority for decision making. Level two participants prioritised realistic, pragmatic and severity-based referral protocols with managerial buy-in as their most doable outcome. Mental health multisectoral clinical governance roles at the substructure and provincial levels was selected as the most important outcome.

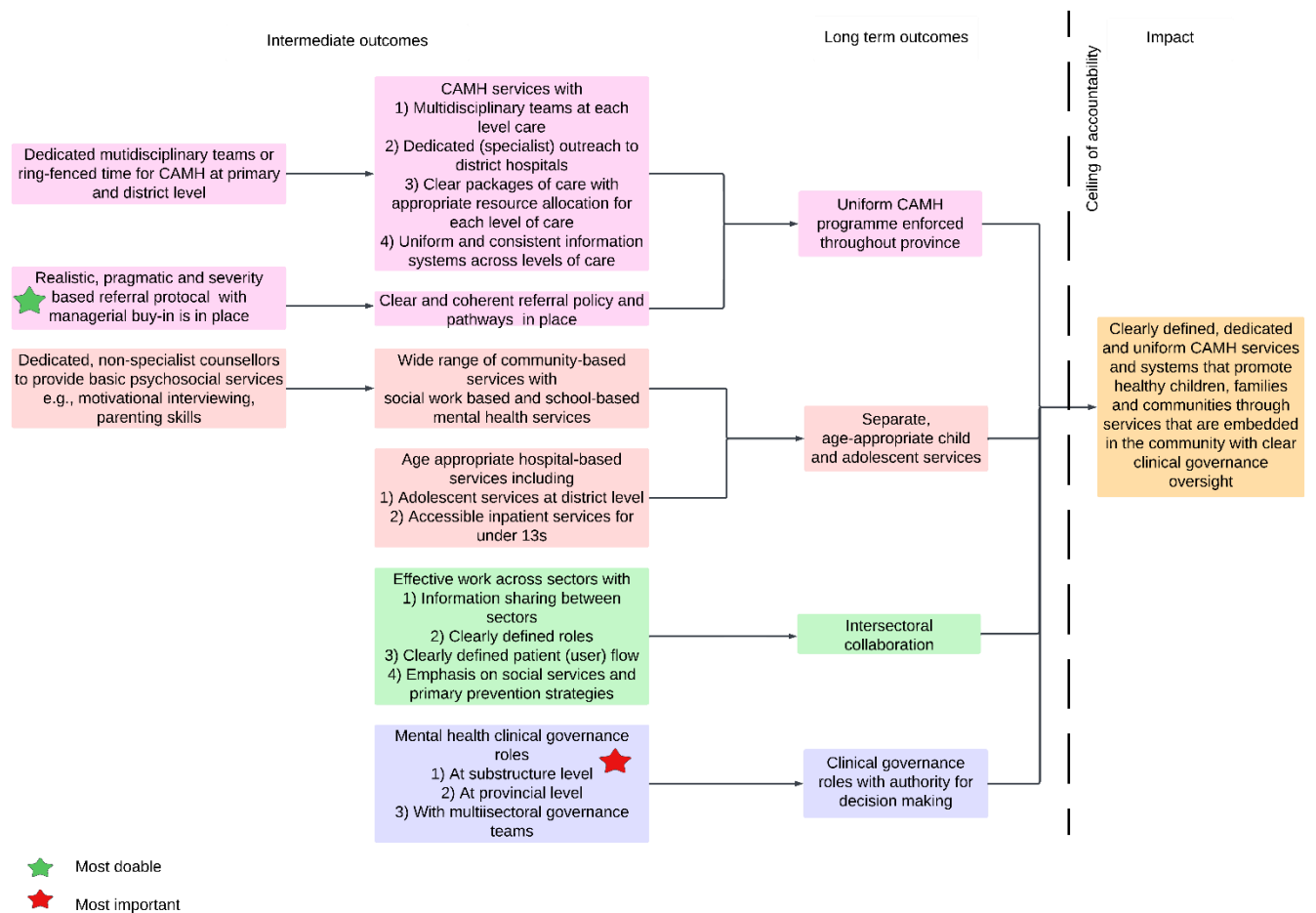


Figure 5.2. Secondary care ToC map generated in this study

Tertiary care unit 1 (figure 5.3) described their desired impact as, “Integrated, effective, efficient, values-driven and person-centred CAMH services and systems responding to the needs of the communities we serve.” Desired outcomes encompassed international expertise centres, staff well-being, integrated services, infrastructure, governance, and community mental health awareness. They selected tertiary units with high impact academics as their most doable outcome, and integrated clinical services and systems as their most important outcome.

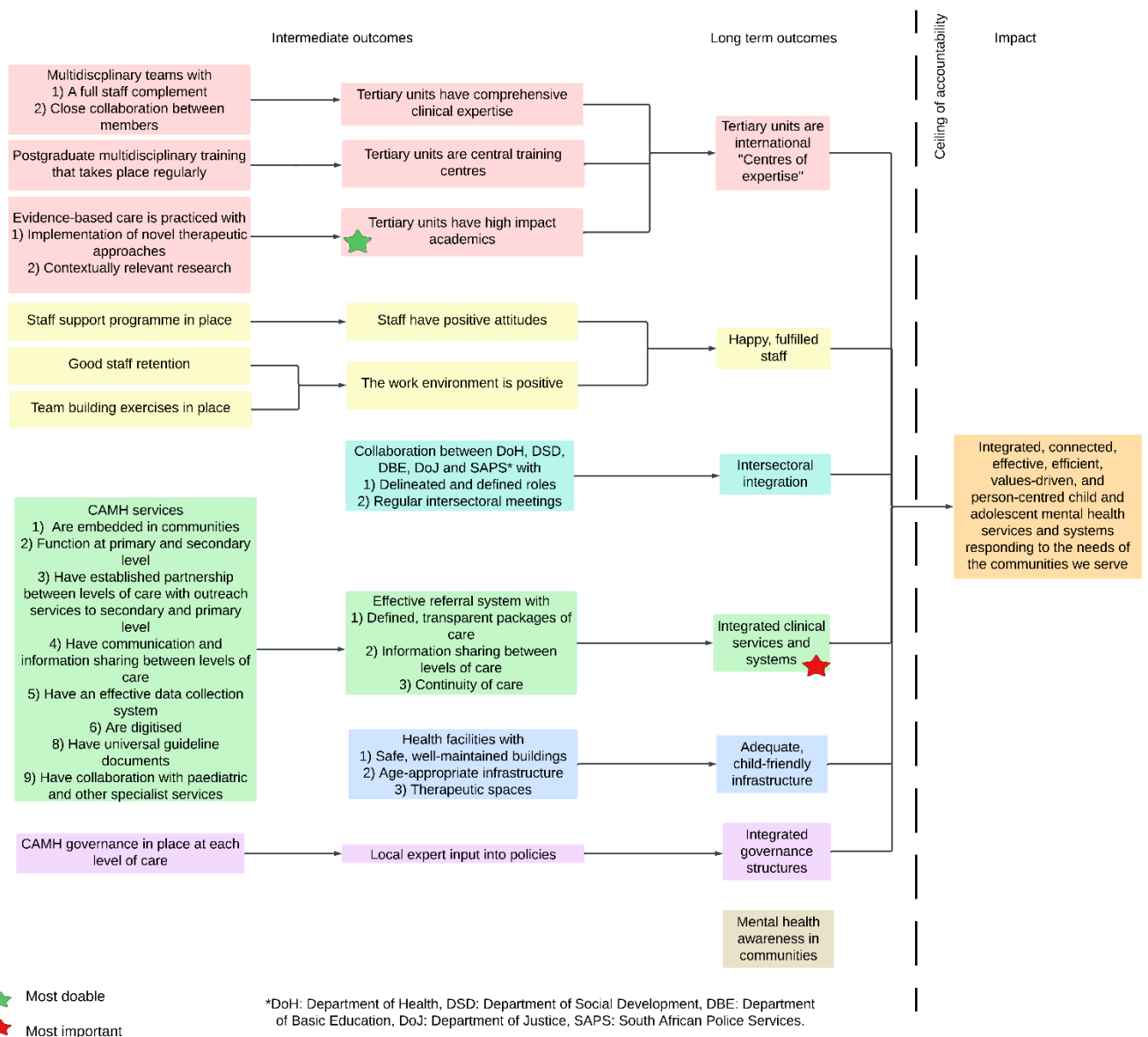


Figure 5.3. Tertiary care unit 1 ToC map generated in this study

The desired impact articulated by Tertiary care unit 2 (figure 5.4) was “Comprehensive, holistic, transparent, and integrated CAMH services across different levels of care with services and infrastructure that are modern, responsive and well-suited to the unique needs of children and adolescents.” Long-term outcomes included integrated specialist services, advocacy, intersectoral collaboration, and stakeholder engagement for funding support. They selected accessible wellness programmes for staff as their most doable outcome. Hybrid outreach services that are flexible, with specialist teams embedded at the primary care level, and a platform for supervision, was prioritised as their most important outcome.

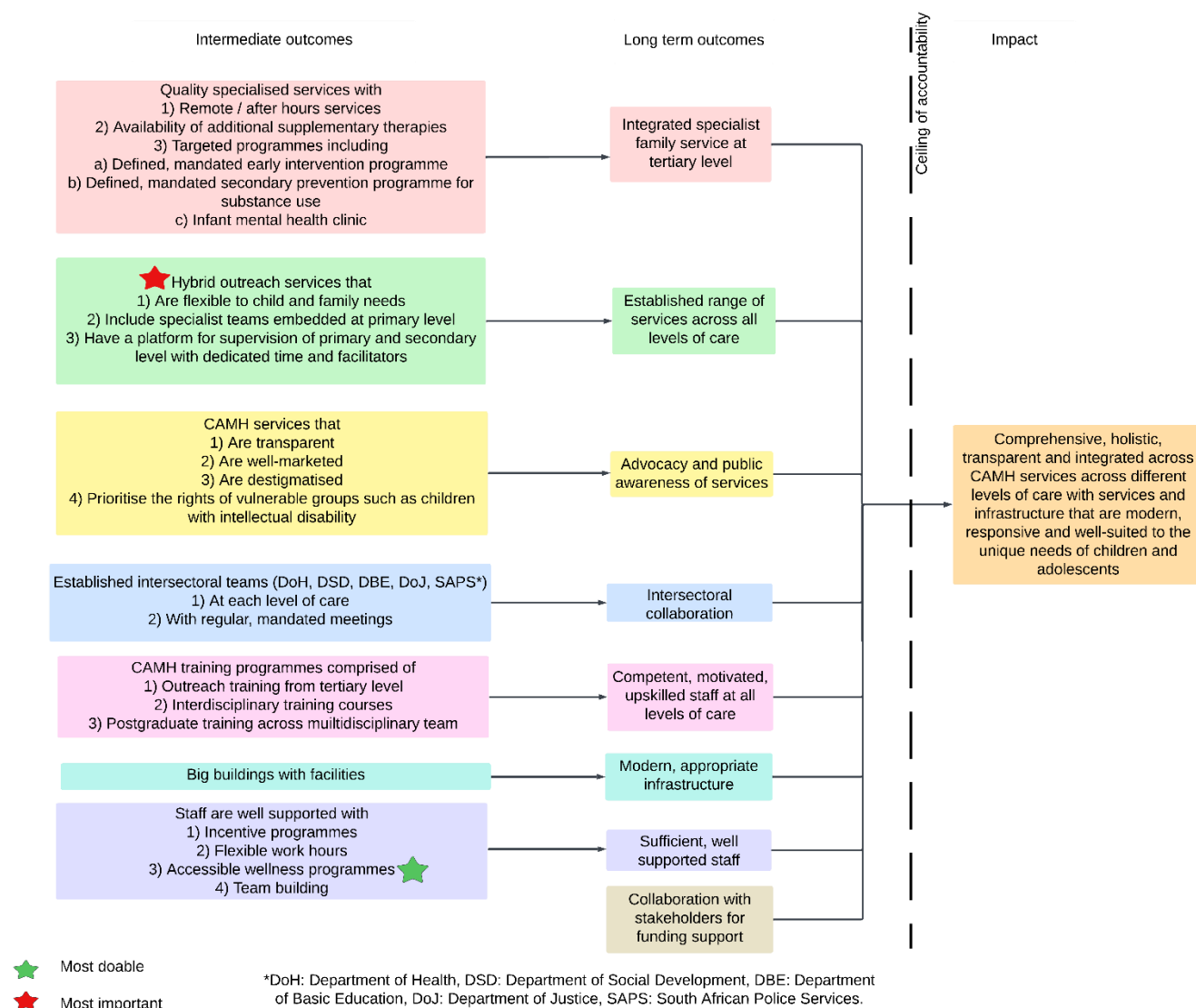


Figure 5.4. Tertiary care unit 2 ToC map generated in this study

Combined multilevel ToC Map

The combined ToC map is presented in figure 5.5. The impact was defined as, “High-quality, accessible, inclusive, comprehensive, and integrated CAMHSS that prioritises the well-being of children, adolescents, caregivers, and their communities.” The long term outcomes for each hypothesised causal pathway were: 1) public CAMH advocacy, 2) political and managerial buy-in across sectors, 3) embedding CAMH within the Department of Social Development (DSD) and the Department of Education (DOE), 4) full complement of competent, well-supported multidisciplinary teams across all levels of care, 5) safe, ageappropriate, and well-resourced facilities, and 6) high-quality, standardised CAMH services and care pathways across all levels of care.

The ToC was organised into six hypothesised causal pathways for change: 1) CAMH awareness and advocacy, 2) political buy-in across sectors, 3) intersectoral collaboration, 4) care provision and care pathway, 5) enhanced capacity building, and 6) appropriate infrastructure.

Participants prioritised outcomes in the “care provision and care pathway”, “enhanced capacity building,” and “political buy-in across sectors” hypothesised causal pathways. Prioritisation at the primary level was focused on enhancing training opportunities and increasing staff competency, while secondary level priorities included implementing referral protocols and establishing clinical governance. Tertiary-level priorities emphasised academic engagement and service quality improvement. There were notable differences between units within the tertiary level, with Unit 1 prioritising academic output and evidence-based interventions, while Unit 2 prioritised staff well-being and outreach services. The key indicators identified for each prioritised outcome are shown in Table 5.3.

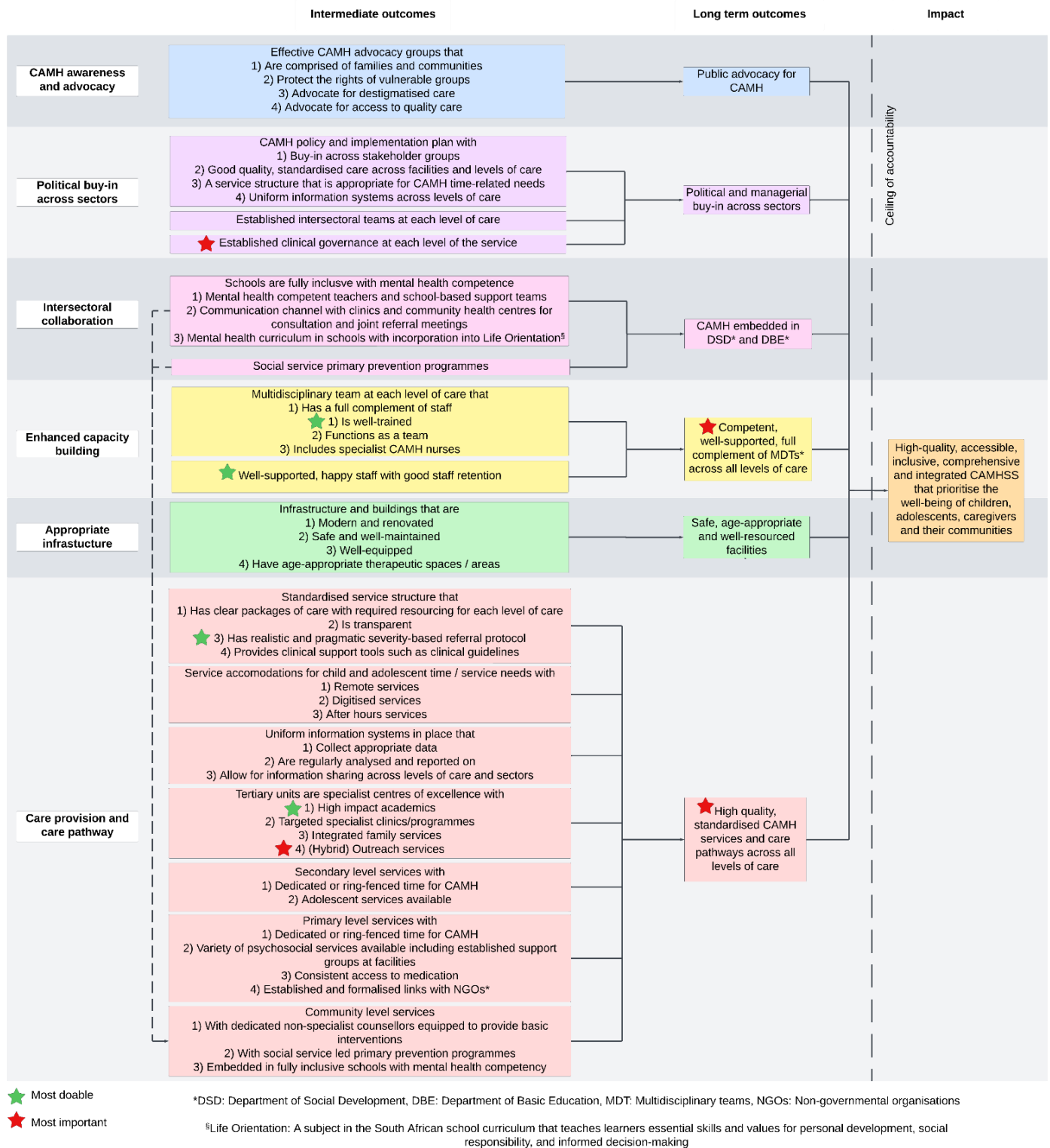


Figure 5.5. Combined multilevel service provider CAMHSS strengthening ToC map generated in this study

Table 5.3. Indicators for prioritised outcomes

Level of care	Prioritised outcome		Indicators
Primary level	Most doable	Multidisciplinary teams at each level of care that are well trained	1. A percentage increase in the number of referrals to mental health services from members of the multidisciplinary team measured annually. An increase in the absolute number of CAMH training sessions measured annually. 3. A percentage quarterly increase in the number of people attending and completing CAMH training measured quarterly. 4. An absolute increase in the variety of training formats conducted per year
	Most important	Competent multidisciplinary team across each level of care	1. An increase in the percentage of multidisciplinary team members meeting predefined competency standards measured annually. 2. An increase in the overall satisfaction rating in post-training surveys measured after each training session. 3. A percentage decrease in the number of predefined errors and incidents per facility measured quarterly. 4. An absolute increase in the number certifications or accreditations available for CAMH in South Africa measured annually.
Secondary level	Most doable	Realistic, pragmatic and severity-based referral protocol with managerial buy-in is in place	1. A percentage decrease of inappropriate referrals measured quarterly. 2. A percentage decrease of unscreened/ unassessed referrals measured quarterly. A percentage increase in positive feedback from referrers about referral process measured quarterly. 4. An absolute decrease in referral processing time measured annually.
	Most important	Established clinical governance at each level of the service	1. Development of clinical governance structures at each substructure/district and provincial level within a predefined timeline.

