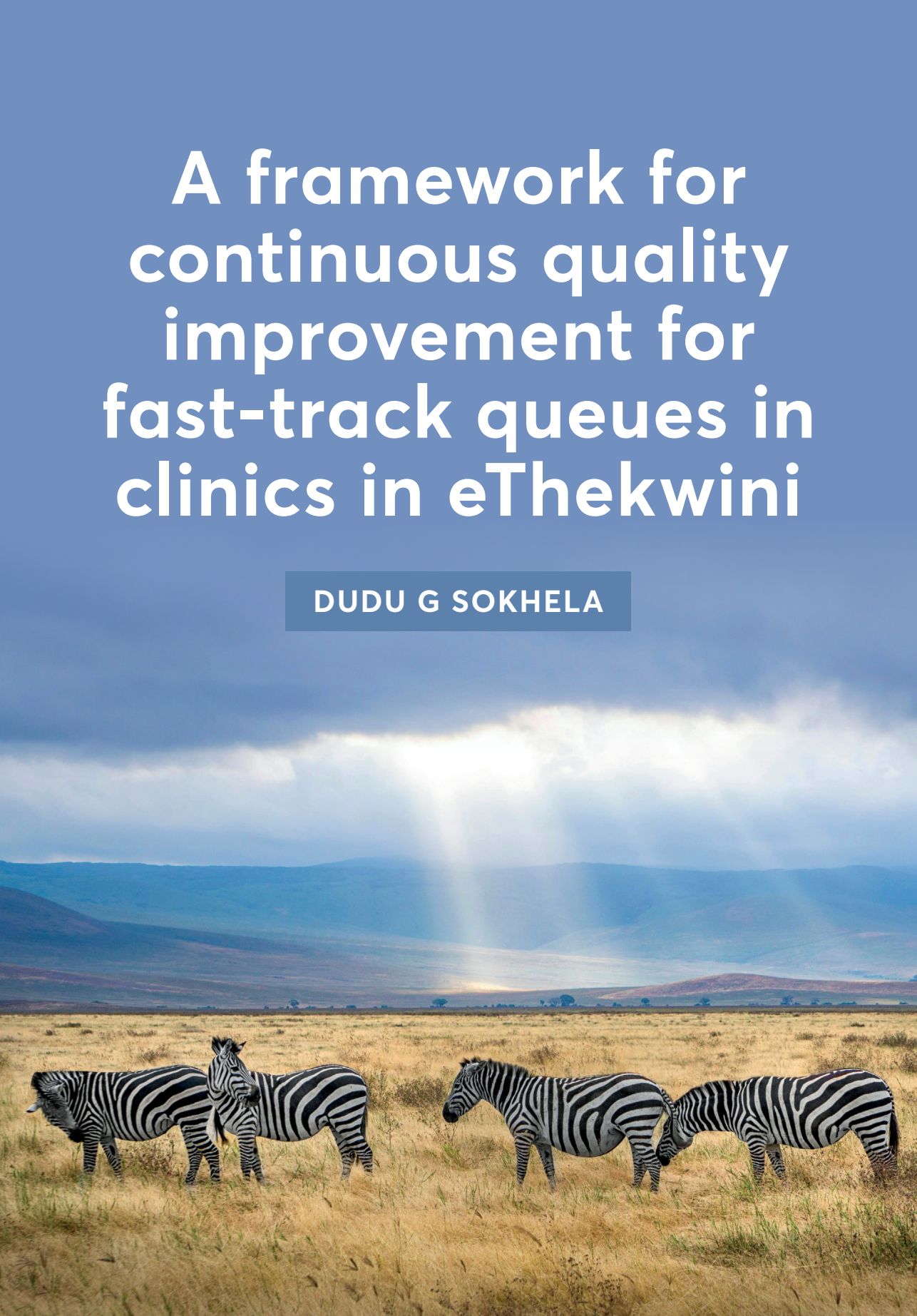
A framework for continuous quality improvement for fast-track queues in clinics in eThekwini

DUDU G SOKHELA



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ITUTA
Published by ITUTA Books, an imprint of AOSIS Scholarly Books, a division of AOSIS.

AOSIS Publishing
15 Oxford Street, Durbanville, 7550, Cape Town, South Africa
Postnet Suite 110, Private Bag X19, Durbanville, 7551, Cape Town, South Africa
Tel: +27 21 975 2602
Website: https://www.aosis.co.za

Cover image: The cover design was created by Natascha Olivier/Coco Design with the use of a photograph by Hendrik Cornelissen {2862070} obtained from Pexels.com, title 'Five Zebra Grazing on Grass Field', available from https://www.pexels.com/photo/five-zebra-grazing-on-grass-field-2862070, copyright-free under the Pexels licensing terms.

Published in 2024
Impression: 1

ISBN: 978-1-990982-06-4 (print)
ISBN: 978-1-990982-07-1 (epub)
ISBN: 978-1-990982-08-8 (pdf)

DOI: https://doi.org/10.4102/aosis.2024.BK452
How to cite this work: Sokhela, DG 2024, *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town.

Printed and bound in South Africa.

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Peer-review declaration

The publisher (AOSIS) endorses the South African 'National Scholarly Book Publishers Forum Best Practice for Peer-Review of Scholarly Books'. The book proposal form was evaluated by our Health and Veterinary Sciences editorial board. The manuscript underwent an evaluation to compare the level of originality with other published works and was subjected to rigorous two-step peer review before publication by two technical expert reviewers who did not include the author and were independent of the author, with the identities of the reviewers not revealed to the and author. The reviewers were independent of the publisher and author. The publisher shared feedback on the similarity report and the reviewers' inputs with the manuscript's author to improve the manuscript. Where the reviewers recommended revision and improvements, the author responded adequately to such recommendations. The reviewers commented positively on the scholarly merits of the manuscript and recommended that the book be published.

Research justification

In South Africa, free health services were among the methods used to improve maternal and child health care and to lower the mortality rate. However, these services were later extended to all primary health care (PHC) users as a basic human right entrenched in the Constitution of the Republic of South Africa (RSA) (1996). Section 27 of the Bill of Rights provides that 'Everyone has the right to have access to healthcare services, including reproductive healthcare services [...]'.

Furthermore, the rise in the burden of communicable chronic diseases, such as tuberculosis, human immunodeficiency virus (HIV), acquired immunodeficiency syndrome (AIDS) and non-communicable diseases – also known as diseases of lifestyle, such as hypertension and diabetes mellitus – increased the burden on the health care system. As a result, health care users who were responding well to treatment were referred to PHC facilities to be managed by nurses, and this process is known as down referral. Additional training was provided for PHC nurses to enable them to care for these health care users, and one such training programme was Nurse Initiated Management of Anti-Retroviral Treatment (NIMART). While training and availability of life-saving medication were most welcome, PHC facilities did not have adequate resources to take on this challenge. The resultant influx of patients and congestion at PHC facilities subsequently worsened waiting times, which have been a problem in the South African health care system for decades. Policies and guidelines were provided for the implementation of task-shifting from hospital doctors to PHC nurses with the aim of minimising delays and reducing these waiting times. While the fast-tracking of health care users who came for short consultations (e.g. those collecting medication for chronic illnesses, neonatal care visits and family planning) helped in decongesting PHC facilities, the question of the quality of care received by these health care users remained.

Challenges at PHC facilities were amplified in recent years, when the country, like the entire world, faced the SARS-CoV-2 virus pandemic (better known as the coronavirus disease 2019 [COVID-19] pandemic). The congestion at PHC facilities posed a risk of spreading infection. There was a shortage of human resources, particularly nurses, who were the ones on the frontlines of the pandemic and were infected, in isolation, hospitalised or off from work because of bereavement. At the beginning of the pandemic, there was also a shortage of personal protective equipment (PPE), information was scanty as this was a novel virus, and there was a lot of misinformation, creating a sense of uncertainty and placing nurses in a precarious position while still having to report for duty. The chronic shortage of resources in South Africa has unfortunately led to incidents of poor care in health care facilities. These may be seen posted on social media and in

newspapers as complaints and rants by health care users lamenting poor treatment at health care facilities. The National Core Standards for health care establishments make up one of the efforts by the Department of Health to address this challenge.

The implementation of fast-track queues was one of the attempts to improve the efficiency and effectiveness of health care services and to enhance the health care user experience to a more pleasant one.

This study aimed to describe the implementation of fast-tracking patients, through the voices of nurses who work with these health care users, and to determine the quality of care that was given to fast-tracked patients.

A retrospective record review of health care users revealed that nurses did not check and record the vital parameters of fast-tracked health care users, as these were not found in patient records. Health care providers (nurses) confirmed this when they verbalised that they knew what they were supposed to do but experienced challenges in performing tests on fast-tracked users. These challenges included issues such as staff shortages, too many records to keep, a lack of support from managers and increased workloads, to name a few. Rectifying these challenges could result in better quality care rendered to patients.

This book represents a reworked version (more than 50%) of the author's PhD thesis, 'The Fast Queue Service Point: The analysis of the quality of care for primary health care users in eThekwini District, KwaZulu-Natal', submitted in fulfilment of the requirements for the Doctor of Nursing degree in Nursing with the Faculty of Health Sciences at the Durban University of Technology, Durban, South Africa, 2015, with Prof. Dr MN Sibiya as the promoter and Prof. Dr NS Gwele as the co-promoter (https://hdl.handle.net/10321/1553/).

This book highlights challenges and good practices, as well as suggests a model to be used by policymakers and management of health care facilities to support nurses in strengthening the performance of the health care system, particularly PHC settings, in order to enhance service delivery.

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A book project facilitated by the Durban University of Technology (DUT) Research and Doctoral Leadership Academy (RADLA), headed by Professor Cheryl A Potgieter.

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Abbreviations and acronyms, figures and tables appearing in the text and notes

List of abbreviations and acronyms

AIDS	acquired immunodeficiency syndrome
ANC	African National Congress
ARFHU	Accredited Family Health Unit
ART	antiretroviral therapy
BCG	Bacillus Calmette Guerin
BMI	body mass index
BP	blood pressure
BS	blood sugar
CCMDD	Central Chronic Dispensing and Distribution
CHC	Community Health Centre
COPC	community oriented primary care
COPHC	community oriented primary health care
COHSASA	Council for Health Services Accreditation of South Africa
CVD	cardiovascular disease
DHS	district health system
DM	diabetes mellitus
DoH	Department of Health
DOTS	directly observed treatment short course
EAP	employee assistant programme
EBF	exclusive breastfeeding
EDL	essential drug list
EFF	exclusive formula feeding
EML	essential medicine list
EMTCT	elimination of mother-to-child transmission of HIV
EN	enrolled nurse
ENA	enrolled nursing assistant
ENT	ear, nose and throat health care professional
EPI	Expanded Programme on Immunisation
FDE	Further Diploma in Education
FM	facility manager
FP	family planning

FS	facility supervisor
HCT	HIV counselling and testing
HIV	human immunodeficiency virus
HPT	hypertension
IMCI	integrated management of childhood illnesses
IoM	Institute of Medicine
IVACG	International Vitamin A Consultative Group
KZN	KwaZulu-Natal
LNMP	last normal menstrual period
MCWH	mother, child and women's health
MDGs	millennium development goals
MDRTB	multidrug-resistant tuberculosis
MEC	Member of the Executive Council
MMC	medical male circumcision
MRU	minimum replicable units
MUAC	mid-upper arm circumference
NCD	non-communicable chronic diseases
NCS	National Core Standards
NHI	National Health Insurance
NIMART	nurse-initiated management of antiretroviral therapy
NGO	non-governmental organisations
PCR	polymerase chain reaction
PEM	protein energy malnutrition
PEFR	peak expiratory flow rate
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	primary health care
PMTCT	prevention of mother-to-child transmission of HIV
PN	professional nurse
RCT	randomised controlled trial
RDP	Reconstruction and Development Programme
RN	registered nurse
RtHB	Road to Health Booklet
RtHC	Road to Health Chart
RSA	Republic of South Africa
SANC	South African Nursing Council
SPSS	Statistical Package for the Social Sciences
SRU	smallest replicable unit