			2. An increase in the rate of compliance to clinical policy and protocols measured annually. 3. Establishment and maintenance of a minimum participation rate e.g., representation of at least 80% of relevant sectors measured annually.
Unit 1 Tertiary level	Most doable	Tertiary units have high impact academics	1. A percentage increase in publications by tertiary unit staff in reputable journals measured annually. 2. A percentage increase in academic conference presentations measured annually. 3. An absolute increase in the number of projects involving the tertiary unit's focus areas measured annually. 4. An absolute increase in the number of internal training sessions conducted annually. 5. An absolute increase in the number of publications showing evidence of delivering manualised, adapted, evidence-based interventions measured annually.
	Most important	High quality, standardised CAMH services and care pathways across all levels of care	1. A percentage increase in documented services and innovations measured annually. 2. A percentage increase in patient devolution or discharge measured annually. 3. A percentage increase in the use of electronic continuity of care instruments measured quarterly. 4. A percentage increase in staff accessing and using electronic instruments measured annually.
Unit 2 Tertiary level	Most doable	Well-supported, happy staff with good staff retention	1. A percentage increase in staff retention rates measured annually. 2. An absolute reduction in the number of unfilled staff positions measured quarterly. 3. An increase in overall staff work satisfaction ratings measured annually. 4. A percentage decrease in staff absenteeism rates measured annually.

	Most important	Hybrid outreach services that 1) Are flexible to child and family needs 2) Include specialist teams embedded at primary level 3) Have a platform for supervision of primary and secondary level with dedicated time and facilitators	1. A percentage increase in measurement of service user/client experience of service adaptability measured annually. 2. An increase in overall service user satisfaction ratings measured annually. 3. Meet a minimum percentage of primary level facilities with embedded specialist teams. A percentage increase in the use of existing 4. clinical supervision tools.
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5.4. Discussion

In this chapter, we set out to co-produce a ToC map to inform strengthening of CAMHSS in the Western Cape province of South Africa. A total of 41 multi-disciplinary service providers from primary, secondary, and tertiary levels of care participated in the workshops. The ToC process yielded a comprehensive map outlining six hypothesised causal pathways for change in CAMHSS, with a focus on CAMH awareness and advocacy, intersectoral collaboration, political buy-in across sectors, enhanced capacity-building, appropriate infrastructure, and care provision and care pathway improvement. Outcomes were prioritized in the “political buy-in across sectors,” “care provision and care pathway,” and “enhanced capacity building” pathways. By systematically delineating pathways for change and identifying priorities and indicators, our study provides a valuable framework for guiding future interventions and evaluations aimed at enhancing CAMHSS in the Western Cape.

CAMH awareness and advocacy could enhance service uptake and influence the prioritisation and resourcing of CAMH services in South Africa, similar to the mobilisation seen in the Treatment Action Campaign for HIV/AIDS. Through public education, demonstrations, and legal action, this campaign successfully reduced the price of ARV medications and compelled the allocation of additional resources to combat HIV within the healthcare system (Heywood, 2009). Currently, child and adolescent mental disorders are not included in South Africa's prescribed minimum benefits list for private health insurance (Discovery Health Medical

Scheme, 2021), which services 16% of the population (South African National Department of Health, 2020b), and although the newly adopted National Health Insurance (NHI) Act 20 of 2023 makes mention of the provision of mental health services in schools for minors, there is no detailed plan for how this will be implemented (Children's Institute, 2019; South African Government, 2019). Urgent attention is also required for appropriate infrastructure, as the current practice of grouping children and adolescents with adults in primary care settings poses risks, such as a recent incident of rape of a minor by an adult in a Western Cape hospital (Petersen, 2021). Effective intersectoral collaboration is essential for CAMHSS, with the necessary intersections between health, education, social development, and justice sectors. Challenges in intersectoral collaboration in LMICs were emphasised by Simelane and de Vries, who stressed the importance of clear goals, roles, and responsibilities for success (Simelane & de Vries, 2021).

Priorities at the primary level

Participants prioritised enhancing training opportunities and the competency of the multidisciplinary team. CAMH was highlighted as a priority area in the recently published National Mental Health Policy Framework and Strategic Plan 2023–2030, specifying that CAMH disorders should be detected and managed at the clinic and community level (South African National Department of Health, 2023). Substantial capacity-building of primary care clinicians, such as nurses, will be required to achieve this goal. The indicators identified by participants in this study may be very useful for monitoring any training that is developed and implemented.

In Uganda, a successful approach involved starting a programme where multidisciplinary health workers from rural districts were trained centrally and equipped to train others in their area, thus becoming champions for CAMHSS in their community (Rukundo et al., 2020). The mental health competency framework developed by the Academy of Science of South Africa (2021) was recently adapted to include competencies for CAMH as part of a CAMHS strengthening project commissioned by the Western Cape Department of Health and Wellness (Academy of Science of South Africa, 2021). Although unpublished, this adapted framework could be used to guide the development of training curricula to ensure they are competency-based. Additionally, existing interventions like the WHO mhGAP could potentially be adapted

for training and clinical support of non-specialists at the primary level (World Health Organization, 2016). In fact, the Practical Approach to Care Kit (PACK) Child guideline, recently published in the Western Cape, incorporates clinical guidelines from the mhGAP with local expert input to create a contextually relevant guideline. However, this is currently only available in one South African province (Knowledge Translation Unit, 2023).

Priorities at the secondary level

Participants noted a presence of corporate governance but highlighted the absence of clinical governance to oversee CAMH service quality, particularly at primary and secondary levels. Clinical governance is defined by the South African Health Systems Trust as a framework aiding managers and clinicians in continuously improving service quality and safeguarding standards of care (Connell, 2014). The call for better governance at each level aligns with the National Mental Health Policy Framework (NMHPF), which calls for multidisciplinary district mental health teams to oversee clinical services (South African National Department of Health, 2023).

Simelane and colleagues have advocated for district CAMH teams, supporting this approach (Simelane et al., 2022). A lack of clear referral protocols poses a major challenge in CAMHSS in South Africa. The country has adopted the WHO optimal mix of health services, ranging from community to hospital level (World Health Organization, 2008b). This stepped care approach is crucial for resource-limited settings, providing more affordable, lower intensity care for the majority with uncomplicated mental disorders (Funk et al., 2004). Currently, national guidelines recommend referring all children and adolescents with mental disorders to hospital-level psychiatrists, despite a shortage of psychiatrists in the country (South African National Department of Health, 2020b).

Priorities at the tertiary level

Participants emphasised the importance of supporting staff well-being. There is limited research focusing on mental health care workers' well-being in South Africa. Previous studies reported that burnout and stress can detrimentally affect their performance (Selamu et al., 2019; Payne et al., 2020; Weir, Ramano & Balbadhur, 2024). Integrating self-care into clinical training programmes and routine quality assurance monitoring at facilities may be useful to

address this. Both units prioritised improving service provision, and hybrid outreach services where CAMH specialist teams from tertiary units provide direct specialist services and supervise patient care at primary and secondary level facilities. This aligns with the district CAMH team model proposed by Simelane and colleagues (2022) (Simelane et al., 2022).

Some researchers have advocated for a collaborative care model for mental health service delivery in South Africa in the context of integrated management of mental illness for adults (Petersen, Bhana, et al., 2019; Petersen et al., 2021, 2022). This would include the restructuring of roles and introducing a team-based approach (Marthani, 2024). A recent systematic review of collaborative care model implementation in South Africa identified strategies for improvement, including resource redirection, role formalisation, communication enhancement, and training. Developing impactful academics is crucial for context specific CAMH research (Marthani, 2024). In Uganda, a fellowship programme was developed in partnership with a university in a high-income country to increase researchers with expertise in implementation science and mental health (Ssewamala et al., 2021). Similar targeted programmes may help to shift the focus of tertiary units away from solely clinical aspects towards incorporation also of clinically-relevant active research.

Important next steps include mapping existing strengthening activities onto this ToC map and aligning outcomes and indicators to work towards achieving the impact. In addition to this, outcomes identified in this ToC map may be used to design novel interventions or to identify suitable interventions from the literature, which may be adapted to the South African context. Scalable systems strengthening interventions should be targeted, e.g., the adaptation and use of clinical support tools such as the WHO mental health Gap Action Programme (mhGAP) intervention guide (World Health Organization, 2016). Implementation science constructs such as feasibility, acceptability, and appropriateness should be used to assess potential interventions early on to determine their implementability and scalability (Weiner et al., 2017).

Study limitations

The study had several limitations. First, it focused exclusively on healthcare professionals, despite acknowledging that CAMHSS is a multisectoral endeavour. The rationale for this approach was to gain insights into the healthcare sector's perspectives on strengthening

CAMHSS and ensuring consensus among them before involving other sectors, preventing potential confusion. Second, the study did not include any mental health care users, who are arguably the most critical stakeholders. However, engaging with those who will be responsible for driving implementation was a crucial first step given the low public awareness of CAMHSS. Third, most participants were from urban settings, with an underrepresentation of rural populations and services. Nevertheless, it was essential to gain an understanding of metropolitan services, as most of the Western Cape population resides in Cape Town. Lastly, we acknowledged in the methods section the study did not fully adhere to all the steps for developing a comprehensive ToC – interventions, assumptions, and rationales for the ToC were not identified. However, by establishing impacts, outcomes, pathways for change, priorities, and associated indicators, a necessary blueprint for advancing the strengthening activities was created within the time and resources available to us.

5.5. Conclusion

The ToC maps generated in this study represent the first such maps co-produced with service providers to strengthen CAMHSS in a South African province. The integrated ToC map provides a ground-up, practical roadmap for enhancing CAMHSS, addressing the urgent need for accessible and comprehensive mental health support for children and adolescents. We hope that by involving active healthcare providers, the ToC workshop process incorporates real-world experiences of key implementation actors and has an increased likelihood of achieving service provider buy-in. These insights may be used to design and evaluate CAMHSS strengthening efforts in the Western Cape and other South African provinces.

5.6. Chapter summary

Globally, 10–20% of children and adolescents suffer from mental and neurodevelopmental disorders, with LMICs bearing much of this burden. In South Africa, CAMHSS face significant challenges despite the high prevalence of these disorders. The lack of policy implementation has hindered progress, necessitating stakeholder-informed, contextually relevant solutions. This study engaged service providers across different levels of care in a ToC approach to collaboratively develop a plan for strengthening CAMHSS in the Western Cape, focusing on identifying desired outcomes, prioritising key outcomes, and determining relevant indicators.

A series of ToC workshops were conducted between January and December 2022 in the Western Cape province, targeting mental health service providers across primary, secondary, and tertiary levels of care. Participants were purposively sampled, and the ToC workshops were conducted in two phases: 1) initial workshops to develop individual ToC maps for each level of care, which were then combined using thematic analysis, and 2) refinement workshops to refine the combined multilevel ToC map.

The study included 41 participants and four individual ToC maps were developed: one for the primary level, one for the secondary level, and two for the tertiary level. The combined multilevel ToC map identified six hypothesised causal pathways: 1) CAMH awareness and advocacy, 2) political buy-in across sectors, 3) intersectoral collaboration, 4) care provision and care pathways, 5) enhanced capacity-building, and 6) appropriate infrastructure. Participants prioritised outcomes in the “care provision and care pathways,” “enhanced capacity building,” and “political buy-in across sectors” pathways, with indicators developed for each prioritised outcome.

The ToC maps generated in this study, co-produced with service providers, offer a practical roadmap for strengthening CAMHSS in a South African province. By incorporating real-world experiences, these maps hold promise for designing and evaluating CAMHSS strengthening efforts in the Western Cape and beyond.

Chapter 6: Evaluating the ‘fit’ of the Mental Health Gap Action Programme Intervention Guide (mhGAP-IG) to strengthen Child and Adolescent Mental Health in South Africa

6.1. Introduction

The mental health ‘treatment gap’, defined as the difference between individuals in need of mental health care and those who receive it, is a pressing issue worldwide (Kohn et al., 2004). In South Africa, a community-based study conducted in the Western Cape province showed that only one in ten children and adolescents who required mental health care were able to access it, revealing a staggering 90% mental health treatment gap (Mokitimi, Schneider & de Vries, 2022). In Chapters 4 and 5 of this thesis, we outlined participatory processes conducted with South African CAMH service providers to identify priority areas for strengthening of CAMHSS. In Chapter 4 (a nationwide survey of 76 CAMH service providers across the nine provinces in South Africa), participants prioritised 1) quality CAMH services close to home, 2) competent multidisciplinary teams (MDTs) across all levels and sectors, and 3) making sure that CAMHSS is ‘everyone’s business’ (i.e., not only seen as the responsibility of the health sector and/or tertiary levels of health care, but as the intersection of multiple sectors and requiring increased public awareness). In Chapter 5 (the co-production of a ToC map to strengthen CAMHSS in the Western Cape province), participants prioritised three key themes: 1) care provision and care pathway, 2) enhanced capacity-building across levels of care, and 3) the need for political buy-in across sectors. Taken together, national and Western Cape stakeholders placed a strong emphasis on the need for CAMH services in the communities where children and adolescents live, and on the need to strengthen those services. Integration of data, therefore, clearly pointed to primary care as the priority level for CAMH service strengthening. The ToC map generated by primary level clinicians (see figure 5.1, Chapter 5) solely prioritised “enhanced capacity-building”, indicating a strong need for tailored training, skill development, and resources to providers at primary care level.

Given the vast treatment gap for CAMH in South Africa and the prioritisation of primary care CAMH service strengthening identified in our earlier studies, it is important to consider the potential ‘fit’ of existing tools within local contexts. In the South African public sector, the guidelines for the identification and treatment of CAMH are the Standard Treatment

Guidelines (STGs) and Essential Medicines List (EML) (South African National Department of Health, 2017, 2020a). The primary care level STGs state that *any* child or adolescent presenting with *any* mental disorder should be referred to the next level of care to be assessed by a psychiatrist (South African National Department of Health, 2020a). No further details are provided about any evaluations or interventions that can or should be performed at primary care or prior to referral to secondary or tertiary levels of care (South African National Department of Health, 2020a).

Considering that there are only 0.31 psychiatrists per 100,000 of the uninsured population in South Africa, and no more than 15 child and adolescent psychiatrists in the public sector nationally, it is not feasible for all children and adolescents with mental disorders to be seen by a specialist (or subspecialist), regardless of the severity of their condition (South African National Department of Health, 2020b; Simelane et al., 2022). Therefore, it is essential to identify and evaluate potential tools that can be used to strengthen services at the primary care level so that children and adolescents can be assessed and managed close to where they live. This approach aligns not only with the participant findings from the nationwide survey (Chapter 4) and ToC (Chapter 5) conducted in this thesis, but also with the South African National Mental Health Policy Framework and Strategic Plan, which calls for child and adolescent mental health to be prioritised, for mental health to be integrated into primary care, and for task-sharing so that non-specialists can provide high-quality mental health care at the primary level (South African National Department of Health, 2023).

The WHO Mental Health Gap Action Programme (mhGAP) was developed by the World Health Organization (WHO) to expand services for mental, neurological, and substance use disorders, particularly in LMICs (World Health Organization, 2008b). Central to mhGAP is an Intervention Guide (mhGAP-IG), developed to facilitate the management of mental disorders in nonspecialist healthcare settings (World Health Organization, 2016). Launched by the WHO in 2010, with version 2.0 released in 2017, the mhGAP-IG offers evidence-informed guidance for the assessment and integrated management of priority mental, neurological, and substance use disorders in LMICs, targeting primary healthcare providers and facilitating service scaleup (World Health Organization, 2016). The mhGAP-IG includes various modules covering priority disorders, including a mhGAP-IG child mental health (CMH) module, specifically addressing mental and behavioural disorders in children (World Health Organization, 2016).

The mhGAP-IG is comprehensively laid out and guides clinicians through the assessment and bio-psycho-social management of patients (World Health Organization, 2016). Rather than focusing on specific disorders, the guide uses a problem/presentation-based approach that focuses on the clinical manifestations that bring a child to the clinic e.g., extreme irritability/anger. It guides the clinician through an algorithm with specific questions to ask, and signs/symptoms to look for (World Health Organization, 2016). The clinician is led through a decision tree that helps them arrive at a diagnosis, followed by a comprehensive set of protocols for managing each condition and determining when to refer (World Health Organization, 2016). The CMH module covers a core group of presentations including behavioural, developmental, and emotional disorders (World Health Organization, 2016).

A review of the literature did not identify use of the mhGAP-IG in any high-income countries, which is unsurprising given that it was designed for low-resource settings. In a systematic review of the use of the mhGAP-IG, Keynejad and colleagues (2021) identified 162 papers representing 155 studies, all from LMICs (Keynejad, Spagnolo & Thornicroft, 2021). Even though 40% of the studies included in their review were from sub-Saharan Africa, only ten studies included children and adolescents, and these did not necessarily focus on the CMH module. As part of the review, the potential barriers and facilitators to implementation of the mhGAP-IG were sought. Health worker collaboration and leadership were identified as facilitators, while resistance, time constraints and workload, stigma, cultural misunderstandings and mistrust of informal health providers were identified as barriers.

In a systematic review of the mhGAP-IG focusing on child and adolescent mental health in LMICs, Petagna and colleagues identified only twelve studies for evaluation (Petagna et al., 2022). These included three controlled trials (randomised and non-randomised), eight cohort studies, and one qualitative study. Six of the 12 studies were conducted in sub-Saharan Africa, and results showed increased knowledge among providers and enhanced access to care through the use of the mhGAP-IG (Petagna et al., 2022). For example, in a randomised controlled trial conducted in Uganda with 36 clinics, there was no significant difference between the intervention and control groups in the primary outcome — the percentage of facilities identifying at least one child or adolescent with a mental health condition. However, for a secondary outcome, primary health care providers in the intervention group (trained in the mhGAP-IG CMH module) were significantly more likely to identify and report a diagnosis of a child or adolescent mental disorder compared with those in the control group (Akol et al.,

2018). In Kenya, training caregivers with the mhGAP-IG CMH module led to a significant increase in the reporting of mental health symptoms in their children six months post-psychoeducation (Mutiso et al., 2021).

To date, none of the studies on the mhGAP-IG have evaluated the acceptability, appropriateness, or feasibility of the CMH module. According to Weiner et al. (2017), acceptability refers to the perceived satisfaction and approval of an intervention by its intended users, feasibility concerns the practicality and ease of implementing the intervention within a given context, and appropriateness refers to the perceived fit and relevance of the intervention for the specific needs and settings it aims to address (Weiner et al., 2017). This knowledge gap is significant because understanding these factors is crucial for ensuring that the CMH module is effectively integrated into local settings and meets the needs of end-users.

Thus, there is an urgent need to identify acceptable, appropriate, and feasible evidence-informed tools that could be used by primary care staff to guide assessment, intervention, and referral. A suitable tool could be a powerful capacity-building mechanism to strengthen CAMHS at primary care. However, many implementation questions need to be examined to determine its likely sustainability and scalability in context. This study, therefore, set out to address this gap by assessing 1) service provider perspectives on the acceptability, appropriateness, and feasibility of the mhGAP-IG CMH module to strengthen CAMHS at the primary level in the Western Cape, and 2) provider recommendations for potential adaptations of the module to improve the contextual 'fit' of the tool.

6.2. Methods

Study design

A qualitative study was conducted with service providers in one substructure of the City of Cape Town, located in the Western Cape province of South Africa. The specific substructure was pre-selected given that it was the base of the provincial CAMH coordinator and had a mental health nurse coordinator.

Recruitment, study setting, and study population

Purposive sampling was used to recruit two key stakeholder groups – primary-level service providers and mental health nurses. All participants were recruited from the public sector in the Khayelitsha Eastern substructure, a high-density ‘township’ area of Cape Town. Permission was sought from the Western Cape Department of Health and Wellbeing to invite staff at primary care facilities in the substructure to participate. The request was forwarded to all primary care facilities in the substructure where facility managers decided whether their facilities could participate. In consultation with staff, facility managers identified staff to join research meetings and determined when research meetings would be held in order to ensure the ongoing functioning of primary care sites. Once facilities agreed to participate, research sessions were arranged with the facility managers. During the first meeting, the study was explained to potential participants, and informed consent was obtained by the author (Appendix G). Focus group discussions for primary care facilities were held over three one-hour sessions.