STD	Senior Teacher's Diploma
STG	Standard Treatment Guidelines
STI	sexually transmitted infection
TB	tuberculosis
UHC	universal health coverage
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
WHO	World Health Organization
XDRTB	extreme drug-resistant tuberculosis

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Biographical note

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Dudu G Sokhela is a nurse by profession and by passion, with a career in nursing practice and education spanning four decades. She holds a Doctor of Nursing degree, conferred by the Durban University of Technology in 2016, having completed her Master of Technology degree at the same university five years prior. Sokhela obtained her first qualification, a diploma in General Nursing, at 20 years old, before qualifying in Midwifery and obtaining a Bachelor of Nursing Science (BCur) degree at the University of South Africa (Unisa), with majors in nursing education and nursing management. Sokhela's interest in primary health care (PHC) led her to pursue a diploma in Clinical Nursing Science Health Assessment Treatment and Care in 2001. Over the years, she has studied further and risen through the ranks from professional nurse and senior professional nurse to nursing service manager in public health care facilities.

Sokhela is the recipient of the Dean's Teaching Excellence Award and Vice-Chancellor's Award for International Collaboration, awarded by the Durban University of Technology, in 2013 and 2018, respectively. She has been a guest lecturer at the State University of New York (SUNY) Ulster College in New York through international collaboration in 2018.

Her area of interest in research is PHC, with a particular focus on fast-track, which includes child health services, communicable (TB, HIV and AIDS) and non-communicable chronic illnesses (hypertension, diabetes mellitus, epilepsy and asthma).

Sokhela has published ten articles in this field of research in peer-reviewed journals and has successfully supervised sixteen MA students, currently supervising seven and co-supervising six doctoral candidates. Sokhela is currently a senior lecturer in the Department of Nursing at the Durban University of Technology in South Africa.

Acknowledgements

I would like to thank the following people:

- The SANTRUST South Africa Nursing Pre-Doctoral Programme that was held in Cape Town
- Prof. NM Sibiya and Prof N Gwele, project promoters
- Prof KM Nokes at Hunter University, New York
- Department of Nursing, Durban University of Technology (DUT)
- The eThekwini Municipal Health Unit
- The KwaZulu-Natal Department of Health (district and provincial)
- PHC managers
- health care professionals
- Prof. C Comiskey: Trinity College in Dublin, Ireland
- Dr G Hendry
- Dr T Ngomane
- The Research and Doctoral Leadership Academy (RADLA) of the Durban University of Technology
- Family, friends and everyone who contributed towards the project
- my late father 'Ngiyabonga Nzuza *elimconjwana, ulale ngokuthula*'
- my mother, 'MaDlamini', who would ask '*uyoqeda nini kanti ukufunda*? [when will you finish studying?]'
- my children, Nosipho and Thula Mngoma
- my two angel sons, Andile and Phila, may their souls rest in peace'.

'To God be the Glory'

Foreword

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The global consensus is that the development of a nation cannot be attained in the absence of healthy communities and that universal health coverage (UHC) is key in the steps towards desired health outcomes. The fundamental aspiration embedded within the concept of UHC is to provide all people with good quality health services that cover health promotion, disease prevention, treatment of illnesses, rehabilitation and palliative care at the time that they need it. The achievement of good health care outcomes requires a health service that is timely, addresses population needs and epidemiological priorities, and is provided at the required standards of quality to attain effective coverage.

The backbone of the South African health care system is the district health care system, with PHC as the vehicle through which this is delivered. The transformation of the health care system and the increase in the number of clinics saw a welcome increase in health care services to a significant number of communities. However, access to health care services does not mean individual benefits from the full spectrum of the continuum of care, as factors such as suboptimal care, rationed services and lack of quality monitoring mechanisms often result in the compromised health status of the individual, with the desired health outcome targets not being reached.

With increasing task-shifting from hospitals to the PHC level and from doctors to nurses, together with the implementation of a short consultation system (fast-track queue), this book provides a valuable tool for managers, health care providers and human resources planners to reflect on the risk of not attaining good health care outcomes despite high population health care service coverage. The rush for numbers (whose importance is not in dispute) compromises even the basic principles of disease prevention and health care promotion, resulting in persons who could have been assisted through following the correct standards of care unfortunately deteriorating while religiously presenting themselves for suboptimal care. Health care providers know that this challenge exists. However, the numerous recording

How to cite: Sokhela, DG 2024, 'Foreword', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. xxi–xxii. https://doi.org/10.4102/aosis.2024.BK452.0f

requirements, inadequate staffing levels, lack of supportive supervision and the focus placed on externally-funded priority programmes have been cited as factors that draw attention away from providing the required standards of care.

In this book, Sokhela takes us through realities faced by both health care providers and users by means of her research findings in her dissertation, titled 'The fast-track queue for PHC users in eThekwini District, South Africa'. The author highlights systemic inadequacies and, more importantly, provides us with a framework for how we can improve on the identified shortcomings.

As the country progresses towards the implementation of UHC, the existence of mechanisms to institutionalise the implementation of quality standards, as well as measures to support frontline staff through a paradigm shift, is critical. Equally important is the clarity on measures that will be used to monitor intervention coverage (access) and effective coverage (quality dimension), with the implementation of both being recognised and enjoying equal status as key factors that contribute to the desired return on resource investment by demonstrating good health care outcomes.

Preface

'Patients at some public clinics and day hospitals in the townships have complained about waiting in long queues, sometimes in cold and wet conditions' (*Cape Argus* 2022, n.p.). This is one of many such news headlines in South Africa, and this has been the case for a long time. It seems that the situation is deteriorating every day in most, if not all, public health care facilities. The epidemiological profiles of patients have changed with pandemics and epidemics such as TB, HIV and AIDS, as well as non-communicable chronic diseases. People who suffer from these conditions need long-term care. In addition, babies and children up to the age of 60 months attend the clinic regularly for immunisation and other routine care. Coupled with this are complaints about the attitudes of health care personnel. Primary health care is the first point of entry into the health care system for sick persons. Previously, existing health care facilities were hospitals, which were built far from community residential areas. For the longest time, it has been a norm to wake up early in the morning to queue at hospitals in order to finish and be able to return home in time for transport. While primary health care clinics were built near and within communities with the intention of bringing health care as close as possible to the people, an increase in clinic attendance has not been matched with an increase in resources. In order to avoid overcrowding in higher-level facilities, patients requiring referrals would need to go to the PHC clinic first to obtain a referral letter.

In most countries, health care is provided through both the public and the private health care sectors, and the situation in South Africa is no different. It has been found that there are differences in the quality of care between these sectors. Private health facilities are better resourced in terms of structure, equipment, staffing, availability of medication, staff remuneration and interpersonal relationships, and waiting times are shorter. Because of unemployment and poverty, many people do not have medical aid and, therefore, cannot attend health care facilities where they must pay. As a result, people who attend public health care facilities would be pensioners, unemployed people (including youth), those who earn lower salaries or wages and those who receive different forms of social grants.

Issues that were meant to be improvements in the country, such as free health care services, needed to be supported and strengthened with adequate resources. Down referrals from hospitals were a welcome change,

How to cite: Sokhela, DG 2024, 'Preface', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. xxiii–xxv. https://doi.org/10.4102/aosis.2024.BK452.0p

as this meant that people did not have to spend money and time going to hospitals far away to undergo treatment. However, this resulted in an influx of patients into the clinics, causing congestion. Health care providers had to work fast to ensure that all patients within the establishment went home with their medication. In view of congestion at PHC clinics, the Central Chronic Medicines Dispensing and Distribution (CCMDD) programme was introduced, where patients who were responding well to chronic medication are referred to external pick-up points. These points are convenient for people and are closer to their homes or workplaces, and people need to visit the clinic only for monitoring of vital signs and blood tests annually. These chronic patients could save on transport costs and the attendance of congested health care facilities and improve on treatment interruption. This programme was still new at the time of this study and had not been evaluated.

With the introduction of fast-tracking at PHC clinics, the main concerns were as follows: firstly, the kind of consultation fast-tracked health care users received in the backdrop of challenges mentioned; and secondly, identification of bottlenecks in the fast-tracking queue. A mixed methods design was used, where both quantitative and qualitative data were collected. A retrospective record review provided evidence of what was really happening in PHC clinics regarding fast-tracked patients, followed by interviews of health care professionals to triangulate data that were obtained from patient records. Furthermore, direct observations of events that patients go through in the PHC facilities were conducted. All health care providers who worked with fast-tracked health care users were interviewed, including managers. Interviews were used to ensure the completeness of data and a complete picture of what was happening in PHC facilities.

Records of adults indicated that recording of vital signs was not always done, and children's records revealed that children were weighed, but that weight was not plotted in the growth graph and was not interpreted according to the integrated management of childhood illnesses guidelines. This was a serious concern because this could mean that children who were at risk of malnutrition would not be diagnosed early or that those who had malnutrition already would not benefit from prevention and treatment of malnutrition strategies available at the clinic. There were no bottlenecks in the flow of health care users, and waiting times were acceptable to users. Those health care users who came for contraceptive services experienced the shortest waiting times at the facilities. Health care professionals confirmed that they were not performing well with record keeping. Some of the reasons obtained during interviews were that facility managers and supervisors were not directly involved in the fast-track

queue except for ensuring that they had allocated staff and made sure that all programmes were available in the PHC facility. Staff felt that supportive supervision was lacking, which could be the reason for them not working efficiently in the clinic. They also verbalised that while they were grossly short-staffed, there were too many records to complete, and management used these records to measure the performance of the PHC facility. This further increased the workload because it was important to be seen to be performing well as a facility, as they worked hard every day to consult fast-tracked health care users.

Chapter synopsis

> 'Of all the forms of inequality, injustice in health is the most shocking and inhumane.'
>
> **– Martin Luther King Jr.**

This book is organised into seven chapters that describe how fast-tracked health care users who attend primary health care facilities were managed and how they received quality care.

Chapter 1 introduces the background of the study and describes primary health care and its origin, as well as the South African health care system pre- and post-democratic era. Primary health care is described as the first point of contact for care in communities. The concept of quality health care and fast-tracking were introduced, and health care evolved during the first democratic administration to serve previously disadvantaged communities better, including rural areas. The chapter also describes the National Core Standards, for which one of the objectives is to reduce delays in health care through fast-tracking health care users.

Chapter 2 describes the health care systems that comprise specialised areas that have not been fully researched previously, and related research might be limited. In order to understand the domain, the researcher could be required to review studies sourced from closely related thematic areas so that inferences could be drawn about a specific study. Fast-tracking is one area that is specialised and has been sparsely researched; hence, an inferential review was warranted.

In Chapter 3, we examine how the clinical microsystems model guided the study, which is the smallest replicable unit of health care that evolves over time and is embedded in larger systems or organisations (Nelson, Batalden & Godfrey 2011). This is where health care is provided and quality, safety and value are created. Each primary health care facility is a microsystem in relation to the main hospital that administrates it, but the clinic also forms a macro-system, where it stands alone, being made up of various microsystems that are different services rendered within the clinic.

Chapter 4 describes the philosophical underpinning of the study, where an explanatory mixed-methods research design was used to collect data

How to cite: Sokhela, DG 2024, 'Chapter synopsis', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. xxvii–xxviii. https://doi.org/10.4102/aosis.2024.BK452.00

from fast-tracked health care users and health care providers. This is a method of enquiry with philosophical assumptions guiding data collection and analysis using both qualitative and quantitative research approaches.