Mental health nurse practitioners in the substructure were invited to participate by the mental health nurse coordinator via email. The research session was held during their prescheduled weekly meeting, and those interested in participating attended on the date provided by the researcher. At the meeting, the study was explained by the author, and informed consent was obtained. The focus group discussion with the mental health nurse practitioners was conducted over a single two-hour session.

Data collection

Data were collected between June and October 2023 during focus group discussions (FGDs). Information sheets detailing the study, and consent forms were provided during the first meeting with each focus group, and participants signed consent before engaging in FGDs. FGDs were led by the author in a private space identified by the facility manager. All FGDs were audio-recorded, and field notes were taken during and after the sessions. Sessions lasted between 60 to 120 minutes and were conducted in English, the language of professional communication in South Africa. Prior to FGDs, each participant’s proficiency in English was confirmed.

Each consenting participant was given a colour-printed A5 booklet of the mhGAP-IG introduction and CMH modules. The author began by providing a detailed overview of the introductory module, explaining how the tool is structured and used while referring to the booklet with participants following along. This was followed by a detailed review of the CMH module, highlighting its contents. To further aid understanding, the author showed two publicly available YouTube videos developed by the International Medical Corps team, demonstrating the use of developmental and behavioural assessments from the mhGAP-IG (International Medical Corps, 2018a, b). These videos, available in Arabic with English subtitles, depicted role-play scenarios of a health professional conducting consultations with a caregiver and child using the mhGAP-IG CMH module. Following this introduction, the FGD commenced, guided by the interview guide (see Appendix H for the interview guide).

The interview schedule was adapted from Kane et al. (2016) who investigated contextual barriers and facilitators to implementing the mhGAP-IG module on stress-related conditions for all age groups in Uganda (see Appendix H) (Kane et al., 2016). To enhance trustworthiness, member checking was employed during and after each FGD. The author summarised participants' key points to confirm the issues concerning CAMHSS, ensuring accurate capture and interpretation.

Data analysis

The FGDs were audio-recorded, transcribed verbatim, and cross-checked by the author using the Microsoft Word transcribing function. The transcribed data were then analysed using thematic analysis (Braun & Clarke, 2012) by two raters using the following steps: 1) familiarising with the data set by reading through the transcripts multiple times, 2) coding the data, 3) identifying themes and sub-themes, 4) reviewing and categorising all themes, and 5) defining themes and clustering sub-themes into meaningful categories. The two researchers independently coded the data to increase objectivity of analysis. The author coded all of the data, while a senior expert qualitative researcher independently coded 67% of the data.

Initially, the coders identified six themes with four themes identical between the two coders. Two themes from the second coder were merged into one theme identified by the first coder. Additionally, one theme identified by the first coder was not recognised by the second coder

and was discarded as it was deemed irrelevant to the research question. After the consensus meeting, five distinct themes emerged from the FGDs.

Ethical considerations

The study was conducted in accordance with the Declaration of Helsinki (World Medical Association, 2001) and was reviewed and approved by the Human Research Ethics Committee (HREC) of the Faculty of Health Sciences, University of Cape Town (HREC188/2016; HREC 096/2023) (see Appendix A and B). In addition, the study was reviewed by the Western Cape Department of Health and Wellness, who provided permission (WC_202304_020) for the study to be conducted (see Appendix C). Informed consent was obtained from each participant before each FGD. While participation in the FGDs was not anonymous, participants were asked to maintain confidentiality regarding the information discussed. Each participant was allocated a number by the author. For data analysis, all data were pseudonymized to protect participant identities.

6.3. Results

6.3.1. Participant characteristics

A total of 14 service providers participated in the study. Participant characteristics are shown in Table 6.1. The majority of participants were female (n=11; 78.6%) and most had 6–10 years (n=5; 35.7%) or 11–15 years (n=4; 28.6%) of experience in CAMH service work. Regarding professional roles, six of the 14 (42.9%) were medical officers and four (28.6%) were mental health nurse practitioners.

Table 6.1. Demographic characteristics of participants

Demographic characteristics		n (%)
Sex	Female	11 (78.6%)
	Male	3 (21.4%)
Age	18–24	0 (0%)
	25–34	5 (35.7%)
	35–44	6 (42.9%)
	45–54	3 (21.4%)
	55–64	0 (0%)
	65+	0 (0%)
Years of experience	0–5	1 (7.1%)
	6–10	5 (35.7%)
	11–15	4 (28.6%)
	16–20	2 (14.3%)
	21–25	2 (14.3%)
	26+	0 (0%)
Role	Clinical nurse practitioner	2 (14.3%)
	Midwife	1 (7.1%)
	Mental health nurse practitioner	4 (28.6%)
	Medical officer	6 (42.9%)
	Registrar	1 (7.1%)
Clinical Nurse Practitioner (CNP): An advanced practice nurse providing comprehensive primary care, including diagnosis and treatment of common illnesses, in clinics and community health settings. Midwife: A healthcare professional specialising in supporting women during pregnancy, childbirth, and the postpartum period, managing normal deliveries and providing maternal and neonatal care. Mental Health Nurse Practitioner: A nurse with advanced training, specialising in mental health, offering assessment, treatment, and support for mental health conditions in various healthcare settings. Medical Officer: A qualified, non-specialist doctor working in public health facilities, responsible for diagnosing and treating patients, often serving in hospitals and clinics. Registrar: A medical doctor in training, gaining experience and specialisation in a particular field, usually working under supervision in hospitals and clinics.		

6.3.2. Service provider perspectives of the mhGAP-IG CMH module

The results of the FGDs based on identified themes are presented below. Five distinct themes emerged from the FGDs. Each theme is described below, accompanied by illustrative quotes.

Theme 1: The mhGAP-IG tool would be helpful for specific providers and cases

Participants generally perceived the mhGAP-IG CMS tool as beneficial for certain cases and for service providers with limited mental health training. They acknowledged its extensive information and relevance, emphasising its potential to prevent oversights in patient care:

"I think it is very helpful. It is simple. You can understand it, a professional nurse can understand it who is not mentally trained. Because it tells you exactly where to go and what to do."

Participant 4, Mental health nurse practitioner

"I think for selected cases I would use it, like the new patients that come to me for ADHD just to complement the full assessment. But I won't use it on every patient."

Participant 6, Medical officer

"I like it. It guides you not to miss the small clues that will help you to understand and refer properly, because sometimes you take your history, you miss up certain things and you refer maybe to the registrar. But when the registrar comes, then they ask, did you do this? Did you do that? And then you're going to go back. So, it delays the process. So, I think for me it will be like very helpful."

Participant 2, Mental health nurse practitioner

Theme 2: There are many challenges that impact the current quality of care of young people in primary care

Participants discussed several challenges that affect the quality of care. These included time constraints, a focus on quantity over quality, issues with locum doctors, frequent interruptions during consultations, and barriers related to language and culture:

"It is just, we are almost like workers in a factory. Instead of actually being medical doctors. Because for me personally, if somebody had to look at what I'm doing in a day, it is like any factory worker. If I was working at a chicken factory, it would be, 'How many chickens did I actually defeather, or how many did I boil, or how many did I package or how many did I whatever...' So, it is concerning that that is how it's being looked at."

Participant 5, Medical officer

"The other thing that I've noticed is that the majority of children that come here are not English first language speakers. So, to dig into some of these questions with a lady in front of you that really doesn't understand what you're saying is also a bit tough."

Participant 7, Medical officer

"I have to say at our clinic every 5 minutes there's a knock on my door. 'I just want your opinion on this', 'I just want to ask you this.' The clinical nurse practitioners, it's now like three or four clinical nurse practitioners. It's like every time they come and ask me something and I understand why. But it's just like, yeah, ongoing besides that it's the phone that rings every two minutes. It's chaotic at times."

Participant 4, Mental health nurse practitioner

"Load. Personally, workload. OK. Because you see, if the workload is much... You see I did say I've got a clinic to run — in between I have to take outpatients, and in between you are phoned by multiple clinicians for an opinion or whatever. You have your own patients to refer and so on. Then you also have file audits at the same time. How do I

juggle? So, you go home. You are tired and burnt out. And that also makes you lose motivation. And it's in the public sector, so it's also difficult to say you're going to have to decrease workload. You know in my team now it's like regularly you always find one CNP is not there. So those are untold stuff. Yeah, but if you don't address them, it becomes really an issue of material. You just say, "I'm sick," because you want to break because you're tired. It's too much, OK."

Participant 11, Medical officer

Theme 3: There are many barriers to adoption and effective implementation of a tool such as the mhGAP-IG

Several potential barriers to effective implementation of the mhGAP-IG emerged from FGD data. Participants mentioned the lack of an implementation strategy, absence of a feedback loop, resistance from some staff members, and concerns about the tool complicating their work:

"I think that the problem with our facility is that there will be lots of talk, minimal implementation and no follow up with no support. So, like for example these new TB [tuberculosis] guidelines from provincial came out. A whole big talk about it saying you must just implement it but with no support. How are you going to implement it? Who's going to help us? Who's going to audit it to see if it works? There's no follow through of the stuff."

Participant 7, Medical officer

"No, it was the same as with COVID when we were doing the testing, we were just going in blindly and there was no follow up of the results. There's no plan to follow up. We did mass testing, but then when it came down to the results. There wasn't really a system in place."

Participant 6, Medical officer

"The ones that works with me, the 50-year-olds present like 60-year-olds, and they are not flexible — they are rigid in their thinking. And I think what makes the difference is

the ones that have both tertiary experience and primary health care. I can see the gap, so the ones that never had tertiary experience they're concrete thinking, you can't, uh it's old ways. Yeah so, we can't cross that bridge ... when we work with them."

Participant 1, Medical officer

"... so now if I have something that makes my life again difficult, I would better avoid it and orientate it to somebody [who] will have more time to do it."

Participant 11, Medical officer

Theme 4: Simple adaptations to the mhGAP-IG could assist with implementation

Participants suggested several adaptations to the tool that would facilitate its implementation. These included the need for one-page summaries, clearly indicated page numbers, and sections tailored to each discipline:

"Is there a way we can maybe adapt the book to our setting? Because I feel like you sort of have to page through, you know? I don't like it when it says, 'go this way, go this way.' We don't have time to be going through the pages. Is there a way that maybe it can just flow in one page? It flows like that. So, ADHD—this is what I have to look at. It could possibly be this but in one page. So that I don't have to be paging. It's very good. I don't want to lie, but if we can just make it the structure, it's sort of a bit—I don't want to say haphazard—it's somehow all over for me. I just want something that is more structured in one page... then I know I'm done, than having to page through."

Participant 12, Medical officer

"For example, the psychosocial stuff. Do we, as the medical officers, implement the psychosocial changes or do we refer that out? Because then actually we don't really need those pages. I mean, it's useful. But practically speaking, it's not useful."

Participant 7, Medical officer

“The only thing I would add is, you know, like in the PACK[□], it tells you to go to page number 96. That kind of thing. If you can add the page number, that would help. Otherwise, I like it.”

Participant 4, Mental health nurse practitioner

Theme 5: Implementation of the mhGAP-IG will require staff training, leadership, and dedicated resources

Successful implementation of the mhGAP-IG was seen to require comprehensive staff training, leadership, and dedicated resources. Participants emphasised the importance of in-person training, familiarity with the tool, and the need for extra time and resources. Additionally, a consultative team and access to specialist consultations were deemed necessary:

“I will say during crisis every healthcare provider should be able. Then if we've got somebody dedicated, then it's more appropriate for continuity of care and follow up. It would be ideal.”

Participant 11, Medical officer

“I think we would need more time for them. A special day just to focus on them. Because there's quite a number of them and they just come pop up on random days. So, it would be nice if we could dedicate like a Friday afternoon just for them, so that it doesn't interfere with their school. Because at the moment they have to be kept out of school to come for their reviews and that can be disturbing for the child. So, it would be better if we could just like on a Friday afternoon the schools end early then we can just dedicate 4 hours or so, just to the ADHD children.”

Participant 6, Medical officer

[□] The Practical Approach to Care Kit (PACK) is a locally developed clinical decision support tool used in the primary care facilities in the Western Cape (Cornick et al., 2018).

"I think though in the clinic setting you seeing so like such a wide variety of people that you will lose familiarity with the book quickly and it's going to take longer than... I mean that lady [referring to the mhGAP-IG YouTube video] knew this thing in her head. So, then it was a nice 10-minute consult. But if you have to read and page then it's probably going to be half an hour to an hour, yeah."

Participant 14, Family medicine registrar

"If it's mandated from provincial, then everyone must do it. If it's not, they won't because they are overwhelmed."

Participant 1, Mental health nurse practitioner.

6.4. Discussion

In this chapter, we set out to evaluate the contextual 'fit' of the mhGAP-IG CMH module as a potential tool to strengthen CAMHSS at the primary level. We focused on one substructure in the City of Cape Town, South Africa where we examined the acceptability, appropriateness and feasibility of the mhGAP-IG CMH module in the local context and sought recommendations for potential adaptations to the module to improve the contextual 'fit'. This was the first ever study of the mhGAP-IG CMH module in South Africa, and to our knowledge, the first study in any LMIC to examine service provider perceptions of and recommendations for adaptation of the mhGAP-IG CMH module.

Overall, the mhGAP-IG CMH module was perceived as a potentially helpful tool for specific situations. Key barriers identified included a range of challenges that have an impact on quality care such as time constraints and workload. In addition, barriers to effective adoption and feasible implementation were identified, including a lack of transparent implementation plans when new initiatives are rolled out. Participants suggested several specific adaptations to the module to improve fit to their context, such as streamlined tools and clear implementation strategies. These findings suggest that while the mhGAP-IG CMH module may be seen as appropriate and acceptable, there are significant contextual gaps limiting its feasibility that need to be addressed to enhance its fit. Thus, adaptations to the tool need to be combined with the recommended contextual modifications.

A study by Kane et al. (2016) examined the perspectives of mental health professionals in rural Uganda regarding the implementation of a WHO guideline for acute stress, PTSD, and bereavement across all ages (Kane et al., 2016). The study found that high staff caseloads and limited consultation time were significant challenges, reflecting issues similar to those impacting the quality of care identified in our study. Similar challenges were also identified in two systematic reviews evaluating the implementation of the mhGAP-IG. One systematic reviewed focused on the peer-reviewed literature (Keynejad, Spagnolo & Thornicroft, 2021) and the other examined grey literature (Spagnolo & Lal, 2021). Both reviews highlighted staff resistance and time constraints as significant barriers to successful implementation (Keynejad, Spagnolo & Thornicroft, 2021; Spagnolo & Lal, 2021). Supervision and onward referral were recognised as facilitators of implementation, consistent with the strategies suggested by our participants for achieving successful implementation (Keynejad, Spagnolo & Thornicroft, 2021; Spagnolo & Lal, 2021).

The mhGAP-IG CMH module was reportedly previously adapted to the local context in Pakistan, Kenya and Ethiopia (Tsfaye et al., 2014; Hamdani et al., 2015; Humayun et al., 2017; Mutiso et al., 2021). These were described as language and cultural adaptations, but the studies did not provide detailed accounts of adaptations made. Interestingly, these studies did not note contextual adaptations that were made to improve the fit of the mhGAP-IG. While participants in our study highlighted language and culture as barriers that impact the quality of care, linguistic and cultural adaptations did not emerge from our qualitative findings related to recommended adaptations. This may be attributed to English being the language for professional communication in South Africa, and the mhGAP-IG CMH module being a tool where the provider rather than the patient or their family, is the end user.

Recognising the gaps around the mhGAP

The study aimed to examine the contextual ‘fit’ of the mhGAP-IG CMH module in a South Africa context. It is therefore important to be mindful that contextual fit has two independent, but inter-related components: the tool itself (that may fit perfectly or may need to be adapted, adjusted or enhanced in some ways), and the context (in which the adapted tool should fit). Beyond the mhGAP-specific observations, a very clear overarching theme emerged about the major challenges related to the context for service-delivery in CAMH. The image as described by one participant (participant 5) of feeling that they were working in a chicken factory where throughput was the priority, the lack of support, supervision and resources, the absence of

buy-in from managers and other sectors, all spoke to the enormous contextual gaps even in the City of Cape Town, which is often seen as well-resourced for healthcare. These themes highlight the need for contextual strengthening independent of the mhGAP-IG (or any other tool) and underscored the critical interrelationship between evidence-informed interventions and the contexts in which they are implemented, emphasising the existing contextual ‘gaps’ surrounding the mhGAP.

Strengths and limitations

To our knowledge, this was the first ever study to explore the acceptability, appropriateness and feasibility of the mhGAP-IG CMH module. The evaluation of these implementation constructs provided valuable insights into changes that might make the module better suited for implementation in the low-resource, high-need environment explored in this study and in similar contexts across sub-Saharan Africa and other LMICs. In addition, the focus on different cadres of primary care service providers offered a diversity of opinions and perspectives, highlighting various facets of the implementation process from multiple viewpoints. The varied perspectives of the service providers added depth to the understanding of potential challenges and facilitators in the implementation of the mhGAP-CMH module.

Several study limitations must also be acknowledged. First, the small sample size limited the generalisability of the findings. However, the in-depth qualitative data gathered provided rich and valuable insights into the specific experiences and perspectives of the participants, which are critical for understanding the nuances of implementing the mhGAP-IG CMH module in similar contexts. Second, the geographical limitation of the study, being conducted with participants from four primary care facilities in a single, urban substructure, further reduces its generalisability and applicability to other settings. However, given the key findings of our work (that the tool has potential with adaptations, but that major contextual factors need their own strengthening), this is likely a universally relevant observation that could now be followed with further contextual examination in other South African, sub-Saharan African, and LMIC settings. Third, participants were only introduced to the mhGAP-IG CMH module on the day of the FGD and that brief exposure might have limited the depth of opinion that participants could form about it. However, given that the mhGAP-IG is not implemented anywhere in South Africa, we ensured that a physical copy of the tool was presented to each

participant, that it was thoroughly explained, and participants were given the opportunity to ask further clarifying questions. Fourth, the study scope was limited to service providers, and did not include managers, policymakers, and service users. This focus was intentional to concentrate on the primary care level implementation actors. Thus, it will be an important next step to seek similar perspectives on the mhGAP-IG CMH module from these other stakeholder groups.

6.5. Conclusion

This study assessed the contextual fit of the mhGAP-IG CMH module for strengthening CAMHSS at the primary care level in South Africa. While the module was seen as potentially beneficial, significant contextual gaps, such as time constraints, workload, and inadequate implementation plans, must be addressed for effective integration. The findings highlight the need both for specific adaptations to the module and broader contextual improvements to enhance its feasibility and impact. The study provides a foundation for further research and underscores the importance of local challenges in implementing global health tools.

6.6. Chapter summary

The mental health treatment gap for children and adolescents in South Africa is alarmingly high, with only 10% accessing care. The WHO mhGAP-IG could help bridge this gap by serving as a training and decision support tool for non-specialist healthcare providers. While the mhGAP-IG child mental health (CMH) module has been implemented in some LMICs, its acceptability, appropriateness, and feasibility has not been assessed. This study evaluated the potential ‘fit’ of the mhGAP-IG CMH module for strengthening CAMHS at the primary care level in Cape Town, South Africa, by exploring its acceptability, appropriateness, feasibility, and recommendations for adaptation with primary-level service providers.

A qualitative study was conducted with primary-level service providers and mental health nurses in Khayelitsha, Cape Town. Participants were purposively sampled from public sector facilities, and data were collected through FGDs from June to October 2023. During the FGDs, participants reviewed the mhGAP-IG CMH module through booklets and videos, followed by

guided discussions to provide feedback and offer recommendations for adapting the module to better suit the local context. The discussions were audio-recorded, transcribed, and then analysed by two raters using reflexive thematic analysis.