Quantitative data were collected and analysed first, followed by qualitative data collection and analysis, and then by interpretation and integration of both results. Pragmatism is 'what is true is what works'.

Chapter 5 aims to study the experiences of patients at PHC facilities and follows the fast-tracked health care users from the time they entered until they left the PHC facility. Observations were carried out of how long fast-tracked users waited in the first station, as well as a second area of observations where they waited for a consultation with the registered nurses and how long they spent in the consultation room.

Chapter 6 describes the experiences of fast-tracked health care users at PHC facilities. Health care users received sufficient care, and some important health care assessments were inadequately performed, which were relevant for specific chronic diseases. It also describes the waiting time for fast-tracked users as well as how health care professionals experienced working in the fast-track queue, describing the barriers to rendering quality care to fast-tracked users. Integration of results is done in this chapter, where quantitative results are clarified using qualitative findings.

In Chapter 7, the author uses the results and findings of the study to shape the Sokhela Framework for Continuous Improvement in the implementation of fast-track queues for PHC settings. This model highlights areas of improvement in primary health care facilities in order to support and assist professionals who work with fast-tracked patients so that they are able to minimise delays while at the same time rendering quality health care.

Chapter 1

South African health care system

Background

In 1978, the World Health Organization (WHO) formulated and defined the primary health care (PHC) approach as the strategy to deliver health care services at the Alma Ata conference. However, the old definition has been revised as follows (WHO & UNICEF 2018):

> PHC is a whole-of-society approach to health that aims at ensuring the highest possible level of health and well-being and their equitable distribution by focusing on people's needs and as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment. (n.p.)

This means that PHC should be available and acceptable to health care users and communities, considering what is suitable for them. In South Africa, PHC is the first level of contact for individuals, families and communities with the health care system, bringing health care as close as possible to where people live and work. It addresses health care problems in the community by providing promotive, preventive, curative and rehabilitative services in the Republic of South Africa (RSA 2019). On the contrary, the definition of health that is very well known and widely used is that of the WHO (1998), which defines health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. This definition has evolved with critics of 'complete

How to cite: Sokhela, DG 2024, 'South African health care system', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. 1–10. https://doi.org/10.4102/aosis.2024.BK452.01

well-being', which means that the slightest or most minor condition or disease would render a person unhealthy. Critics assert that health is the experience of physical and psychological well-being. Additionally, health and ill health are continuous individual experiences; thus, the individual can improve these experiences with the help of relevant services if there is a need (Card 2017). This author argues that this definition of health encompasses the context of societal norms and thus needs to evolve as society evolves.

Legislation and policies

Before 1994, health care in South Africa was highly fragmented along racial lines, was inequitable and inefficient and was directed more towards curative than preventive and promotive health care (African National Congress [ANC] 1994a). When the democratic government took over in 1994, the health care system needed restructuring to correct the legacies of the apartheid era. The newly elected government adopted PHC as the health care delivery system and further ensured its implementation. Various legislation and policy measures were enacted to give direction to the ensuing changes in the health care delivery system. More PHC facilities were built in places near communities' residential areas, 'taking health care to the people'.

In order to achieve the goal of making PHC the generally available and acceptable health care delivery system, fourteen health care departments were combined into one National Department of Health. With this, the democratic government introduced the ANC's Reconstruction and Development Programme (RDP), which aimed to improve the general living standards and quality of life of the general population (ANC 1994a). The WHO's definition of health encompasses the aims of the RDP, and in the same vein, the National Health Plan (NHP) of 1994 was compiled, setting out the strategy that would be used to transform the health care system and address the inequities of the past (ANC 1994b).

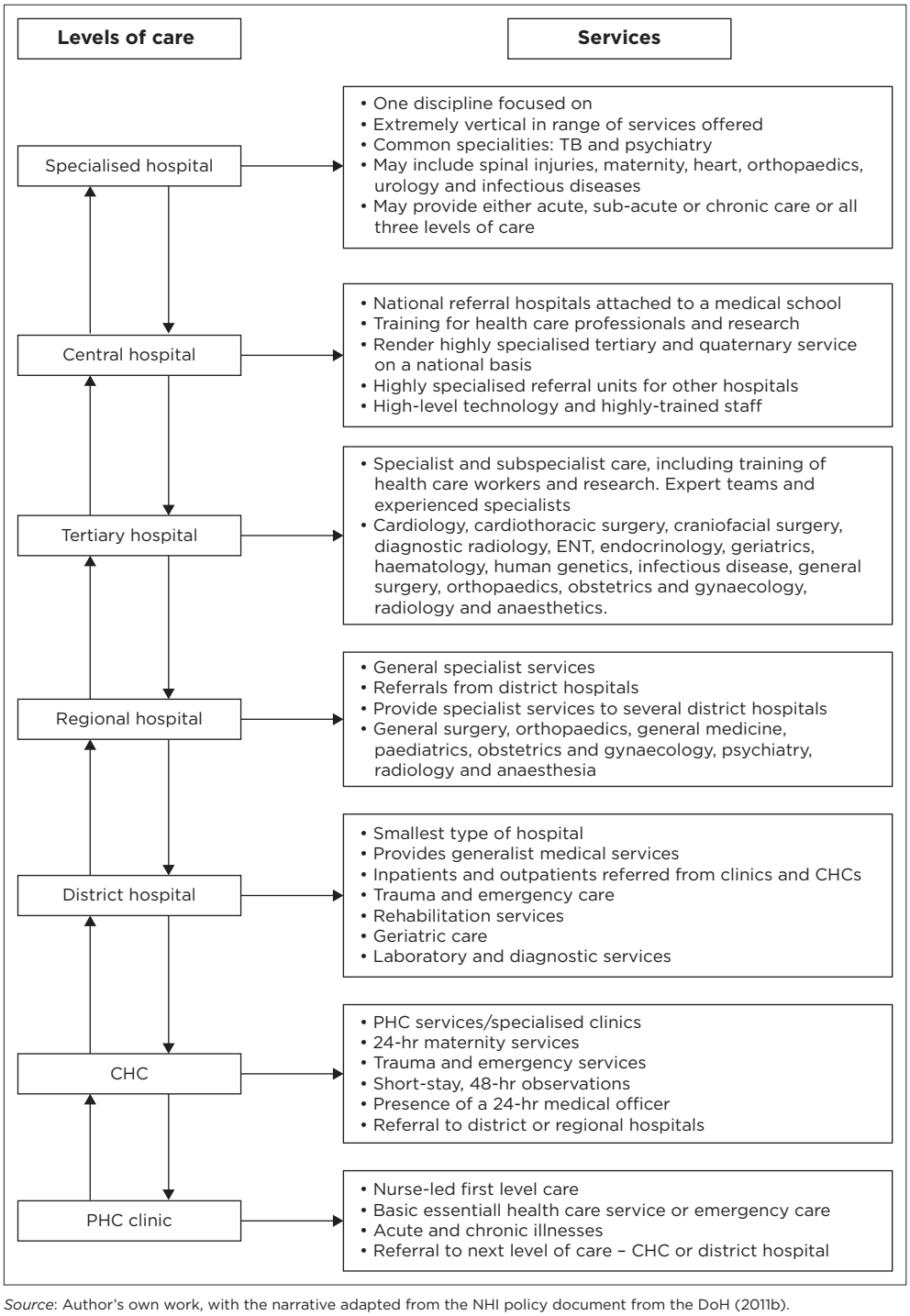
The government developed the Constitution of the Republic of South Africa in 1996. The right of citizens to health care is enshrined in this Constitution, and it endorses the bold 'health for all' statement, which was one of the main points of the *Declaration of Alma Ata* (RSA 1996). Another policy document that was published in line with improving health services for South Africans was the *White Paper for the Transformation of the Health System in South Africa*, which was introduced in 1997 (Department of Health [DoH] 1997). This is the document that presented the comprehensive PHC approach, which was a strategy that would facilitate changes in the health care system (RSA 1997a). The main thrust of the White Paper was the decentralisation of health care and health care service delivery to

districts, hence 'the District Health System' (DHS), which was seen as a vehicle and organisational framework for the delivery of PHC. This was in line with the South African health care system, which was divided into three levels, namely, national, provincial and local government (Winchester & King 2018). The PHC approach was combined with the DHS to form what has become known as district-based PHC. The principles of the DHS were overcoming fragmentation, striving to attain equity, comprehensive services, effectiveness, efficiency, quality, access to services, local accountability, community participation, decentralisation, a developmental and intersectoral approach and sustainability (RSA 1997b). The same principles were embraced in the formulation of the *National Health Act 61 of 2003* (RSA 2003).

The district-based PHC model of health care provision necessitated changes in the organisation of the health care system and distribution of health care services. Public health resources were redistributed to the provinces and districts, and health care institutions were re-arranged into different levels according to the expertise that would be available at each level to create and facilitate a referral system between health care institutions. The WHO (2014) describes referral as a process whereby health workers at one level of the health care system, which has insufficient resources (skills, equipment and medication) to manage clinical conditions that patients present with, seek help from a differently resourced facility that is usually at a higher level. Countries such as India have no documented referral policy, and anyone can approach any level of care to seek medical help, thus burdening higher-level health facilities with minor illnesses (Bhattacharya 2017).

In most countries that have a PHC system, patients have to approach the PHC facility first and get referred from there to the next level of care if required. However, it is common for patients to value hospital care more than PHC, thus bypassing PHC facilities (WHO 2019a). Figure 1.1 depicts the hierarchy of the levels of care within South Africa's health care system.

The fast-track queue, then known as the fast queue service point, was introduced in 2001 in the Comprehensive PHC Service Package for South Africa and was aimed at standardising care with the purpose of defining the services to be rendered through the DHS. The fast queue service point was a service to reduce waiting time for people who needed short consultations, those who were previously assisted at a community health centre (CHC) or hospital and people who were collecting medication (DoH 2001). To ensure the standardisation of treatment and availability of medicines at the PHC level, the Standard Treatment Guidelines (STG) – previously the essential drug list (EDL) and currently known as the essential medicines list (EML) – were developed in 1977 for PHC settings and hospitals. The EML is most useful for nurses as they work independently



Source: Author's own work, with the narrative adapted from the NHI policy document from the DoH (2011b).
Key: TB, tuberculosis; ENT, ear, nose and throat health care professional; CHC, community health centre; PHC, primary health care clinic.

FIGURE 1.1: Levels of health care within South Africa's health care system.

without the immediate assistance of a doctor, as a guide in the treatment of common ailments, and it stipulates when to refer health care users to the next level of care.

The South African DoH did not revise the Comprehensive PHC Service Package; instead, it took quality of care a step further and re-enforced what is stipulated in the PHC package, particularly the fast-track queue service point. In 2011, the DoH, in consultation with various stakeholders, including the private sector and non-governmental organisations (NGOs), formulated the National Core Standards (NCS) for health care establishments which, according to the National Minister of Health, Dr Aaron Motsoaledi, '[…] reflect the new vision for South Africa's health services […]' (DoH 2011c). The South African DoH has developed and initiated many quality improvement programmes, but health care service delivery remains a challenge for the South African health care system (Maphumulo & Bhengu 2019). The NCS was prioritised in all health care establishments, training of staff was vigorously conducted and quality champions were identified to take the vision forward. The NCS is a standard guideline towards providing quality health services and improved quality of care to enhance the current health care outcomes and restore patient and staff confidence in the public and private health care sectors. There are seven cross-cutting domains that are vital for good quality management (DoH 2011b):

1. patients' rights
2. patient safety, clinical governance and care
3. clinical support
4. public health
5. leadership and corporate governance
6. operational management
7. facilities and infrastructure.