Fourteen service providers participated in the focus group discussions. Participants were predominantly female (78.6%), with 35.7% having 6–10 years of experience. Among them, 42.9% were medical officers and 28.6% were mental health nurse practitioners. Thematic analysis revealed five themes: 1) the mhGAP-IG tool is considered useful for specific cases and less experienced providers, 2) quality of care is hindered by time constraints and frequent interruptions, 3) barriers to implementation include lack of strategy and staff resistance, 4) adaptations such as simplified summaries are needed, and 5) successful implementation requires comprehensive training, leadership, and dedicated resources.

The study, the first of its kind in South Africa and in any LMIC, found that the mhGAP-IG CMH could module potentially be helpful, but highlighted significant barriers such as time constraints and lack of implementation strategies. The findings highlight the need both for specific adaptations to the module and broader contextual improvements to enhance its feasibility and impact.

Chapter 7: Synthesis of findings and lessons for future CAMHSS strengthening

7.1. The thesis in a nutshell

CAMHSS are a critical component of any health system, serving as the foundation for ensuring the mental well-being of young people. The growing burden of mental and neurodevelopmental disorders among children and adolescents globally (Piao et al., 2022) underscores the need for robust and responsive CAMHSS that are both accessible and effective. However, CAMHSS in LMICs are under-resourced, fragmented, and insufficiently equipped to meet the rising demand (Patel et al., 2008; Babatunde et al., 2021; Mokitimi, Schneider & de Vries, 2022). The WHO defines health system strengthening as “the process of identifying and implementing the changes in policy and practice in a country’s health system, so that the country can respond better to its health and health system challenges” (World Health Organization, 2010). In the South African context, where socio-economic disparities and historical inequalities exacerbate mental health challenges (Das-Munshi et al., 2016), the strengthening of CAMHSS is not merely a necessity, but an imperative.

In the project outlined in this thesis, the author and co-workers set out to strengthen CAMHSS in South Africa through an implementation science initiative. In the end, the project did not strengthen CAMHSS directly but, through a process of systematic engagement with frontline service providers who understand the challenges faced on the ground, focused on the changes required in policy and practice to support strengthening. A summary of the methods and findings from the thesis is presented in Table 7.1. In Chapter 1 we acknowledged the vast assessment and treatment gap that has been described in the global, LMIC, and sub-Saharan African literature. We acknowledged the desperate landscape in South Africa based on existing data, which led to the desire to move from ‘mapping’ CAMHSS to ‘strengthening’.

To understand how others have strengthened CAMHSS, in Chapter 2 we examined the recent literature in LMICs in search of innovations across health system building blocks. We identified several strategies, including the validation of screening questionnaires, training of service providers and researchers, unconditional cash transfers, school mental health programmes, and the use of digital clinical support tools. In Chapter 3 we then synthesised and integrated the recent situational analyses of CAMHSS in South Africa in a narrative review to present a gap analysis of the current challenges in CAMHSS. We realised that the data used in the review

were from only two South African provinces and were based on fieldwork performed at least five years earlier. For this reason, we set out to conduct a national survey of multidisciplinary CAMH service providers to determine how relevant these regional situational analysis findings were to the national profile of CAMHSS needs, and to ask CAMH service providers across the country for their priorities for CAMHSS strengthening. Chapter 4 presented the process and findings of this survey. It became clear from the survey that the national CAMHSS landscape was in urgent need of strengthening across all health system building blocks. Importantly, “Quality CAMHS close to home” was identified as one of three priorities by service providers.

The survey findings presented in Chapter 4 identified gaps and needs, but not a ‘vision’ or map for what an ideal CAMH service or system should look like. In Chapter 5 we therefore engaged CAMH service providers to develop a shared vision and model for CAMHSS using a Theory of Change (ToC)-informed approach. For pragmatic purposes we selected the Western Cape province for the ToC phase of the project and included a broad range of service providers across primary, secondary, and tertiary care. The ToC map generated six causal pathways to strengthen CAMHSS, with capacity-building identified as a priority activity by clinicians from the primary care level. For these reasons, in Chapter 6 we examined the contextual fit of the WHO mhGAP-IG CMH module (WHO Mental Health Gap Action Programme Intervention Guide, Child Mental Health module) for potential implementation at the primary care level. Our qualitative study focused on one subdistrict in the City of Cape Town.

In this chapter, the main findings across the thesis are synthesized by presenting five overarching ‘lessons’ learnt from the work. The thesis will conclude with implications for future policy and practice, recommendations for future research, and reflections on the limitations of the thesis.

Table 7.1: Summary of this thesis

Chapter	Objective	Methods	Results
Chapter 1: Child and adolescent mental health services and systems	To provide a background of CAMHSS, including the South African context, the landscape of services, methods for CAMHSS strengthening, and an overview of the mhGAP-IG CMH module	A review of existing literature, policy documents, and reports related to CAMHSS, particularly within South Africa	Foundational overview of CAMHSS, setting the stage for the rest of the thesis. • Snapshot of the CAMHSS landscape • Introduces the ToC method • Introduces the mhGAP-IG CMH module as a potential tool for strengthening services
Chapter 2: Child and adolescent mental health services and systems in low- and middle-income countries: from mapping to strengthening	To conduct a targeted literature review of recent CAMH system strengthening innovations in LMICs	Key databases of peer-reviewed literature were searched Inclusion criteria • Describes child and adolescent mental health system in LMICs • Evaluates a health system building block innovation in LMICs • English language • Original and review articles • Studies conducted in the 18 months preceding the review Exclusion criteria • Based exclusively on findings from a HIC • Commentaries, opinion, and perspective articles	• Nine studies describing CAMHSS landscape identified • Nineteen articles describing health system building block innovation in LMICs identified of which 12 were CAMH-specific • Health system building block innovations identified for five of the six WHO-Assessment Instrument for Mental Health Systems domains, i.e. clinical care services including primary care, human resources, public information and links with other sectors, monitoring and research • Digital technologies emerged as a new theme for strengthening CAMHSS • Strategies for strengthening CAMHSS included the validation of screening questionnaires, training of service providers and researchers, unconditional cash transfers, school mental health programmes, and the use of digital clinical support tools

Chapter 3: Health services and systems for child and adolescent mental disorders in South	To conduct an integrative narrative literature review of recent situational analyses of CAMHSS in South Africa	National and provincial government websites and key databases of peer-reviewed journal articles and research outputs were searched Inclusion criteria	• Description of strengths and weaknesses in CAMHSS landscape in South Africa • Thirty-eight gaps in CAMHSS in South Africa (across WHO health system building blocks)
Africa: Towards a better future		• Describes child and adolescent mental health policy or strategic framework in South Africa • Describes financing for child and adolescent mental health services in South Africa • Describes landscape of child and adolescent mental health services and systems in South Africa • English language • Original and review articles, policy guidelines, strategic frameworks, commissioned reports, theses, meeting reports, viewpoints and commentaries Exclusion criteria • Studies conducted outside South Africa • Studies published in any language other than English	• identified based on regional situational analyses • CAMH district-based services proposed as a long-term model for CAMHSS Immediate, short and medium to long-term actions for CAMHSS strengthening proposed

Chapter 4: The national profile of needs and priorities in child and adolescent mental health services and systems (CAMHSS) in South Africa – the perspective of service providers	To conduct a nationwide survey to examine the applicability of regional situational analysis findings to national CAMHSS needs	An electronic, cross-sectional survey was conducted with service providers across all South African provinces, using purposive snowball sampling and social media outreach - The survey comprised three sections: - Demographic information 87 statements about CAMHSS (based on findings from a 2016/2017 situational analysis conducted in the Western Cape and rated on a 5-point Likert scale - Open-ended question for recommendations for strengthening - Seventeen survey items excluded from final analysis - Descriptive statistics were used to categorise survey responses into 'agree',	- Seventy-six participants completed the survey, of which 79% were female, and 45% were employed in the Western Cape - Participants agreed with 29 out of 70 statements (41.4%), disagreed with 25 out of 70 statements (35.7%), and neither agreed nor disagreed with 16 out of 70 statements (22.9%) - Participants endorsed 63% of findings from the 2016/2017 study conducted in the Western Cape “Quality CAMH services close to home,” “Competent MDTs across all levels and sectors,” and, “CAMHSS is everybody’s business,” emerged as themes for strengthening CAMHSS
		'neutral', or 'disagree' and compared with the 2016/2017 study Open-ended responses were analysed using inductive qualitative content analysis in NVivo, with themes identified	

Chapter 5: Towards a roadmap for strengthening child and adolescent mental health services and systems in the Western Cape: a multilevel service provider Theory of Change process	To conduct a series of multilevel theory of change-informed workshops to develop a programme theory for CAMHSS strengthening in the Western Cape Province of South Africa	A series of Theory of Change workshops were conducted with service providers across the primary, secondary, and tertiary levels of care in the Western Cape Province of South Africa - Participants were recruited through purposive sampling - Four participant groups were targeted: - Mental health nurse practitioners from community health centres (primary level) - District psychiatrists and family physicians from district and regional hospitals (secondary level) - Multi-disciplinary CAMH teams (including child and adolescent psychiatrists, psychiatry registrars, medical officers, occupational therapists, social workers, mental health nurse practitioners, psychologists) from specialist CAMH units (tertiary level) - ToC workshops included two phases - Initial phase with one-day in-person workshops focused on defining impact, mapping long-term and intermediate outcomes, and prioritizing outcomes - Refinement phase where individual ToC maps and combined ToC map were refined	- Forty-one participants participated in the workshops including 8 participants from the primary level, 8 participants from the secondary level, and 25 participants from the tertiary level - Participants described six causal pathways for strengthening CAMHSS in the Western Cape including CAMH awareness and advocacy, intersectoral collaboration, political buy-in across sectors, enhanced capacity building, appropriate infrastructure, and care provision and care pathway improvement “Political buy-in across sectors,” “care provision and care pathway,” and, “enhanced capacity building pathway” were prioritised for strengthening - Indicators for prioritised outcomes were described
		Individual ToC maps were transcribed and combined by the author and an independent senior expert	

Chapter 6: Evaluating the ‘fit’ of the Mental Health Gap Action Programme Intervention Guide (mhGAP-IG) for Child and Adolescent Mental Health in South Africa	To evaluate the potential ‘fit’ of the mhGAP-IG CMH module for strengthening CAMHSS in primary care in the Western Cape province	A qualitative study was conducted with primary care service providers to evaluate the potential ‘fit’ of the WHO mhGAP-IG CMH module for strengthening CAMHSS at the primary care level in the Khayelitsha Eastern substructure in Cape Town Purposive sampling was used to recruit two key stakeholder groups: primary-level service providers and mental health nurses Focus group discussions were held with participants where: The WHO mhGAP-IG CMH module was first introduced to participants The acceptability, appropriateness, and feasibility of the module were discussed Recommendations for adaptations were discussed Focus group discussions were audio-recorded and transcribed verbatim and transcribed data were analysed using reflexive thematic analysis by two independent raters	Fourteen participants participated in the three focus group discussions: 79% of these were females, 36% had 6–10 years of experience, and 43% were medical officers • Five themes emerged from the focus groups 1. Theme 1: The mhGAP-IG tool would be helpful for specific providers and cases 2. Theme 2: There are many challenges that impact the current quality of care of young people in primary care 3. Theme 3: There are many barriers to adoption and effective implementation of a tool such as the mhGAP-IG 4. Theme 4: Simple adaptations to the mhGAP-IG could assist with implementation 5. Theme 5: Implementation of the mhGAP-IG will require staff training, leadership, and dedicated resources.
Abbreviations: CAMH: Child and adolescent mental health, CAMHSS: Child and adolescent mental health services and systems, ToC: Theory of Change, WHO: World Health Organization, mhGAP-IG CMH: Mental health gap action programme child and adolescent mental and behavioural disorders, MDTs: Multidisciplinary teams.			

7.2. Five overarching lessons from the thesis

Lesson 1: CAMH Strengthening should encourage LMIC-to-LMIC learning

To strengthen CAMHSS effectively, a proactive approach to fostering LMIC-to-LMIC learning is required. In Chapter 2, we described several innovations to strengthen CAMHSS in LMICs. Innovations in clinical services, including at the primary care level, mainly centred on validating screening tools for specific LMIC contexts. The validation of screening tools is crucial as it enables us to determine the appropriate cut-off values for a specific setting. However, this process is lengthy and requires considerable expertise. While the validation of a screening tool in one country does not guarantee its validity in another, the use of tools that have already been validated in one LMIC can be reassuring for those aiming to implement the same tool in a different LMIC. This approach expands the knowledge base within LMICs and allows other research teams to build upon existing work rather than starting from scratch— an important consideration in the resource-limited research and clinical settings that are prevalent in LMICs.

Initiatives aimed at strengthening human resources primarily focused on training. It was encouraging to find that this training did not only target psychologists and medical doctors but embraced the principle of task-sharing. Task-sharing involves distributing tasks among a wider range of health workers, including those with less formal training, to extend the reach of healthcare services and alleviate the burden on more highly trained professionals. In Uganda, training encompassed multidisciplinary teams (including clinical officers, occupational therapists, and social workers/counsellors) (Rukundo et al., 2020), while in Tanzania and Malawi, community health workers were trained (Kutcher et al., 2019). The training programmes described in Chapter 2 represent existing curricula developed for different cadres of the multidisciplinary team in resource-constrained LMIC settings.

Given the limited CAMH training in undergraduate curricula for all members of the multidisciplinary team, it may be beneficial to explore whether any of the programmes discussed in Chapter 2 could be adapted for the South African context. This approach aligns with the South African National Mental Health Policy and Strategic Framework (NMHPF) 2023–2030, which identified task-sharing as a key strategy to extend access to mental health services (South African National Department of Health, 2023). In Chapter 4, “Competent MDTs across all levels and sectors” was identified as a priority for CAMHSS strengthening by service providers across the country, while in Chapter 5, “Enhanced capacity-building”

emerged as a crucial pathway for achieving long-term impact for CAMHSS in the Western Cape. The prioritisation of competency and capacity-building by service providers underscores the urgency of addressing this area, suggesting that it would be advantageous to build on existing programmes.

Public information and cross-sectoral links included economic interventions such as cash transfers and school mental health programmes. Economic strengthening initiatives, including cash transfers, economic literacy training, and skill development for income generation, have increasingly been recognised as important for promoting health and preventing illness (Ssewamala, Bermudez & Santelli, 2018). These interventions address upstream social determinants of health, tackling the root causes of mental health issues. The studies discussed in Chapter 2 demonstrated that cash transfers had a positive impact on the mental health of adolescents, which could encourage other LMICs to consider implementing similar social security measures for their young populations to reduce the mental health burden.

In Chapter 5, “intersectoral collaboration” was identified as one of the key causal pathways, with “schools that are fully inclusive with mental health competence” highlighted as an intermediate outcome, and “CAMH embedded in the Department of Social Development and Department of Basic Education” as the long-term outcome. In Chapter 2, two school mental health programmes were described, which could potentially be adapted to the South African context to support these goals.

It was exciting to see a new domain related to digital technologies emerge as a potential strategy to strengthen CAMHSS. This is particularly important as we live in the digital age, and the use of digital technologies has the potential to significantly increase access to mental health care. However, it is essential to consider the digital divide, as described in Chapter 2, which refers to the gap between those who have access to digital technologies and those who do not, often due to socioeconomic factors, geographical location, or lack of digital literacy. Despite this challenge, it was encouraging to see that in India, the next generation of medical doctors were open to telehealth, and there is already an existing digital clinical decision-making tool for use at the primary care level (Malhotra, Chakrabarti & Shah, 2019; Malhotra et al., 2020).

Our findings represented an update to those of Juengsiragulwit (2015) who evaluated the obstacles and opportunities for CAMHSS in LMICs using the WHO-AIMS framework

(Juengsiragulwit, 2015). The authors identified integration into primary care, task-shifting/task-sharing, awareness-raising campaigns, and improved research as key opportunities for strengthening CAMHSS (Juengsiragulwit, 2015). Babatunde and colleagues identified the additional strategies of intersectoral collaboration, school and community-based interventions, and the use of technology for CAMH service delivery as additional facilitators for strengthening CAMHSS (Babatunde et al., 2021).

Given the stark reality that in 2020 only 0.2% of global funding for research and a mere 0.2% of all funding for non-communicable diseases (which includes CAMH) was allocated to LMICs (World Health Organization, 2023), the global community cannot afford the duplication of efforts due to a lack of collaboration and shared knowledge. Collaboration through multi-country consortia and the sharing of learnings is one strategy to mitigate these challenges. By leveraging the diverse socio-economic, cultural, and linguistic contexts within LMICs, and acknowledging the shared experiences of being under-resourced with significant health burdens, LMICs like South Africa can enhance the efficiency and impact of their research efforts. Working together will allow researchers, clinicians, and policymakers from LMICs to build on the progress made by others, starting from a more advanced point rather than from scratch. Furthermore, using standardised tools and methodologies across countries will enable the generation of comparable research data, enhancing the generalisability and relevance of findings.

Ultimately, fostering LMIC–LMIC learning is essential to maximise the impact of limited resources, advancing the field of CAMHSS, and ensuring that research efforts in LMICs are not duplicated.

Lesson 2: CAMH strengthening requires prioritisation

Our critical examination of the South African CAMHSS landscape revealed that even though national policies and frameworks had been established, substantial gaps remain. In Chapters 3 and 4, we identified persistent challenges and needs in CAMHSS in South Africa. The findings highlighted why prioritisation of CAMHSS is essential for effective service delivery and overall system strengthening.

While it is reassuring that CAMHS has been documented as a priority by the South African

Government, as seen in the CAMH policy guideline from 2003 (South African National Department of Health, 2003) and the National Mental Health Policy Framework and Strategic Plan (NMHPF) 2013–2020/2023–2030 (South African National Department of Health, 2013, 2023), the challenge now is to ensure that this prioritisation is accompanied by ring-fenced funding, ongoing support, and focused implementation efforts. In Chapter 3 we showed how there has been a failure to action these policies and strategic plans and reconfirmed the limited progress in improving CAMHSS over the last two decades. Our gap analysis, based on regional assessments conducted in the Western Cape and Amajuba District of KZN, identified 38 gaps across health system building blocks, with more than half highlighting deficiencies in service delivery and the health workforce.

South Africa faces numerous competing health priorities and has been described as bearing a quadruple burden of disease, encompassing communicable diseases such as HIV/AIDS and TB, maternal and child mortality, non-communicable diseases (NCDs) like hypertension, cardiovascular diseases, diabetes, cancer, mental illnesses, and chronic lung diseases such as asthma, as well as injury and trauma (Pillay-van Wyk et al., 2016). This complex landscape means that CAMHSS has to compete for attention and resources with many other health concerns. Historically, South Africa has prioritised certain health programmes, particularly those targeting communicable diseases, leading to the development of the largest HIV programme in the world (Venter et al., 2017). However, the limited progress in mental health over the past two decades indicates that mental health needs greater prioritisation. This urgency has been bolstered by the recent completion of an investment case for mental health, advocating for a conditional grant to ring-fence funds specifically for mental health strengthening (Besada, Docrat & Lund, 2021).

In Chapter 4, the service providers prioritised areas such as “Quality CAMH services close to home,” “Competent MDTs across all levels and sectors,” and “CAMHSS is everybody’s business.” These priorities align closely with those outlined in the NMHPF 2023–2030, which emphasises the need for community-based mental health services, task-sharing strategies that leverage community resources to improve service delivery, and the importance of strengthening public awareness of mental health while reducing the stigma associated with mental illness (South African National Department of Health, 2023). It is also reassuring that the NMHPF highlighted CAMH as a key priority area.

Lesson 3: The primary care level is the top priority for strengthening formal services

The national landscape of CAMHSS needs was last described in 2003, when a national situational analysis of services was conducted as part of establishing the norms and standards of CAMH services in South Africa (Dawes et al., 2004). Even though the authors suggested that the WHO optimal mix of services be adopted as a service structure for CAMH services, and even though this has since been adopted by the National Department of Health (South African National Department of Health, 2023), the gap analysis based on two regional situational analyses described in Chapter 3 showed that services remained inadequate at the primary and secondary levels of care.