The first three domains are involved directly with the core health care system business of delivering quality health care, with the first domain being of importance to this study because it explains what is expected of the facility in order to ensure that patients' rights are upheld (DoH 2012). The following description gives an overview of the first domain.

Domain 1, Patients' rights:

- Respect for patients by facility staff, access to health facilities, respect and dignity for health care users and a hygienic environment.
- Access to information for patients, where patients are given information regarding their treatment, their care after discharge and their participation in research where necessary, as well as clear sign-posted services, information and service timetables.

- Continuity of care, where patients requiring referrals receive the necessary care and support.
- Reducing delays in care so that waiting times and queues are managed to improve patients' satisfaction and care and prioritise serious patients' treatment.
- The waiting list is kept as short as possible; however, some of the areas that have been prioritised in terms of the NCS are reducing queues, decreasing waiting times and improving patients' safety and care (DoH 2011a).

The NCS requires nurses to refocus on patient engagement and ensure patient satisfaction with nursing care. The purposes of the NCS are to (DoH 2011b, n.p.):

1. Develop a common definition of quality care, which should be found in all health care establishments in South Africa, as a guide to the public, managers and staff members at all levels.
2. Establish a benchmark against which health care establishments can be assessed, gaps identified and strengths appraised.
3. Provide national certification of compliance of health establishments with mandatory standards.

Poorly staffed health care facilities face the challenge of attending to complex health care problems encountered at the PHC level, which have been compounded by the impact of HIV and AIDS, coupled with the emergence of HIV and TB co-infections. In the late 1990s to early 2000s, anti-retroviral treatment (ART) was not available in the public sector. This meant that only a small proportion of the population had access to ART through private sector hospitals and doctors until 2004 when these were made available in the public sector. The majority of people in the low socio-economic population group of South Africa are severely impacted by HIV and TB and can only afford medical care at public facilities. In addition, the morale of staff members had been negatively affected by excessive morbidity and mortality of PHC users before the widespread roll-out of ART. While the introduction of ART brought hope for people living with HIV and AIDS and health care workers, PHC facilities were not adequately prepared to receive increased numbers of users from hospital referrals. To increase the availability of ART and to increase accessibility, PHC nurses were trained in nurse-initiated management of ART (NIMART). In 2010, professional nurses were trained in NIMART (Fairall et al. 2012) as part of the HIV and AIDS prevention strategy announced by the South African president in December 2009 (DoH 2010). Health care providers at PHC facilities also had to initiate, manage, monitor patients on ART, as well as refer patients. With the introduction of NIMART, no extra staff were made available to provide the service, and there were widespread shortages of

professional nurses, resulting in an inability to cope with the workload (Davies, Homfray & Venables 2013). When NIMART-trained nurses work with a reasonable number of patients and adequate staffing, they are able to focus on rendering quality care (Makhado et al. 2020).

While the availability of life-extending drugs was a welcome improvement in PHC delivery, it had a major impact on health care delivery in South Africa. The influx and overcrowding at PHC clinics affected health care service delivery adversely, with queues growing longer and patients having to wait many hours for service. Anjorin (2020) reported the challenge of overcrowding in health care facilities or delivery sites as, among others, a barrier to accessing public health care services for vitamin A supplementation in Nigeria.

Nurses could not manage the influx of patients who were referred from hospitals to PHC facilities to continue with TB treatment, and this resulted in nurses not having enough time to educate patients about their illness. Nurses could not spend more time with them if patients did not understand what they were told about TB (Kallon & Colvin 2022). Furthermore, patients verbalised significant concerns and dissatisfaction with long waiting times to see a health care professional when visiting health care facilities (Naidoo & Van Wyk 2019). In addition, strategies to decongest health care facilities and adherence clubs have been formed and have demonstrated improvement in treatment adherence (Mukumbang, Orth & Van Wyk 2019).

The focus of this study was on care in the fast-tracking queue, and the quality of care is mainly encompassed within the sub-domains of the first domain of the NCS, namely, patients' rights. The sub-domains are respect and dignity, information to patients, physical access, continuity of care, reducing delays in care, access to a full package of services and complaints management measures (DoH 2011a). Programmes such as the *Central Chronic Medicines Dispensing and Distribution* (CCMDD) are convenient, save patients' time and money and reduce waiting times for appointments or medications. The programme further allows patients to collect medication without having to miss work or other commitments (Van Heerden et al. 2022). Despite all these improvements, the researcher was interested in analysing care, specifically for fast-tracked health care users at PHC clinics. The question that remained in the mind of the author was: Are resources, including infrastructure, adequate to meet the increased demand at PHC facilities?

Problem statement

The adoption of district-based PHC, which decentralised the responsibility of health care and health care service delivery to districts, meant that

people requiring medical assistance must first report at their local PHC facilities. They would then be referred to the next level of care, should there be such a need, to decongest the hospitals and CHCs. Overcrowding of PHC facilities resulted when the NHP of 1994 prioritised the health care needs of vulnerable groups, including maternal, child and women's health (MCWH), and introduced free health care for children under six-years-old and pregnant and lactating women. Subsequently, free health services were extended to all people attending PHC facilities (ANC 1994b).

There has been a persistent staff shortage at the PHC level, which was exacerbated by very sick people living with HIV and AIDS, as well as a large number of patients with HIV and TB co-infection. Furthermore, most South Africans live below the poverty line because of high unemployment and poverty. These communities suffer from communicable chronic conditions and are dependent on the public health care system. They could not access ART for a long time while it was only available at private institutions, and when it became available in public health care facilities, it had unpleasant effects on the South African health care system. Since 2013, the WHO has supported HIV testing and initiation of first-line ART for adults by NIMART-trained nurses (WHO 2013). Therefore, to fulfil this requirement, health care users who were stable on treatment were down-referred from hospitals to PHC facilities, and this contributed to unwanted congestion and overcrowding at PHC facilities. This was partly because of the unpreparedness of facilities that had inadequate staffing and infrastructure. As a result, there were long queues and waiting times for treatment. According to Makhado et al. (2020), nurses work better with smaller numbers. They are able to render quality care when they are faced with fewer patients while treating health care users on ART.