Mokitimi and colleagues conducted a strengths, weaknesses, opportunities and threats (SWOT) analysis of CAMH services in the Western Cape (Mokitimi et al., 2019). They employed the visual metaphor of weighing scales to illustrate their results using the 'tipping point' model (Mokitimi et al., 2019). The authors argued that relatively small changes can either strengthen or weaken the CAMH system. Mokitimi noted that the tipping point concept described by Thomas Schelling refers to the “critical point beyond which a significant and often unstoppable effect or change takes place” (Schelling, 1971), and commented that Malcolm Gladwell (2006) later popularised the concept by explaining how minor changes can lead to a significant impact. In figure 7.1, we have used the same analogy to illustrate the tipping point model for the national CAMHSS landscape generated from the national survey conducted in this thesis. Figure 7.1 groups the findings from Chapter 4 into negative (describing shortcomings) and positive (highlighting strengths) attributes of the CAMH health system. Almost all of the positive attributes were at the tertiary level. The profile of CAMHSS as outlined in chapter 4 and summarised in figure 7.1 represents the first description of the national CAMHSS landscape in South Africa since 2003. The findings resonated with those of Babatunde et al. (2020), who found that CAMH services were non-existent at the primary care level in the Amajuba district in KZN.

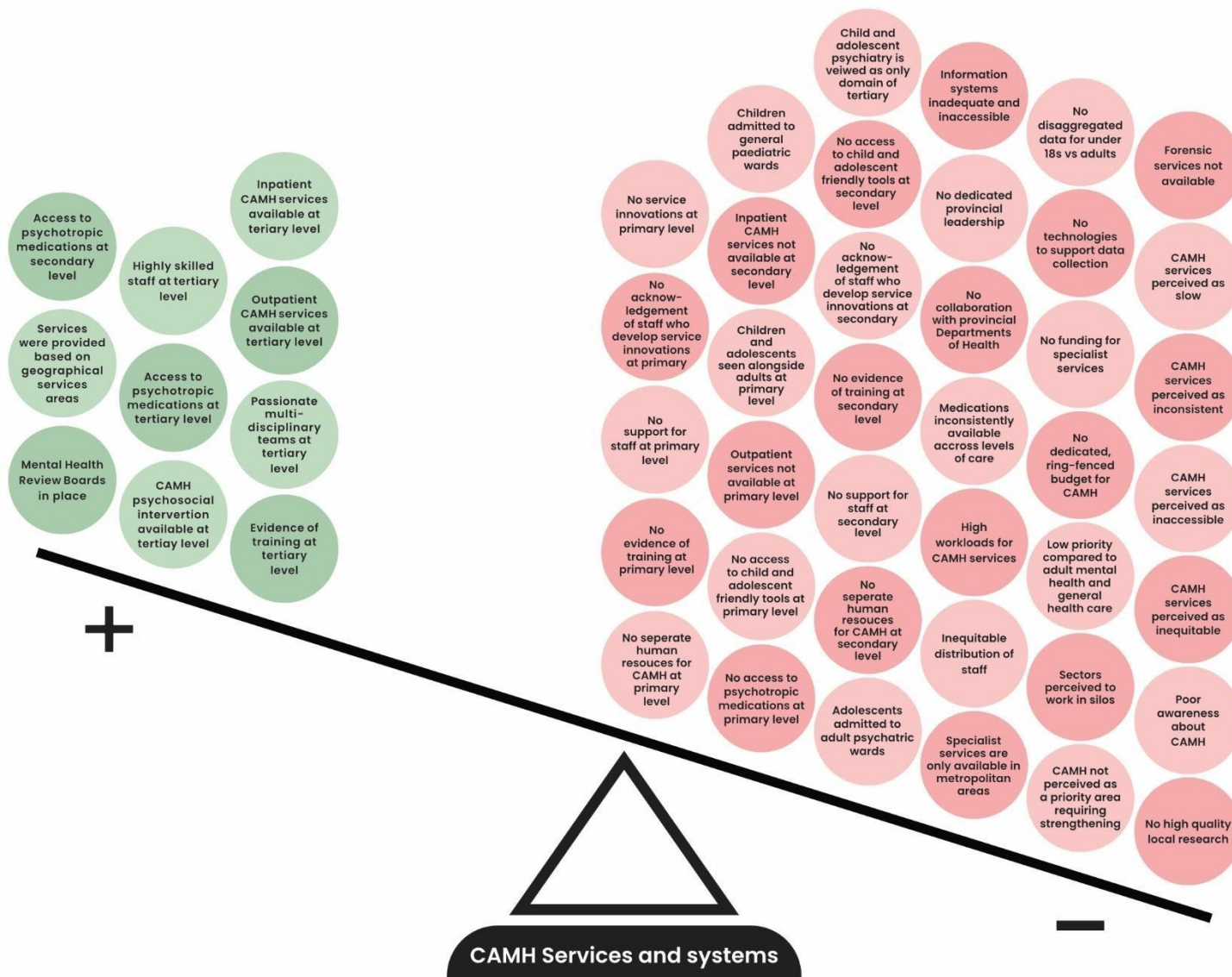


Figure 7.1: The national profile of strengths and weaknesses of CAMHSS in South Africa. The figure shows positive (green) and negative (red) attributes of child and adolescent mental health services and systems using the Mokitimi visual analogy of weighing scales (Mokitimi et al., 2019)

In Chapter 4, service providers prioritised “quality CAMHS close to home,” interpreted as strengthening services at the community and primary care level. In South Africa 84% of the population is uninsured and makes use of the public health care system (South African National Department of Health, 2020b). Access to the public health care system is through primary clinics that are nurse-led and doctor supported (South African National Department of Health, 2020b). Ensuring quality CAMHS close to home would mean ensuring that basic CAMH services are available at this level. This is important because while clinics are walking distance from people’s homes, hospitals are often tens or hundreds of kilometres away requiring transport (Babatunde et al., 2020). This is further supported by the NMHPF 2023–2030 (South African National Department of Health, 2023).

Lesson 4: CAMHSS strengthening should focus on predefined, measurable outcomes

It is essential to establish clear, measurable outcomes for strengthening to advance CAMHSS effectively, given the great number of gaps and challenges in the CAMHSS landscape in South Africa (and globally). In Chapter 5, we used a ToC approach to define outcomes and indicators for strengthening CAMHSS in the Western Cape. This achieved two goals. First, it established a ‘vision’ or ‘image’ of what providers would like to see in real-world CAMH services and systems, thus providing clear, desired outcomes. Second, the ToC process provided clear indicators that could be used to monitor and guide the process of CAMHSS strengthening in a structured and systematic way.

The ‘vision’ or impact articulated in the combined multilevel service provider ToC map was “High-quality, accessible, inclusive, comprehensive, and integrated CAMHSS that prioritise the well-being of children, adolescents, caregivers, and their communities.” The ToC map outlined six causal pathways: CAMH awareness and advocacy, political alignment across sectors, intersectoral collaboration, enhanced capacity building, appropriate infrastructure, and care provision and pathways. These pathways align with the priorities identified by national stakeholders in Chapter 4. The indicators developed for each prioritised outcome are shown as a checklist in figure 7.2 representing easily measurable markers of success that service providers and policymakers can use to assess progress.

Importantly, while these indicators specify ‘what’ should be measured, determining ‘how’ to measure them and setting appropriate targets were beyond the scope of the ToC process

conducted as part of this thesis. However, it is crucial to have measures in place to monitor progress toward achieving the outcomes. From a top-down perspective, it is conceivable that one of the reasons for the lack of progress in South Africa is that the National Department of Health may have created ‘grand plans’ without adequate focused strategies for implementation, evaluation, or monitoring. From a bottom-up perspective, small-scale and informal local strengthening activities may not be linked to clear national priorities as part of a cohesive plan, often lack clear definitions, and are typically not set up with clear predefined, measurable outcomes.

Competent multidisciplinary teams ☐ A percentage increase in the number of referrals to mental health services from members of the multidisciplinary team measured annually. ☐ An increase in the absolute number of CAMH training sessions measured annually. ☐ A percentage quarterly increase in the number of people attending and completing CAMH training measured quarterly. ☐ An absolute increase in the variety of training formats conducted per year. ☐ An increase in the percentage of multidisciplinary team members meeting predefined competency standards measured annually. ☐ An increase in the overall satisfaction rating in post training surveys measured after each training session. ☐ A percentage decrease in the number of predefined errors and incidents per facility measured quarterly. ☐ An absolute increase in the number of certifications or accreditations available for CAMH in South Africa measured annually.	High impact academics ☐ A percentage increase in publications by tertiary unit staff in reputable journals measured annually. ☐ A percentage increase in academic conference presentations measured annually. ☐ An absolute increase in the number of projects involving the tertiary unit's focus areas measured annually. ☐ An absolute increase in the number of internal training sessions conducted annually. ☐ An absolute increase in the number of publications showing evidence of delivering manualised, adapted, evidence-based interventions measured annually.
Realistic, pragmatic and severity-based referral protocol ☐ A percentage decrease of inappropriate referrals measured quarterly. ☐ A percentage decrease of unscreened/ unassessed referrals measured quarterly. ☐ A percentage increase in positive feedback from referrers about referral process measured quarterly. ☐ An absolute decrease in referral processing time measured annually.	High quality, standardised CAMH services ☐ A percentage increase in documented services and innovations measured annually. ☐ A percentage increase in patient devolution or discharge measured annually. ☐ A percentage increase in the use of electronic continuity of care instruments measured quarterly. ☐ A percentage increase in staff accessing and using electronic instruments measured annually.
Established clinical governance ☐ Development of clinical governance structures at each substructure/district and provincial level within a predefined timeline. ☐ An increase in the rate of compliance to clinical policy and protocols measured annually. ☐ Establishment and maintenance of a minimum participation rate e.g., representation of at least 80% of relevant sectors measured annually.	Well-supported, happy staff ☐ A percentage increase in staff retention rates measured annually. ☐ An absolute reduction in the number of unfilled staff positions measured quarterly. ☐ An increase in overall staff work satisfaction ratings measured annually. ☐ A percentage decrease in staff absenteeism rates measured annually. 

Figure 7.2: Potential indicators of CAMHSS strengthening for outcomes identified in the ToC of this thesis (see Chapter 5)

Interestingly, in Chapter 5 service providers identified outcomes that align with five of the six WHO health system building blocks, with health financing being the only one not covered.

Pathways related to the health workforce, service delivery, and leadership and governance were prioritised, with indicators described for the prioritised outcomes within those pathways. Specifically, 12 indicators were related to the health workforce, eight to service delivery, and three to leadership and governance.

Currently, the National Indicator Data Set, which forms the basis for South Africa's District Health Information System (DHIS) has only six indicators for NCDs (which includes CAMH) compared to 70 indicators for HIV/AIDS (Barron et al., 2023). The indicators described in this chapter could therefore be valuable to policymakers as they expand the service indicators for mental health, particularly in child and adolescent mental health. However, the development of these indicators raises important questions about how they will be measured. Ideally, these indicators should be integrated into routine information systems, such as the DHIS, to ensure they are systematically tracked and utilised.

Lesson 5: Service providers offer crucial insights into the contextual realities required to strengthen CAMHSS

Understanding the contextual realities faced by service providers is crucial for effective implementation of CAMHSS strengthening initiatives. In Chapter 6, service providers identified specific factors related to their context and the mhGAP-IG CMH module, which could hinder and facilitate implementation. Even though the tool was perceived as potentially beneficial for specific providers and cases, providers identified significant challenges such as time constraints, heavy workloads, and a lack of transparent implementation plans and processes. Participants suggested that while simple adaptations to the tool could facilitate implementation, contextual adaptations – including the need for staff training, staff leadership, and dedicated resources – were also necessary.

A lack of CAMH knowledge among service providers is a significant barrier to accessing care. However, this knowledge gap should not be overemphasised at the expense of addressing the contextual barriers that service providers encounter. Service providers are often overstretched, with limited time to see patients, as highlighted in systematic literature reviews on the implementation of the mhGAP-IG. Given that CAMH-related implementation programmes often include a training component, Chapter 6 underlines the importance of not implementing such interventions in isolation.

Lesson one emphasised the value of LMIC-to-LMIC learning, noting the importance of not only examining the outcomes of studies in isolation but also considering them within their specific contexts, and reflecting on the similarities and differences between various contexts. This suggests that a tool that is successfully implemented in Country A may not achieve the same success in Country B, or it may require significant contextual support to be effectively implemented. Our findings indicate that achieving contextual fit involves two interrelated components: the tool itself and the broader context in which it is implemented. Feedback from service providers revealed that the primary challenges extended beyond the tool to the context of service delivery in CAMH. Addressing these feasibility concerns and focusing on the highlighted areas will be crucial for successful CAMHSS strengthening.

7.3. Implications for policy and practice

Implications for policymakers

- Prioritisation of CAMHSS for strengthening

Over the past two decades, CAMHSS in South Africa have seen little to no progress. Although the first mental health policy was introduced in 2003, the same challenges have persisted, with no significant implementation at the provincial and local levels. In Chapter 4, national service providers, who are at the frontline, confirmed these ongoing struggles. However, notable improvements in other areas, such as child and maternal health and HIV, show that prioritising specific programmes can lead to success.

The notion that “CAMHSS is everybody’s business,” as discussed in Chapter 4, underscores the belief of service providers that CAMHSS should be a key priority for the government (departments such as the National Department of Health, Department of Social Development, and Department of Basic Education). While mental health has gained increased attention in recent years and is included in the National Department of Health Strategic Plan 2020/21–2024/25, there remains a risk that without explicit prioritisation of CAMHSS within broader mental health efforts, progress will continue to stagnate. CAMHSS must be prioritised within the mental health agenda, and its strengthening should be treated as an urgent national goal.

- Focus on key outcomes with measurable success

Although CAMH has been identified as a priority area in mental health, there is still no clear implementation plan for how this should be achieved. The prioritised outcomes detailed in Chapter 5 provide policymakers with a foundation for deciding where to begin with CAMH strengthening. South Africa has a history of producing strong policies but often falls short on implementation. By selecting priority areas with measurable indicators of success, the national government can provide clear guidance to provincial departments on how to implement policies effectively. This would establish benchmarks for success and enable provinces to track and report on their progress consistently.

- Decentralisation of CAMHSS

A critical issue facing CAMHSS is the need to decentralise services so that they are accessible and close to people's homes. CAMH must be included in the essential basket of services offered at the primary care level. With the National Health Insurance (NHI) now signed into law, it is crucial that CAMHSS be considered when determining the basic package of services covered by the NHI.

Community-based services should also be prioritised, including school-based programmes and social services, as proposed in the ToC map in Chapter 5. The need for decentralised services has been a recurring theme throughout the thesis. In Chapter 3, the concept of a district CAMH team was suggested as an "ideal" model for CAMHSS, although it was acknowledged that this represents a long-term goal. In the short term, more immediate actions to strengthen primary care services were recommended as realistic steps towards decentralisation, and in Chapter 4 participants prioritised "Quality CAMH services close to home".

Implications for health managers

- Creating space for intersectoral collaboration

The need for intersectoral collaboration was a central theme in this research, highlighted in both Chapters 4 and 5. In Chapter 4, participants prioritised the notion that "CAMHSS is everybody's business," while Chapter 5 underscored the importance of "political buy-in across

sectors.” Often, intersectoral collaboration is considered from a policy perspective, but Chapter 5 emphasised the importance of establishing intersectoral teams at the service level. Health managers are uniquely positioned to implement this by working with their counterparts in other sectors to establish these teams. These teams could address complex cases by facilitating discussions among stakeholders, thereby bridging the gap between different sectors and improving the efficiency of care delivery. This represents a tangible and actionable outcome that health managers could implement, ensuring that collaboration extends beyond policy into practical, service-level solutions.

- Prioritising CAMH capacity-building of health workers

Participants in Chapter 4 highlighted the need for “Competent MDTs across all levels and sectors,” and Chapter 5 identified the “enhanced capacity building” pathway as a priority. This stresses the importance service providers place on increased training in CAMH. Health managers, who help set the agenda for in-service training, need to prioritise this area. By collaborating closely with clinicians at the tertiary level, health managers can explore new ways to support secondary and primary levels of care, as well as community services.

Implications for practitioners

- Incorporating practitioner perspectives in policy and practice

Chapter 6 showed the potential of the mhGAP-IG CMH module for strengthening CAMH services at the primary care level. However, the challenging context in which service providers operate also emerged as a theme. This highlights the importance of including service providers’ voices in policy changes and the implementation of new interventions, as their insights are invaluable. Practitioners should therefore advocate for their voices to be more prominently heard in policy and guideline development to ensure these are grounded in the realities of practice.

7.4. Limitations of the thesis

The research presented in this thesis concentrated solely on the health sector, which could be perceived as a limitation since CAMHSS are inherently intersectoral, involving education, social services, and justice, among others. However, this focus was intentional. We prioritised gaining a comprehensive understanding of how the health sector alone views the strengthening of CAMHSS. This sector is central to service delivery, and its perspective is crucial for identifying actionable health system reforms. By narrowing the focus, it was possible to delve deeper into the health-specific challenges and opportunities for CAMHSS improvement.

The study did not include the perspectives of family members or caregivers, which could be seen as a significant omission given the critical role they play in the mental health care of children and adolescents. Nonetheless, at this stage of the research, the thesis prioritised the views of service providers. These professionals are the ones directly responsible for delivering CAMH services, and their insights are essential for understanding the practicalities and constraints of service provision. Future research should address this gap by incorporating the voices of families and caregivers who provide invaluable context and lived experiences that complement the professional perspective.

The reviews conducted for this study included only literature published in English. This linguistic limitation may have led to the exclusion of relevant studies published in other languages, particularly from LMICs where English is not the primary language. Given that English is the official language in only about 50 out of 138 LMICs, it is likely that significant findings from non-English-speaking contexts were overlooked. This could have implications for the comprehensiveness of our literature review, particularly in terms of capturing the full range of global perspectives on CAMHSS.

As acknowledged in earlier chapters, the focus on the Western Cape as a case study inevitably limited the potential generalisability of our findings to other provinces in South Africa. The Western Cape is comparatively better resourced than many other regions, which may result in a different experience of service provision and challenges. However, this focus was also deliberate. The Western Cape, with its more established CAMH services, provided a more developed framework for discussing the strengthening of existing services. This allowed for a detailed exploration of how improvements can be made in a relatively well-resourced context,

offering insights that could be adapted for other regions with careful consideration of local differences.

7.5. Recommendations for future research

Chapter 4 provided a snapshot of the CAMHSS landscape from the perspectives of service providers. However, due to the low representation of some provinces, there is a need for more extensive research to ensure a comprehensive understanding of the current state of CAMHSS across the entire country. Future studies could focus on conducting detailed situational analyses in underrepresented regions to fill these gaps, offering a more robust and updated overview of CAMHSS in South Africa. Such research would involve on-the-ground data collection, engaging with local service providers, and analysing the specific challenges and successes within each province. This would contribute to a more holistic picture, enabling targeted interventions that address the unique needs of each area.

The ToC map developed in this study provides a foundational framework for understanding the pathways to strengthening CAMHSS. However, there were elements that could not be fully explored within the scope of this research. Future work could focus on further refining and expanding the ToC map by selecting specific pathways for in-depth development. This would involve identifying the necessary inputs, anticipated outputs, and appropriate interventions for each pathway. Once these elements are clearly articulated, pilot projects could be implemented to test the effectiveness of the proposed changes. By systematically measuring the success of these interventions, researchers can contribute to the iterative improvement of CAMHSS and provide evidence-based recommendations for broader implementation.

Chapter 6 of this study highlighted several barriers to the effective implementation of the mhGAP-IG CMH module, as identified by frontline service providers. Future research could build on these findings by exploring the impact of implementing the module with the recommended adjustments. This would involve not only applying the changes suggested by service providers but also evaluating the outcomes of these modifications in real-world settings. By conducting longitudinal studies that track the success of these tailored interventions, researchers could provide valuable insights into how the mhGAP-IG CMH module can be optimised to better meet the needs of children and adolescents within the South African context.

This study primarily focused on the views of frontline service providers, but the broader CAMHSS ecosystem involves a wide range of stakeholders. Future research should aim to include the perspectives of policymakers, health managers, and representatives from other relevant sectors such as the Department of Social Development, the Department of Basic Education, and the Department of Justice. Understanding their viewpoints is crucial for developing a more integrated approach to CAMHSS, as these stakeholders play key roles in shaping policies, allocating resources, and implementing services. Their insights could reveal additional challenges and opportunities for strengthening CAMHSS, particularly in areas where health services intersect with education, social services, and the legal system.

In South Africa, many individuals seek care from faith leaders and traditional healers, either as an alternative to or in conjunction with Western medical practices. Given the significant role these stakeholders play in the lives of many South Africans, future research should not overlook their perspectives on CAMHSS. Studies could explore how these community leaders perceive mental health issues among children and adolescents, and how they interact with or complement formal health services. Understanding their views and practices could open up new avenues for collaboration, leading to more culturally sensitive and inclusive approaches to CAMHSS that respect and integrate traditional and faith-based healing practices.

Perhaps most critically, this study did not include the perspectives of the children and adolescents who are the primary focus of CAMHSS, nor those of their caregivers. Future research should prioritise capturing the voices of young people and their families to gain a deeper understanding of their needs, preferences, and experiences with CAMH services. By involving them directly in the research process, we can ensure that the recommendations for strengthening CAMHSS are truly reflective of the needs of those they are intended to serve. Studies could focus on what children and adolescents, as well as their caregivers, believe should be prioritised in CAMHSS, and how they perceive the current services available to them. This user-centred approach would be invaluable in designing more effective, responsive, and child-friendly mental health services.

7.6. Conclusion

This thesis has illuminated the multifaceted challenges and opportunities within child and adolescent mental health services and systems in South Africa. By examining the contextual realities faced by service providers, co-producing a shared 'vision' for CAMHSS and analysing the potential 'fit' of the mhGAP-IG CMH module, this research emphasized the necessity of a tailored approach to CAMHSS strengthening. The findings highlight the critical gaps and barriers, and propose actionable recommendations grounded in the local context. The developed ToC provides a strategic framework for policymakers and health managers, offering a roadmap for both immediate and long-term improvements. This work reaffirms the importance of competency and capacity-building, collaboration, and ongoing adaptation to local needs to enhance the quality and accessibility of mental health services for children and adolescents. As South Africa moves forward, the insights from this study could serve as a foundation for future research and policy development, aiming to ensure that mental health services are both effective and equitable for all who need them.

7.7. Reflexivity

When I began my PhD, my personal experiences with child and adolescent mental health were a significant driving force. As a medical doctor with first-hand experience in health services for children and adolescents, I was acutely aware of the challenges and gaps within the system. My role as a junior medical officer deeply influenced how I interpreted the data and understood the challenges faced by service providers. This background provided me with insights into potential solutions, although I remained committed to maintaining objectivity and allowing the participants' voices to shape the narrative.

A particularly impactful personal experience was witnessing my cousin's struggle to receive timely mental health support. This deeply personal event fuelled my determination to pursue meaningful change and shaped the focus of my research. During my PhD, I had the opportunity to join a CAMHS strengthening team commissioned by the Western Cape Department of Health and Wellness. This role enabled me to apply the insights from my research directly to real-world efforts aimed at enhancing mental health services, effectively bridging the gap between research and practice. I am grateful to have had that opportunity.

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Appendices

Appendix A: Human Research Ethics Approval (Main study)



FACULTY OF HEALTH SCIENCES
Human Research Ethics Committee



FHS016: Annual Progress Report / Renewal

HREC office use only (FWA00001637; IRB00001938)		
This serves as notification of annual approval, including any documentation described below.		
☒ Approved	Annual progress report	Approved until/next renewal date 30.9.2025
☐ Not approved	See attached comments	
Signature Chairperson of the HREC/ Designee		Date Signed 18/9/2024

Note: Please email this form and supporting documents (if applicable) in a combined pdf-file to hrec-enquiries@uct.ac.za.

Please use the latest form found on our website:
<http://www.health.uct.ac.za/fhs/research/humanethics/forms>



Comments to PI from the HREC

Please confirm no research data on the laptop and any risk to the study participants. Thank you

Thank you for your Study

Principal Investigator to complete the following:

1. Protocol information

Date (when submitting this form)	17 September 2024		
HREC REF Number	188/2016	Current Ethics Approval was granted until	30 June 2024
Protocol title	Child and adolescent mental health services in the Western Cape of South Africa: situational analysis, policy evaluation, stakeholder perspectives, and implications for health policy implementation		
Protocol number (if applicable)	HREC188/2016 protocol version 2.1		
Are there any sub-studies linked to this study?	☒ Yes	☐ No	
If yes, could you please provide the HREC Reference number for all sub-studies? Note: A separate FHS016 must be submitted for each sub-study.	HREC 096/2023 HREC 754/2019		
Principal Investigator	Professor Petrus J de Vries		
Department and email address	Psychiatry & Mental Health petrus.devries@uct.ac.za		

HREC Chair Signature

Date: 18/9/2024



1.1 Does this protocol receive US Federal funding?	☐ Yes	☒ No
1.2 If the study receives US Federal Funding, does the annual report require full committee approval?	☐ Yes	☐ No

Note: Any annual approvals for **Full Committee** review **MUST** be submitted on the monthly HREC submission dates.

(Please send electronic combined copy if for full committee review to hrec-submission@uct.ac.za)

If yes in 1.2 please complete section 1.3 below for invoicing purposes

1.3 Ethics Renewal Fee

Please (tick ✓) appropriate box for billing purposes:

<u>Submission Type</u>	<u>Description</u>	<u>New fee (Vat Incl.)</u>	<u>tick ✓</u>
Research funded solely from UCT departmental/divisional/group budget/self-initiated research	Annual evaluation of research progress report for re-certification	R0,00	☒
Non-sponsored student research for degree purposes at UCT/Other Universities & Colleges	Annual evaluation of research progress report for re-certification	R0,00	☐
Annual re-certification / Progress report (FHS016 Form)	Clinical Trial & International Grant Funded Research - Annual evaluation of research progress report for re-certification for Full Committee Approval	R7700,00	☐
Annual re-certification / Progress report (FHS016 Form)	Clinical Trial & International Grant Funded Research - Annual evaluation of research progress report for re-certification for Expedited review	R3800,00	☐
Annual re-certification / Progress report (FHS016 Form)	National grant funded research - Annual evaluation of research progress report for re-certification for Full Committee Approval	R5000,00	☐
Annual re-certification / Progress report (FHS016 Form)	National Grant funded research for Annual evaluation of research progress report for re-certification for Expedited review	R1650,00	☐

NB: Protocols funded by UCT (e.g. departmental funding / student research) and by certain grant funding organizations (e.g. MRC, NRF, CANSA,) are exempt from these charges.

Please provide details for Invoicing, either complete section 1 or 2 :

1. Invoice billing – Directly to Sponsor

Sponsor's name	
Billing Address of Sponsor:	
Vat Number:	
Contact person	
Telephone number	

Email Address	
2. Internal Journal Billing:	
Fund Number:	
Cost Centre Number:	
Account Holder Name:	
Division of Account Holder:	

2. List of documentation included to support this approval where applicable

--

3. Protocol status (tick ✓)

☐	Open Enrolment
☐	Closed to enrolment (tick ✓)
☐	Research-related activities are ongoing
☐	Research-related activities are complete, long-term follow-up only
☐	Research-related activities are complete, data analysis only
☒	Main study is complete but sub-study research-related activities are ongoing
☒	Publication or thesis submitted and final completion?
☐	Study is closed → Please submit a Study Closure Form (FHS010)

4. Enrolment

Number of participants enrolled to date	182
Number of participants enrolled, since last HREC Progress report (continuing review)	72
Additional number of participants still required	0

5. Refusals

Total number of refusals (participants invited to join the study, but refused to take part)	34
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6. Cumulative summary of participants



Total number of participants who provided consent	182
Number of participants determined to be ineligible (i.e. after screening)	1
Number of participants currently active on the study	0
Number of participants completed study (without events leading to withdrawal)	167
Number of participants withdrawn at participants' request (i.e. changed their mind)	36
Number of participants withdrawn by PI due to toxicity or adverse events	0
Number of participants withdrawn by PI for other reasons (e.g. pregnancy, poor compliance)	0
Number of participants lost to follow-up. Please comment below on reasons for loss of follow-up.	0
Number of participants no longer taking part for reasons not listed above. Please provide reasons below:	0

7. Progress of study

Please provide a brief summary of the research to date including the overall progress and the progress since the last annual report as well as any relevant comments/issues you would like to report to the HREC:

All data collection completed a few years ago. Two sub-studies (doing secondary analysis of collected data) linked to this project still ongoing. One manuscript from this study still under revision. Once all publications and substudies completed, we will close this protocol.

8. Protocol violations and exceptions (tick ✓ all that apply)

☐	No prior violations or exceptions have occurred since the original approval
☐	Prior violations or exceptions have been reported since the original approval and have already been acknowledged or approved If so, did these occur in the last review period
☒	Unreported minor violations that have occurred since the last review, as well as significant deviations not yet reported, are attached for review

9. Amendments (tick ✓ all that apply)

☐	No Prior amendments have been made since the original approval
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☒	Prior amendments have been reported since the last review and have already been approved
☐	New protocol changes/ amendments are requested as part of this continuing review (See note below)

Note: If new protocol changes are being requested in this review, please complete an amendment form (FHS006).

Specific changes in the amended protocol and consent/assent forms must be **bolded**, *italicised* or tracked and all changes must include a rationale.

10. Adverse events

10.1 Please provide below or attach a narrative summary of serious adverse events and/ or unanticipated problems since the last progress report. Please indicate changes made to the protocol and informed consent document(s) as a result (if not already reported to the HREC). Please comment on whether causality to any study procedure or intervention could be established.

10.2 Have participants received appropriate treatment/ follow-up/ referral when indicated (e.g. in the case of abnormal or incidental clinical findings, distress or anxiety)?		
☐ Yes	☐ No	☒ Not applicable
If yes, please describe:		

11. Summary of Monitoring and Audit Activities (tick ✓)

11.1 Was this study monitored or audited by an external agency (e.g. SAHPRA, FDA)?					
☐ Yes		☒ No		☒ Not applicable	
11.2 Did a Data and Safety Monitoring Board publish a report?					
☐ Yes		☐ No		☒ Not applicable	
11.3 If yes, please identify the agency and attach a summary of the findings.					
Agency Name		Report attached	☐ Yes	☐ No	☒ Not applicable
		DSMB report attached	☐ Yes	☐ No	☒ Not applicable
11.4 Has there been any agency, institutional or other inquiry into non-compliance in this study, or any finding of non-compliance concerning a member of the research team?					
☐ Yes		☒ No			
If yes, please explain:					



--

12. Level of risk (tick ✓)

12.1 In light of your experience of this research, please indicate whether the level of risk to participants has:

☐	Increased
☐	Decreased
☒	Shown no change

If there has been a change, please explain:

--

12.2 Please provide a narrative summary of recent relevant literature that may have a bearing on the level of risk.

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13. Insurance

Please confirm that valid no fault insurance is still in place? (tick ✓)

☒ Yes	☐ No
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If yes, please complete the following:

Insurer's name:	UCT No fault insurance		
Policy no.		*Coverage Period:	

For UCT sponsored studies please liaise the Insurance office via fhs.sponsorship@uct.ac.za regarding the required documentation and information required obtain a renewed UCT No-fault Insurance Certificate.

14. Statement of conflict of interest

Has there been any change in the conflict of interest status of this protocol since the original approval? (tick ✓)

☐ Yes	☒ No
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If yes, please explain and if necessary, attach a revised conflict of interest statement (Section #7 in the New Protocol Application Form FHS013):

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15. Signature

My required signature certifies that the above is complete and correct.

Signature of PI		Date	17 September 2024
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Appendix B: Human Research Ethics Approval (Substudy)



UNIVERSITY OF CAPE TOWN
YUNIBESITHI YASENAPA • UNIVERSITEIT VAN KAAPSTAD

FACULTY OF HEALTH SCIENCES
Human Research Ethics Committee



FHS016: Annual Progress Report / Renewal

HREC office use only (FWA00001637; IRB00001938)			
This serves as notification of annual approval, including any documentation described below.			
☒ Approved	Annual progress report	Approved until/next renewal date	31.03.2025
☐ Not approved	See attached comments		
Signature Chairperson of the HREC/ Designee			Date Signed 19/3/24
Note: Please email this form and supporting documents (if applicable) in a combined pdf file to hrec-enquiries@uct.ac.za. Please clarify your plan for research-related activities during COVID-19 lockdown. Please use the latest form found on our website: http://www.health.uct.ac.za/fhs/research/humanethics/forms			
Comments to PI from the HREC			

Principal Investigator to complete the following:

1. Protocol information

Date (when submitting this form)	19 March 2024		
HREC REF Number	096/2023	Current Ethics Approval was granted until	31 March 2024
Protocol title	Child and adolescent mental health services in the Western Cape of South Africa: a health system strengthening initiative sub-study linked to 188/2016		
Protocol number (if applicable)	HREC 096/2023 protocol version 1.0		
Are there any sub-studies linked to this study?	☐ Yes	☒ No	
If yes, could you please provide the HREC Reference number for all sub-studies? Note: A separate FHS016 must be submitted for each sub-study.			
Principal Investigator	Prof Petrus J de Vries		



Department / Office Internal Mail Address	Struengmann Professor of Child & Adolescent Psychiatry Division of Child & Adolescent Psychiatry Department of Psychiatry and Mental Health University of Cape Town Room 25, Building B, 46 Sawkins Road, Rondebosch, 7700, South Africa Telephone: +27 (0)21 685 4103; Fax: +27(0)21 689 1343 petrus.devries@uct.ac.za
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1.1 Does this protocol receive US Federal funding?	☐ Yes	☒ No
1.2 If the study receives US Federal Funding, does the annual report require full committee approval? Note: Any annual approvals for Full Committee review MUST be submitted on the monthly HREC submission dates. (Please send electronic copy for full committee review to hrec-submission@uct.ac.za)	☐ Yes	☐ No

If yes in 1.2 please complete section 1.3 below for invoicing purposes

1.3 Ethics Renewal Fee

Please (tick ✓) appropriate box for billing purposes:

<i>Submission Type</i>	<i>Description</i>	<i>New fee (Vat Incl.)</i>	<i>tick ✓</i>
<i>Research funded solely from UCT departmental/divisional/group budget</i>	Annual evaluation of research progress report for re-certification	R0,00	☐
<i>Non-sponsored student research for degree purposes at UCT/Other Universities & Colleges</i>	Annual evaluation of research progress report for re-certification	R0,00	☒
<i>Annual re-certification / Progress report (FHS016 Form)</i>	Clinical Trial & International Grant Funded Research - Annual evaluation of research progress report for re-certification for Full Committee Approval	R7000,00	☐
<i>Annual re-certification / Progress report (FHS016 Form)</i>	Clinical Trial & International Grant Funded Research - Annual evaluation of research progress report for re-certification for Expedited review	R3 710.00	☐
<i>Annual re-certification / Progress report (FHS016 Form)</i>	National grant funded research - Annual evaluation of research progress report for re-certification for Full Committee Approval	R6000.00	☐
<i>Annual re-certification / Progress report (FHS016 Form)</i>	National Grant funded research for Annual evaluation of research progress report for re-certification for Expedited review	R1 500,00	☐

NB: Protocols funded by UCT (e.g. departmental funding / student research) and by certain grant funding organizations (e.g. MRC, NRF, CANSA,) are exempt from these charges.

Please provide details for Invoicing, either complete section 1 or 2 :

1. Invoice billing – Directly to Sponsor

Sponsor's name	
Billing Address of Sponsor:	
Vat Number:	
Contact person	
Telephone number	
Email Address	
2. Internal Journal Billing:	
Fund Number:	
Cost Centre Number:	
Account Holder Name:	
Division of Account Holder:	

2. List of documentation for approval

N/A

3. Protocol status (tick ✓)

☐	Open Enrolment
☐	Closed to enrolment (tick ✓)
☒	Research-related activities are ongoing
☐	Research-related activities are complete, long-term follow-up only
☐	Research-related activities are complete, data analysis only
☐	Main study is complete but sub-study research-related activities are ongoing
☐	Study is closed → Please submit a Study Closure Form (FHS010)

4. Enrolment

Number of participants enrolled to date	14
Number of participants enrolled, since last HREC Progress report (continuing review)	14
Additional number of participants still required	0



5. Refusals

Total number of refusals (participants invited to join the study, but refused to take part)	0
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6. Cumulative summary of participants

Total number of participants who provided consent	14
Number of participants determined to be ineligible (i.e. after screening)	0
Number of participants currently active on the study	0
Number of participants completed study (without events leading to withdrawal)	14
Number of participants withdrawn at participants' request (i.e. changed their mind)	0
Number of participants withdrawn by PI due to toxicity or adverse events	0
Number of participants withdrawn by PI for other reasons (e.g. pregnancy, poor compliance)	0
Number of participants lost to follow-up. Please comment below on reasons for loss of follow-up.	0
Number of participants no longer taking part for reasons not listed above. Please provide reasons below:	0

7. Progress of study

Please provide a brief summary of the research to date including the overall progress and the progress since the last annual report as well as any relevant comments/issues you would like to report to the HREC:
Data collection was completed in 2023. Data analysis and write up is in progress. To date one peer reviewed article and one peer reviewed book chapter have been published from the study. Three further manuscripts are in preparation.

8. Protocol violations and exceptions (tick ✓ all that apply)

☒	No prior violations or exceptions have occurred since the original approval
☐	Prior violations or exceptions have been reported since the last review and have already been acknowledged or approved

☐	Unreported minor violations that have occurred since the last review, as well as significant deviations not yet reported, are attached for review
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9. Amendments (tick ✓ all that apply)

☒	No Prior amendments have been made since the original approval
☐	Prior amendments have been reported since the last review and have already been approved
☐	New protocol changes/ amendments are requested as part of this continuing review (See note below)

Note: If new protocol changes are being requested in this review, please complete an amendment form (FHS006).

Specific changes in the amended protocol and consent/assent forms must be **bolded**, *italicised* or tracked and all changes must include a rationale.

10. Adverse events

10.1 Please provide below or attach a narrative summary of serious adverse events and/ or unanticipated problems since the last progress report. Please indicate changes made to the protocol and informed consent document(s) as a result (if not already reported to the HREC). Please comment on whether causality to any study procedure or intervention could be established.
N/A

10.2 Have participants received appropriate treatment/ follow-up/ referral when indicated (e.g. in the case of abnormal or incidental clinical findings, distress or anxiety)?		
☐ Yes	☐ No	☒ Not applicable
If yes, please describe:		

11. Summary of Monitoring and Audit Activities (tick ✓)

11.1 Was this study monitored or audited by an external agency (e.g. SAHPRA, FDA)?					
☐ Yes		☐ No		☒ Not applicable	
11.2 Did a Data and Safety Monitoring Board publish a report?					
☐ Yes		☐ No		☐ Not applicable	
11.3 If yes, please identify the agency and attach a summary of the findings.					
Agency Name		Report attached	☐ Yes	☐ No	☐ Not applicable



DSMB report attached	☐ Yes	☐ No	☐ Not applicable
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11.4 Has there been any agency, institutional or other inquiry into non-compliance in this study, or any finding of non-compliance concerning a member of the research team?	
☐ Yes	☒ No
If yes, please explain:	

12. Level of risk (tick ✓)

12.1 In light of your experience of this research, please indicate whether the level of risk to participants has:	
☐ Increased	
☐ Decreased	
☒ Shown no change	
If there has been a change, please explain:	

12.2 Please provide a narrative summary of recent relevant literature that may have a bearing on the level of risk.

13. Insurance

Please confirm that valid no fault insurance is still in place? (tick ✓)		
☐ Yes	☐ No	☒ Not Applicable – N/A
If yes, please complete the following:		
Insurer's name:		
Policy no.		*Coverage Period:
For UCT sponsored studies please liaise the Insurance office via fhs.sponsorship@uct.ac.za regarding the required documentation and information required obtain a renewed UCT No-fault Insurance Certificate.		

14. Statement of conflict of interest



Has there been any change in the conflict of interest status of this protocol since the original approval? (tick ✓)	
☐ Yes	☒ No
If yes, please explain and if necessary, attach a revised conflict of interest statement (Section #7 in the New Protocol Application Form FHS013):	

15. Signature

My signature certifies that the above is complete and correct.			
Signature of PI		Date	19 March 2024

Appendix C: Western Cape Government: Health Ethics Approval



STRATEGY & HEALTH SUPPORT

Health.Research@westerncape.gov.za
tel: +27 21 483 0866: fax: +27 21 483 6058
5th Floor, Norton Rose House, 8 Riebeeck Street, Cape Town, 8001
www.capegateway.gov.za

REFERENCE: WC_202304_020
ENQUIRIES: Dr Sabela Petros

University of Cape Town
Anzio Road
Observatory
Cape Town
7925

For attention: Prof Petrus de Vries, Dr Simphiwe Simelane

Re: Child and adolescent mental health services in the Western Cape of South Africa: a health system strengthening initiative

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research. Please contact the following people to assist you with any further enquiries in accessing the following sites:

Mfuleni CDC	Mr Mzwamadoda Gaji	021 350 0801
Nomzamo CDC	Ndabazabo Mafiso	074 199 8834

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted and the constraints caused by the Covid-19 epidemic above are respected and adhered to.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**Annexure 9**) within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
3. In the event where the research project goes beyond the *estimated completion date* which was submitted, researchers are expected to complete and submit a progress report (**Annexure 8**) and an updated ethics clearance letter to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
4. The reference number above should be quoted in all future correspondence.
5. You are required to notify the substructure office when you commence with your study at the above-mentioned facility(ies) and inform them when you have completed the study at the facility. **Khayelitsha Eastern Substructure:** Jill Langeveldt - 021 444 6574 or Jill.Langeveldt@westerncape.gov.za.

Yours sincerely

A handwritten signature in black ink, appearing to read 'V. Zweigenthal'.

PROF. V ZWEGENTHAL
DIRECTORATE: HEALTH INTELLIGENCE
DATE: 26 May 2023
CC

Information sheet

This survey describes findings from previous studies mapping the landscape of child and adolescent mental health services and systems (CAMHSS) in the Western Cape (Mokitimi et al.)

The aim of the survey is

- 1) to confirm that we have accurately summarised the information
- 2) to establish whether these findings are similar in other South African settings
- 3) to determine which gaps in CAMHSS need to be prioritised for strengthening in the next phase of the study

The survey will take 25 to 30 minutes of your time. The survey will be followed by stakeholder engagement workshops with targeted stakeholders, as described in the information sheet below. Participants may be asked to participate in the survey only or both the survey and the workshops.

Please attempt to rate all the statements. You may skip a question if it is not relevant to your field.

Private Bag X3, Rondebosch, 7701, South Africa. (021) 685 4103/5116. E-mail address: hlnsim003@myuct.ac.za; smokitim@pgwc.gov.za

INFORMATION SHEET FOR WORKSHOPS (for parent/guardian/mental health provider, senior DoH staff)

Project Title: "Child and adolescent mental health services in South Africa and other low-resource environments: situational analysis, stakeholder perspectives, and implications for health policy implementation."

What is this study about?

This is a research project being conducted by Professor de Vries, Dr Marguerite Schneider, Dr Stella Mokitimi and Dr Simphiwe Simelane at the University of Cape Town. We are inviting you to participate in this research project because you are a stakeholder in Child and Adolescent Mental Health services (CAMHS) in South Africa.

The purpose of this research project is to describe the existing CAMHS, to explore perspectives of users and providers of these services, and to use the information to generate a set of recommendations to inform policy and service implementation.

Ethical approval for the study has been obtained from the UCT Human Research Ethics Committee (HREC 188/2016), and from the Western Cape Department of Health. The study adheres to the principles as set out in the Helsinki Declaration (2013).

About the stakeholder engagement workshop/s

The workshop(s) will involve stakeholders involved in Child & Adolescent Mental Health Services at the local and provincial level in the Western Cape Province and nationally in South Africa. In the stakeholder engagement workshop, we will provide feedback of the results from phase I and II of the study. We will then ask you to help us create a plan that will show what

we all want CAMHS systems and services to look like, and the actions needed to get to that ideal plan. We hope that the process will provide an opportunity for relevant stakeholders to put forward their perspectives and discuss the ways in which CAMH services and policy implementation can be strengthened.

How, where, when and will the workshop(s) take place?

How: The stakeholder engagement workshops will start with feedback about the research results of our study so far. That will describe the current CAMH services and systems. Next, the workshops will talk about ideal services and systems and what we need to do to get to the ideal outcomes.

The stakeholder engagement workshops usually have two parts. In the first part, lasting up to four hours, challenges, impact and outcomes are discussed. In the second part, lasting up to three hours, the map developed from the first session will be presented and interventions and plans will be discussed.

Where: The local and provincial workshops will be held at the Division of Child and Adolescent Psychiatry, University of Cape Town. Address: 46 Sawkins Road, Rondebosch, 7700, with adherence to COVID-19 lockdown restrictions. If the workshop(s) cannot take place in person, they will be done on a secure virtual platform. The national workshop will be held on a virtual platform.

When: We will let you know the possible dates for workshops and will try to select dates that as many stakeholders as possible can join.

Will I be asked to do anything else?

We may ask you to give written comments on items discussed and identified in the stakeholder workshops or earlier phases of the study. This will help us to make sure we have summarised information accurately, and to help us prioritise the information and next steps. We will send you the information electronically in a way that will be easy for you to read and comment on. Your comments and responses will be anonymous.

Will I be paid for participation in the workshops?

We will not pay you to help us with the research, but we will reimburse the costs of travelling to the workshops if you let us know that you will need this.

Privacy/confidentiality and data protection

The workshops will be audio recorded and transcribed. Your name will not be used in transcriptions but we will give you a research number. We might use quotes extracts from the workshops in our study publications or presentations, but we will never link the quotes to your name, and will make sure that people will not be able to link the quote to you. In a workshop setting we cannot guarantee confidentiality of the information you provide in front

of other participants, but we will ask all participants to keep the information shared and heard in the workshops confidential and not to share it with other people.

What are the risks of this research?

There are no more than minimal risk associated with participating in this research project. You might feel frustrated or upset in some of the discussions, but we will do our best to make sure that people do not become distressed.

What are the benefits of this research?

This research is not designed to help you personally. The process will provide an opportunity for relevant stakeholders to put forward their perspectives and discuss the ways in which Child and Adolescent Mental Health services and policy implementation can be improved.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time you want. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized.

The workshops form a central part of our study. We hope that you will be willing to have an opportunity to share with us your opinions and contribute to policy implementation for CAMH in the Western Cape.

What if I have questions?

This research is being conducted by Professor de Vries, Dr Marguerite Schneider, Dr Stella Mokitimi and Dr Simphiwe Simelane in the Division of Child & Adolescent Psychiatry at the University of the Cape Town. If you have any questions about the research study itself, please contact:

Simphiwe Simelane (PhD candidate)

Email address: hnsim003@myuct.ac.za or simhlungwane@gmail.com

Stella Mokitimi

Email address: mktste003@uct.ac.za or stellamokitimi@gmail.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Chairperson of the UCT HREC

Prof Marc Blockman

University of Cape Town

**Barnard Fuller Building
Anzio Road
Observatory
Cape Town
Tel: (021) 406 6340**

Supervisors

**Professor Petrus J de Vries & Dr Marguerite Schneider
46 Sawkins Road
Rondebosch
7700**

Tel: (021) 685 4103/5116 E-mail address: petrus.devries@uct.ac.za

The University of Cape Town Senate Research Committee, the Ethics Committee and the Western Cape Department of Health have approved this research: (HREC 188/2016)

- 1) I have read and understood this information

☐ Yes
☐ No

Consent

Private Bag X3, Rondebosch, 7701, South Africa. (021) 685 4103/5116.

E-mail address: smokitim@pgwc.gov.za

INFORMED CONSENT FORM (for parent/guardian/mental health provider, senior DoH staff)

Project Title: Child and adolescent mental health services in South Africa and other low-resource environments: situational analysis, stakeholder perspectives, and implications for health policy implementation

Thank you for considering participating in this study

In order to participate in the study we described, please complete the form below.

I AGREE to take part in the study "Child and adolescent mental health services in South Africa and other low-resource environments: situational analysis, stakeholder perspectives, and implications for health policy implementation."

I also agree that the interview and/or the focus group discussion can be audio recorded.

I know why they are asking me to participate in this project and all of my questions have been answered.

- 1) First name _____
- 2) Last name _____
- 3) Email address _____
- 4) Do you consent to taking part in this survey ☐ Yes ☐ No
- 5) Signature _____

Participant information

Please complete the survey below.

Thank you!

What is your age	☐ 18-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+ ☐ Prefer not to say
How would you describe your racial identity	☐ Black ☐ White ☐ Indian/Asian ☐ Coloured ☐ Other ☐ Prefer not to say
What is your gender	☐ Female (including trans/cis) ☐ Male (including trans/cis) ☐ Non-binary ☐ Prefer not to say
What official South African language(s) do you speak	☐ English ☐ Afrikaans ☐ Zulu ☐ Xhosa ☐ Northern Sotho (Sepedi) ☐ Southern Sotho (Sesotho) ☐ Venda ☐ Tsonga ☐ Swati ☐ Ndebele ☐ Tswana
What other language(s) do you speak?	_____
Which CAMH related agency/ies are you involved in	☐ Health care ☐ Education ☐ Criminal justice ☐ Social services ☐ NPO ☐ Other
Which sector are you involved in	☐ Public ☐ Private/For Profit ☐ Other
If "other", please specify	_____

What is your predominant CAMH related role (e.g. educator, social worker, psychiatrist, medical officer, government official, occupational therapist, researcher etc..).

(If more than one role, please put each role on a different line)

Years of experience in a CAMH related role

- ☐ 0-5
☐ 6-10
☐ 11-15
☐ 16 or more

What province do you primarily work in

- ☐ Eastern Cape
☐ Free State
☐ Gauteng
☐ KwaZulu-Natal
☐ Limpopo
☐ Mpumalanga
☐ Northern Cape
☐ North West
☐ Western Cape

What type of environment do you primarily work in

- ☐ Rural
☐ Urban
☐ Both
☐ Other

If "other", please specify

Survey questions

Please complete the survey below.

Thank you!

In an earlier study, Dr Stella Mokitimi examined child and adolescent mental health services and systems in the Western Cape province. She summarized her findings using the World Health Organization (WHO) 'building blocks' of health systems.

As a next step in our research, we want to check to what extent Dr Mokitimi's findings (based on data from 2016) are similar or different to the current situation and in other South African provinces.

You are therefore asked to rate a range of summary statements and indicate how much you agree (or disagree) with the statement in relation to your own context or setting.

Statements will be grouped according to the WHO health systems building blocks.

Please try to rate all statements as we are evaluating your perception of the system. If you feel that you cannot answer, you may leave the question blank.

Definitions and abbreviations

CAMH- Child and adolescent mental health

CAMHS- Child and adolescent mental health services

CAMHSS - Child and adolescent mental health services and systems

child(ren)- person(s) aged 0-12 years old (including)

adolescent(s)- person(s) aged 13-17 years old (including)

Service delivery

The delivery of effective, safe, good quality personal and non-personal care to those that need it. Includes service packages, delivery models, infrastructure, management, safety & quality and demand for care.

Please rate each statement in relation to how much you agree or disagree in relation to your setting or context

Questions are sectioned according to level of care. Please see the top of each page to find the relevant service level- i.e. primary, secondary etc...

CAMH at primary level (community)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
CAMH outpatient services are available	☐	☐	☐	☐	☐
Children and adolescents with mental disorders are seen alongside adults	☐	☐	☐	☐	☐
Inpatient intellectual disability services are available for children	☐	☐	☐	☐	☐
Inpatient intellectual disability services are available for adolescents	☐	☐	☐	☐	☐

Outpatient intellectual disability services are available for children	☐	☐	☐	☐	☐
Outpatient intellectual disability services are available for adolescents	☐	☐	☐	☐	☐
CAMH psychosocial intervention is available	☐	☐	☐	☐	☐
There is access to child and adolescent friendly tools and equipment for CAMH work (e.g. toys)	☐	☐	☐	☐	☐
There are CAMH service innovations	☐	☐	☐	☐	☐

CAMH at secondary level (district/regional)					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
CAMH outpatient services are available	☐	☐	☐	☐	☐
CAMH inpatient services are available for children	☐	☐	☐	☐	☐
CAMH inpatient services are available for adolescents	☐	☐	☐	☐	☐
Inpatient intellectual disability services are available for children	☐	☐	☐	☐	☐
Inpatient intellectual disability services are available for adolescents	☐	☐	☐	☐	☐
Outpatient intellectual disability services are available for children	☐	☐	☐	☐	☐
Outpatient intellectual disability services are available for adolescents	☐	☐	☐	☐	☐
CAMH psychosocial intervention is available	☐	☐	☐	☐	☐
Children with mental disorders are admitted to general paediatric wards	☐	☐	☐	☐	☐
Adolescents with mental disorders are admitted to adult mental health inpatient units/wards	☐	☐	☐	☐	☐
There is access to child and adolescent friendly tools and equipment for CAMH work (e.g. toys)	☐	☐	☐	☐	☐
There are CAMH service innovations	☐	☐	☐	☐	☐

CAMH at tertiary level (provincial/university/teaching hospital)					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
CAMH outpatient services are available	☐	☐	☐	☐	☐
CAMH inpatient services are available for children	☐	☐	☐	☐	☐
CAMH inpatient services are available for adolescents	☐	☐	☐	☐	☐
Inpatient intellectual disability services are available for children	☐	☐	☐	☐	☐
Inpatient intellectual disability services are available for adolescents	☐	☐	☐	☐	☐
Outpatient intellectual disability services are available for children	☐	☐	☐	☐	☐
Outpatient intellectual disability services are available for adolescents	☐	☐	☐	☐	☐
CAMH psychosocial intervention is available	☐	☐	☐	☐	☐
Children with mental disorders are admitted to general paediatric wards	☐	☐	☐	☐	☐
Adolescents with mental disorders are admitted to adult mental health inpatient units/wards	☐	☐	☐	☐	☐
There is access to child and adolescent friendly tools and equipment for CAMH work (e.g. toys)	☐	☐	☐	☐	☐
Tertiary outpatient and inpatient CAMHS are only available in cities/metros	☐	☐	☐	☐	☐
There are CAMH service innovations	☐	☐	☐	☐	☐

General service delivery	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
CAMH services are provided based on geographical service areas/catchment areas	☐	☐	☐	☐	☐
There is collaboration between CAMHS and paediatric services in my setting	☐	☐	☐	☐	☐
There are CAMH-specific hospitals in my setting	☐	☐	☐	☐	☐
There are CAMH residential (long-term/permanent) units in my setting	☐	☐	☐	☐	☐
There are CAMH forensic services in my setting	☐	☐	☐	☐	☐
CAMH is given low priority compared to adult mental health and general healthcare	☐	☐	☐	☐	☐
There are passionate multidisciplinary teams in tertiary CAMH units	☐	☐	☐	☐	☐
CAMH services are perceived as inconsistent	☐	☐	☐	☐	☐
CAMH services are perceived as inequitable	☐	☐	☐	☐	☐
CAMH services are perceived as slow	☐	☐	☐	☐	☐
CAMH services are perceived as inappropriate	☐	☐	☐	☐	☐
CAMH services are perceived as inaccessible	☐	☐	☐	☐	☐
There is intersectoral collaboration between CAMH related sectors (Dept of Health, Social Development, Basic Education)	☐	☐	☐	☐	☐
There is good collaboration between service providers and provincial Departments of Health	☐	☐	☐	☐	☐

Health Workforce

All people engaged in actions whose primary intent is to protect and improve health. A country's health workforce consists broadly of health service providers and health management and support workers.

Includes national workforce policies and investment plans; advocacy; norms, standards and data.

Please rate each statement in relation to how much you agree or disagree in relation to your setting or context

Questions are sectioned according to level of care. Please see the top of each page to find the relevant service level- i.e. primary, secondary etc...

Health workforce at primary level					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There is evidence of CAMH training	☐	☐	☐	☐	☐
There are separate human resources for CAMHS	☐	☐	☐	☐	☐
There is support for CAMH staff	☐	☐	☐	☐	☐
There is acknowledgement of staff who develop service innovations to improve CAMH service delivery	☐	☐	☐	☐	☐
There are negative staff attitudes towards CAMH	☐	☐	☐	☐	☐

Health workforce at secondary level					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There is evidence of CAMH training	☐	☐	☐	☐	☐
There are separate human resources for CAMHS	☐	☐	☐	☐	☐
There is support for CAMH staff	☐	☐	☐	☐	☐
There is acknowledgement of staff who develop service innovations to improve CAMH service delivery	☐	☐	☐	☐	☐
There are negative staff attitudes towards CAMH	☐	☐	☐	☐	☐

Health workforce at tertiary level					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There are highly skilled staff in tertiary CAMH units	☐	☐	☐	☐	☐
There is evidence of CAMH training	☐	☐	☐	☐	☐
There are separate human resources for CAMHS	☐	☐	☐	☐	☐

General CAMH health workforce					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There is inequitable distribution of human resources for CAMHS	☐	☐	☐	☐	☐
There are high workload demands for CAMHS	☐	☐	☐	☐	☐
Sectors are perceived to work in 'silos' thus reinforcing 'us and them' thinking	☐	☐	☐	☐	☐
There is limited public education about CAMH, therefore CAMH is perceived as a low priority	☐	☐	☐	☐	☐

Information Systems

Health information and surveillance systems, the development of standardized tools and instruments, and the collation and publication of international health statistics

Includes facility and population based information & surveillance systems; global standards, tools

Please rate each statement in relation to how much you agree or disagree in relation to your setting or context

CAMH Information systems					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There is high quality local CAMH research	☐	☐	☐	☐	☐
There are inadequate and inaccessible information systems	☐	☐	☐	☐	☐
There are no disaggregated data for children and adolescents versus adult data i.e. under-18-year-olds	☐	☐	☐	☐	☐

Access to essential medicines and technologies

Equitable access to essential medical products, vaccines and technologies of assured quality, safety, efficacy and cost-effectiveness, and their scientifically sound and cost-effective use

Includes norms, standards, policies; reliable procurement; equitable access; quality

Please rate each statement in relation to how much you agree or disagree in relation to your setting or context

Access to essential medicines and technologies for CAMH	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There is access to essential psychotropic medications for children and adolescents at primary care level	☐	☐	☐	☐	☐
There is access to essential psychotropic medications for children and adolescents at secondary care level	☐	☐	☐	☐	☐
There is access to essential psychotropic medications for children and adolescents at tertiary care level	☐	☐	☐	☐	☐
There is inconsistent availability of psychotropic medications across all levels of care (e.g. types	☐	☐	☐	☐	☐
There are technologies to support CAMH information systems e.g. data collection across levels of care	☐	☐	☐	☐	☐
There are technologies to support clinical services e.g. training, supervision	☐	☐	☐	☐	☐

Financing

Adequate funds for health, in ways that ensure people can use needed services, and are protected from financial catastrophe or impoverishment associated with having to pay for them

Includes national health financing policies; tools and data on health expenditures; costing

Please rate each statement in relation to how much you agree or disagree in relation to your setting or context

Financing for CAMH	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There is funding provided for specialist posts in CAMHS	☐	☐	☐	☐	☐
There is funding provided for CAMHS training at tertiary level	☐	☐	☐	☐	☐
There is no separate, ring-fenced, or disaggregated budget for CAMH	☐	☐	☐	☐	☐
Child and adolescent psychiatry is classified as a 'subspeciality' and therefore funding of services is perceived as the domain of only tertiary level services	☐	☐	☐	☐	☐

Leadership and governance

The role of the government in health and its relation to other actors whose activities impact on health. This involves overseeing and guiding the whole health system, private as well as public, in order to protect the public interest

Includes health sector policies; harmonization and alignment; oversight and regulation

Please rate each statement in relation to how much you agree or disagree in relation to your setting or context

Leadership and governance for CAMH					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There is a national CAMH policy in place	☐	☐	☐	☐	☐
Mental Health Review Boards are in place	☐	☐	☐	☐	☐
There is strong leadership in specialist CAMH teams	☐	☐	☐	☐	☐
There is good awareness about CAMH	☐	☐	☐	☐	☐
There are existing provincial CAMH policies and/or implementation plans	☐	☐	☐	☐	☐
There is reference to CAMH in general health policies	☐	☐	☐	☐	☐
There is involvement of CAMH experts/users in CAMH policy development and/or review	☐	☐	☐	☐	☐
There is dedicated provincial leadership for CAMH	☐	☐	☐	☐	☐
CAMH is perceived as a priority area of health that requires strengthening by policymakers	☐	☐	☐	☐	☐

Now that you have an idea of the components of the building blocks of CAMHSS

Which WHO building block do you think should be the priority for strengthening CAMHSS in South Africa

- ☐ Policy and legislative framework
- ☐ Mental health services
- ☐ CAMH in primary care
- ☐ Human resources
- ☐ Monitoring and research
- ☐ Public information and links with other sectors

If you could pick ONE area or action to strengthen CAMHS in your service, province or in the country, what would it be?

Do you have any other comments or suggestions

Would you be willing to participate in further research on strengthening CAMHSS

- ☐ Yes
- ☐ No

Appendix G: Informed consent: Potential ‘fit’ of mhGAP-IG



Private Bag X3, Rondebosch, 7701, South Africa. (021) 685 4103/5116. E-mail

address: hlsim003@myuct.ac.za

INFORMATION SHEET FOR INTERVIEWS (for mental health provider)

Project Title: “Strengthening child and adolescent mental health services and systems in South Africa: a multi-stakeholder implementation science initiative.”

What is this study about?

This is a research project being conducted by Professor de Vries and Dr Simphiwe Simelane at the University of Cape Town. We are inviting you to participate in this research project because you are a stakeholder in Child and Adolescent Mental Health services and systems (CAMHSS) in South Africa.

The purpose of this research project is to develop strategies that will strengthen CAMHSS in partnership with the providers who deliver the mental health services daily. We would like to determine if the mental health gap action programme intervention guide (referred to as mhGAP-IG in this document) would be a good tool for mental strengthening clinical services at the primary care level in the Western Cape.

Ethical approval for the study has been obtained from the UCT Human Research Ethics Committee (HREC xxx/20xx), and from the Western Cape Department of Health. The study adheres to the principles as set out in the Helsinki Declaration (2013).

About the stakeholder engagement interviews and discussions

The focus group discussion(s) will involve stakeholders involved in Child & Adolescent Mental Health Services at the primary care level in the Western Cape. We will start by introducing the mhGAP-IG “mental and behavioural disorders in children” module to participants through a presentation. We will then ask you a series of open-ended questions to get a sense of whether you believe the tool is a good fit for use in your setting. You will also be asked to fill in three

short questionnaires about the acceptability (how well received something is), appropriateness (how relevant and compatible something is), and the feasibility (how doable or useable something is) of the mhGAP-IG “mental and behavioural disorders in children” module for your clinical setting. We hope that the process will provide an opportunity for you to put forward your perspectives and discuss the ways in which CAMH services at the primary care level can be strengthened.

How, where, when and will the interview(s)/discussion(s) take place?

How: The stakeholder engagements will start with an introduction to the mhGAP-IG “mental and behavioural disorders in children” module to participants through a group presentation, followed by a series of questions where we will explore your perception of the potential fit of the tool will be conducted.

Where: The focus group discussions will be conducted in a private room at your place of work so that it is easier for you to attend. If there are any problems securing a private room at your facility, you will be informed telephonically about an alternative venue close to you.

When: We will arrange the focus group discussions with your facility manager. We will try to accommodate your schedule as much as possible. We will ask you to fill in the short questionnaires after the interview.

Will I be asked to do anything else?

We may ask you to answer follow up questions if there are any points that we require clarity on after your interview. This will help us to make sure we have summarised information accurately. We will send you the information electronically in a way that will be easy for you to read and comment on. Your comments and responses will be anonymous.

Will I be paid for participation in the focus group discussions?

We will not pay you to help us with the research, but we will ensure that all focus groups take place at a location that is most convenient for you.

Privacy/confidentiality and data protection

The focus group discussions will be audio recorded and transcribed. Your name will not be used in transcriptions, but we will give you a research number. We might use quotes extracts from the interviews in our study publications or presentations, but we will never link the quotes to your name and will make sure that people will not be able to link the quote to you. We cannot guarantee confidentiality of the information you provide in front of other participants, but we will ask all participants to keep the information shared and heard confidential and not to share it with other people.

What are the risks of this research?

There are no more than minimal risk associated with participating in this research project. You might feel frustrated or upset in some of the discussions, but we will do our best to make sure that people do not become distressed.

What are the benefits of this research?

This research is not designed to help you personally. The process will provide an opportunity for relevant stakeholders to put forward their perspectives about the potential use of mhGAPIG “mental and behavioural disorders in children” module to strengthen Child and Adolescent Mental Health services in their clinical setting.

Do I have to be in this research, and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time you want. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized.

The focus groups form a central part of our study. We hope that you will be willing to have an opportunity to share with us your opinions and contribute strengthen Child and Adolescent Mental Health services at the primary care level.

What if I have questions?

This research is being conducted by Professor de Vries, and Dr Simphiwe Simelane in the Division of Child & Adolescent Psychiatry at the University of the Cape Town. If you have any questions about the research study itself, please contact:

Simphiwe Simelane (**PhD candidate**)

Email address: hlmsim003@myuct.ac.za or simhlungwane@gmail.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Chairperson of the UCT HREC

Prof Marc Blockman

University of Cape Town

Barnard Fuller Building

Anzio Road

Observatory

Cape Town

Tel: (021) 406 6340

Supervisors

Professor Petrus J de Vries

46 Sawkins Road

Rondebosch

7700

Tel: (021) 685 4103/5116

E-mail address: petrus.devries@uct.ac.za

The University of Cape Town Senate Research Committee, the Ethics Committee and the Western Cape Department of Health have approved this research: (HREC xxxx)

Appendix H: Interview guide: Potential ‘fit’ of mhGAP-IG

Study Title: Strengthening child and adolescent mental health services and systems in South Africa: A multi-stakeholder implementation science initiative

Interview guide clinic staff and district health officials

Version date: Month DD, 2023

Interviewer record the following before starting the full interview

Gender _____

Age _____

Site _____

Position (e.g., Nurse, Psychiatrist, District Health Officer) _____

[Note to interviewer: start tape recorder]

Part 1: Introduction

[Note to interviewer: The below can be adapted but the main points are for you to simply reintroduce yourself (following the consent) and the purpose of the interview.]

Thank you so much again for consenting to take part in this project. Again, my name is _____ and I really appreciate you taking the time to talk with me today. Your thoughts and opinions may be very important in helping to improve services to members of the community. During the next hour or so, I would like to ask you your thoughts on some current practices in the [clinic/district] for child and adolescent mental health conditions and some of your thoughts about the proposed WHO guidelines that you learned about in the recent presentation. Does that sound OK?

Part 2: Study Questions

[Note to interviewer: Remember, you do not have to ask all of the questions, just follow this general outline. You can adapt the interview as needed based on the participant responses. If a participant wants to elaborate more fully on a point, let them do that—if they do not want to talk about certain questions, skip them. Remember: The participant should do most of the talking.]

Research Objective 1: Describe the current standard practices and guidelines used across the four sites

Main Questions	Additional Questions	Clarifying Questions
Can you start by telling me about your position in the clinic/district health office?	Can you walk me through a standard day at your job? What are your specific responsibilities?	Can you expand a little more on that? Is there anything else you can tell me about that? Do you have any examples?
Can you describe the types of child and adolescent mental health problems that you treat in this clinic?	Probe on: child and adolescent mental health conditions	
Can you tell me what is the usual course of treatment for someone who presents with <i>[type of disorders mentioned in previous question OR child and adolescent mental health conditions if not mentioned]</i> ?	What is your role in their treatment?	
Does the course of treatment for these types of problems differ from standard guidelines for treatment?	Probe: How so? <i>[if participant responds 'yes']</i> In what ways are they different?	
What are your own thoughts on the practices in the clinic for treating these types of problems?	Why do you feel that way? Do you have differing feelings about any guidelines (if they exist)?	
	Are these feelings different than they are for current practices? How so?	

What do <i>you</i> think would be the best practices for treating these types of problems in your clinic?	Are there ways current practices could be improved? How so? Are best practices in your clinic different than they would be in other clinics in South Africa? How so? In other parts of the world? How so?
---	---

Research Objective 2: Explore potential fit of the mhGAP-IG “mental and behavioural disorders in children” module for the clinical setting

Type of question	Main Questions	Additional Questions	Clarifying Questions
Introductory	We went over the mhGAP-IG CMH module. Can you describe the WHO mhGAP-IG CMH module in your own words?		
	Do you think any changes are necessary in the clinic/CHC’s current practices given these guidelines, or not?		
Acceptability	What do you think about the WHO mhGAP-IG CMH module for treating these types of problems that you heard about in the presentation?		Can you expand a little more on that?
	Do you think that you would personally be able to use the WHO mhGAP-IG CMH module in your clinic?		Is there anything else you can tell me about that?
	Do you think there will be any costs involved with implementing the WHO mhGAP-IG CMH module in your clinic		Do you have any examples?
Appropriateness	Do you think that the material covered in the mhGAP-IG CMH module is relevant for the type of conditions you see in your clinic		

	Do you think that the mhGAP-IG CMH module meets your needs for treating CAMH conditions
	Do you think that using the mhGAP-IG CMH module could become part of your routine practice?
Feasibility	Do you think that the mhGAP-IG CMH module will be easy to use in your clinic?
	What do you think would be some potential barriers or challenges to using the mhGAP-IG CMH module for treating CAMH problems in your clinic??

Research Objective 3: Identify and describe recommendations for adapting the WHO mhGAP-IG CMH module for the context

Main Questions	Additional Questions	Clarifying Questions
Can you talk about times in the clinic previously when new practices or policies were put into place?	How were these changes implemented? How was the implementation received by staff at the clinic? Do you think the implementation strategy was effective? Why or why not?	
Thinking about the mhGAP-IG CMH module, what strategies do you think could be used for implementing the guideline in your clinic?		

What changes to the guideline do you think would be necessary to make it more suitable for your clinic?		
What types of support would your staff require to enact any changes to current guidelines or practices?	What types of tangible support?	

Part 3: Concluding Questions

What else can you tell me about the current guidelines, WHO mhGAP-IG CMH module, or your thoughts on challenges of implementing the WHO mhGAP-IG CMH module in your clinic?

Is there anything that we did not cover today that you would like to tell me more about?

Appendix I: Codebook: Potential 'fit' of mhGAP-IG

Theme	Code	Quote	Participant
Theme 1: The mhGAP-IG tool would be helpful for specific providers and cases	Easy to use and understand	"It is simple. You can understand it, a PN can understand it who is not mentally trained. Because it tells you exactly where to go and what to do."	P4
		"It's easy to at least locate the child with the particular problem... It would definitely help you then to refer and initiate management."	P11
		"It's user friendly, it's easy to use."	P4
		"It's clear enough to say, like you screen for this, and then if it's no or unlikely, then you move to another problem. So I think it's going to be very helpful."	P2
	Memory aid for clinicians	"Even for me this is helpful. Because obviously you forget things and I can quickly go to your guide and say, ok, this is what I'm supposed to do."	P4
		"I like it. It guides you not to miss the small clues that will help you to understand and refer properly, because sometimes you take your history, you miss up certain things and you refer maybe to the registrar. But when the registrar comes, then they ask, did you do this? Did you do that? And then you're going to go back. So, it delays the process. So, I think for me it will be like very helpful."	P2
		"You will pick up a lot more things than just going off memory."	P6
	Clinical decision support	"I think it's a nice screening tool. It helps you diagnose. But in terms of management and treatment, you will still have to consult."	P8
		"It is extremely helpful. It is a screening tool. It's the same principles—history, examination, a problem list, differential diagnosis. At the end I would refer."	P5
		"I think for selected cases I would use it, like the new patients that come to me for ADHD just to complement the full assessment. But I won't use it on every patient."	P6

	Preference over other SOPs	"I want this. Because the substructure wants their own SOP and it's tiring. This is what we want at the primary healthcare level."	P1
Theme 2: Challenges impacting current quality of care	Pushing numbers	"We don't have time. We are sort of pushing the numbers."	P12
		"There are certain cases where you will take longer... and unfortunately our system is geared at head count."	P5
		"It is just, we are almost like workers in a factory. Instead of actually being medical doctors. Because for me personally, if somebody had to look at what I'm doing in a day, it is like any factory worker. If I was working at a chicken factory, it would be, 'How many chickens did I actually defeather, or how many did I boil, or how many did I package or how many did I whatever...' So, it is concerning that that is how it's being looked at."	P5
		"You don't have enough time to probe."	P2
	Overwhelming workloads	"It is chaotic. You just try and get through the day and get home."	P6
		"We don't have the manpower and the capacity to do it."	P7
		"You are doing two jobs in one day."	P11
		"The ones that are coming late in the afternoon when you are very tired are the complicated ones."	P2
		"I have to say at our clinic every 5 minutes there's a knock on my door. 'I just want your opinion on this', 'I just want to ask you this.' The clinical nurse practitioners, it's now like three or four clinical nurse practitioners. It's like every time they come and ask me something and I understand why. But it's just like, yeah, ongoing besides that it's the phone that rings every two minutes. It's chaotic at times."	P4

		"Load. Personally, workload. OK. Because you see, if the workload is much... You see I did say I've got a clinic to run — in between I have to take outpatients, and in between you are phoned by multiple clinicians for an opinion or whatever. You have your own patients to refer and so on. Then you also have file audits at the same time. How do I juggle? So, you go home. You are tired and burnt out. And that also makes you lose motivation. And it's in the public sector, so it's also difficult to say you're going to have to decrease workload. You know in my team now it's like regularly you always find one CNP is not there. So those are untold stuff. Yeah, but if you don't address them, it becomes really an issue of material. You just say, "I'm sick," because you want to break because you're tired. It's too much, OK."	P11
	Provider discomfort with young patients	"They are sometimes not seen because the clinicians don't feel comfortable."	P6
	Language barrier	"The other thing that I've noticed is that the majority of children that come here are not English first language speakers. So, to dig into some of these questions with a lady in front of you that really doesn't understand what you're saying is also a bit tough."	P7

Theme 3: Barriers to adoption and implementation	Many guidelines introduced	"There are many books and guidelines and policies. They come and go. But no one really says, 'Let's follow this one and make it work.'"	P5
		"Nobody is monitoring whether you're using these guidelines."	P7
	Not suitable for high-volume settings	"It's not realistic to sit and page through it while people are waiting."	P2
		"It takes an extra step to decide to open a book. And that's often when you're at patient number 39."	P14
	Need for dedicated time	"To see them appropriately and effectively, you're going to need time or time management."	P5
	Resistance to change	"Old staff members are very resistant to change... they will not deviate from that."	P7
		"The ones that works with me, the 50-year-olds present like 60-year-olds, and they are not flexible — they are rigid in their thinking. And I think what makes the difference is the ones that have both tertiary experience and primary health care. I can see the gap, so the ones that never had tertiary experience they're concrete thinking, you can't, uh it's old ways. Yeah so, we can't cross that bridge ... when we work with them."	P1
		"... so now if I have something that makes my life again difficult, I would better avoid it and orientate it to somebody [who] will have more time to do it."	P11
	Poor implementation processes	"I think that the problem with our facility is that there will be lots of talk, minimal implementation and no follow up with no support. So, like for example these new TB [tuberculosis] guidelines from provincial came out. A whole big talk about it saying you must just implement it but with no support. How are you going to implement it? Who's going to help us? Who's going to audit it to see if it works? There's no follow through of the stuff."	P7

		"No, it was the same as with COVID when we were doing the testing, we were just going in blindly and there was no follow up of the results. There's no plan to follow up. We did mass testing, but then when it came down to the results. There wasn't really a system in place."	P6
Theme 4: Simple adaptations to support implementation	Need for simplified format	"“Is there a way we can maybe adapt the book to our setting? Because I feel like you sort of have to page through, you know? I don't like it when it says, 'go this way, go this way.' We don't have time to be going through the pages. Is there a way that maybe it can just flow in one page? It flows like that. So, ADHD—this is what I have to look at. It could possibly be this but in one page. So that I don't have to be paging. It's very good. I don't want to lie, but if we can just make it the structure, it's sort of a bit—I don't want to say haphazard—it's somehow all over for me. I just want something that is more structured in one page... then I know I'm done, than having to page through."	P12
		"If you are screening for ADHD... This is like a one pager."	P7
		"Like a summary of the book."	P6
	Add navigation aids	"The only thing I would add is, you know, like in the PACK*, it tells you to go to page number 96. That kind of thing. If you can add the page number, that would help. Otherwise, I like it."	P4
	Clarify provider responsibilities	"For example, the psychosocial stuff. Do we, as the medical officers, implement the psychosocial changes or do we refer that out? Because then actually we don't really need those pages. I mean, it's useful. But practically speaking, it's not useful."	P7
Theme 5: Training, leadership, and resources required	Cost and need for training	"Just a training, which is a cost to get others trained as well."	P11

		"That would be nice, face to face, because what I've noticed when you get on the doctor's office is busy on teams while he's seeing a patient, which means it's just people talking and they are not concentrating, you understand?"	P3
		"We would have to have more staff trained on it as well, not just us."	P6
		"I will say during crisis every healthcare provider should be able. Then if we've got somebody dedicated, then it's more appropriate for continuity of care and follow up. It would be ideal."	P11
	Need for refresher use	"If you have the similar case again after a month, it will be a challenge for you to recap."	P11
		"I think though in the clinic setting you seeing so like such a wide variety of people that you will lose familiarity with the book quickly and it's going to take longer than... I mean that lady [referring to the mhGAP-IG YouTube video] knew this thing in her head. So, then it was a nice 10-minute consult. But if you have to read and page then it's probably going to be half an hour to an hour, yeah."	P14
	Leadership needed	"Who's going to drive it? Who's going to audit it?"	P5
		"Being aware that the mental health nurse is there, so that others can ask her questions if they don't understand something."	P4
		"If it's mandated from provincial, then everyone must do it. If it's not, they won't because they are overwhelmed."	P1

	More time	"I think we would need more time for them. A special day just to focus on them. Because there's quite a number of them and they just come pop up on random days. So, it would be nice if we could dedicate like a Friday afternoon just for them, so that it doesn't interfere with their school. Because at the moment they have to be kept out of school to come for their reviews and that can be disturbing for the child. So, it would be better if we could just like on a Friday afternoon the schools end early then we can just dedicate 4 hours or so, just to the ADHD children."	P6
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