The focus of this study was to describe care in the fast-track queue as encompassed within the sub-domains of the first domain of the NCS, namely, patients' rights. The South African DoH has developed and initiated many quality improvement programmes, but health care service delivery remains a challenge for the South African health care system (Maphumulo & Bhengu 2019). With these challenges in mind, the researcher was interested in studying the quality of care, specifically at the fast-track queues in PHC clinics. Sokhela et al. (2013) asserted that while the fast-tracking queue has been instrumental in the promotion of access to health care, which is a major goal of the PHC approach, it was evident that PHC facilities were not prepared for the sudden influx of patients in terms of infrastructure and human resources. There was no corresponding increase in the resources to meet the increased needs of the communities, such as the availability of health care providers, medication and equipment. With all these challenges in mind, the researcher was interested in studying health care rendered specifically at the fast-track queue at PHC clinics.

Purpose and objective

The purpose of the study was to evaluate the implementation of the fast-tracking queue in order to analyse care rendered by PHC personnel. The ultimate purpose was to develop a framework for continuous improvement in implementing the fast-track queue at PHC facilities.

As such, the objectives of the study were to:

- **Phase 1:**
  - Determine how the PHC personnel implemented the fast-track queue.
  - Determine how quality of care was provided to fast-track queue users.
- **Phase 2:**
  - Describe the experiences of PHC personnel assigned to work at the fast-track queue.
- **Phase 3:**
  - Develop a framework for continuous quality improvement based on the findings.

It is envisaged that the results of the study might assist in ensuring that guidelines are clear and practical for the intended implementers, and this might be applicable to PHC clinics throughout South Africa, provided that each PHC clinic's unique characteristics are accommodated. There is a continued shortage of human resources, particularly nurses, in South Africa (Maphumulo & Bhengu 2019). The findings of this study might enhance more effective strategies to shorten the waiting times for health care users and thus improve the quality of health care.

Adherence to treatment, particularly for patients with chronic illnesses, might improve when health care users know that they are not going to wait for long periods and that they will be provided services expeditiously, thus reducing complications from chronic illnesses. Those who need to be fast-tracked will leave very sick users having enough time for consultations.

Challenges within the health care system

Access to health care services should mean the availability of the full package of care. The burden of communicable and non-communicable diseases, particularly HIV and AIDS, which were at epidemic levels before the availability of life-saving ART, resulted in the overcrowding and congestion of PHC facilities. While down-referrals from hospitals and enabling PHC health care providers to initiate patients on ART made the situation worse, this was further exacerbated by the inadequate availability of human resources. Health care providers had to try their best to ensure

quick service delivery. The question that the study wanted to answer was: What is the standard of care that is rendered by the health care personnel in the fast-track queue at PHC facilities in the eThekwini district, KwaZulu-Natal (KZN) province, South Africa?

Chapter 2

Gap in existing research

Literature focus

The literature draws attention to how care is assessed, controlled, improved and maintained in different settings of the health care system, including PHC services. In this regard, the literature review focused on current debates relating to the quality of care in PHC generally and, more specifically, to fast-track queues. In health care systems, there are specialised areas that have not been fully researched previously, and related research might be limited. In order to understand the domain, the researcher could be required to review studies sourced from closely related thematic areas so that inferences could be drawn about a specific study. The fast-track queue is one area that is specialised and has been sparsely researched; hence, an inferential review was warranted. The fast-track queue was introduced as part of the comprehensive PHC package for South Africa in 2001. The primary aim of this service was to facilitate the decongestion of PHC facilities and to promote the standardisation of care, with the purpose of defining the services to be rendered through the DHS (DoH 2001).

How to cite: Sokhela, DG 2024, 'Gap in existing research', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. 11–29. https://doi.org/10.4102/aosis.2024.BK452.02

Data search strategy

The use of libraries has been seen as the starting point to search for books and journals, but electronic databases have gained so much popularity that researchers have increasingly become less reliant on the traditional library to search for literature. The choice of the search strategy is also essential to obtaining high-quality reviews. In this study, a thorough search for studies that were reviewed was conducted through browsing various electronic databases. These included Google Scholar, EBSCOhost, CINAHL Plus, MEDLINE with Full Text, South African e-publications and ScienceDirect.

Before the literature search, the researcher decided on a plan to gather information by identifying key search terms, which assisted in directing the researcher towards literature that covered the topic under study. In order to yield maximum results when conducting a literature search, each phrase was used independently and also combined with one of the other key terms to try and broaden the search parameters. The following key search terms were used to search the literature:

- health care
- health care quality
- PHC
- polypharmacy in PHC
- quality control in PHC
- quality assessment in PHC
- quality assurance in PHC
- quality of child health services
- quality of family planning services
- quality in PHC
- quality of health care
- quality health care
- quality improvement in PHC
- triage in PHC

The literature search yielded a number of studies; however, many of them were not adequately relevant to the phenomenon being studied, as they did not meet the following inclusion criteria:

- Only studies on quality in PHC settings, including hospitals' outpatient departments, were considered.
- Studies that were reviewed were published or unpublished research that were pertinent to quality of care, including conference proceedings, discussion and position papers, expert opinions, reports and peer-reviewed articles. Dissertations and theses conducted under the auspices of tertiary education institutions were included.

- Consideration was also given to legislation and policy with regard to the changing South African health care system, including policies that attempted to improve the quality of health care. These policies and legislations were considered vital and relevant because they gave direction to and guided practice.
- Only studies published in full text in English were included in the review.
- Only literature from validated databases was used, in view of the challenge of authenticating literature data sources. Only the mentioned databases were used to search the literature.
- Research reports that were published ten years ago were considered. If a document provided invaluable information that was not available or that lacked clarity in newer versions of literature, or if it is policies and legislation, it was used even if it was older than ten years. Although the researcher would have liked to limit literature by date of publication, as there is a paucity of literature in the field of quality in the PHC fast-track queue, that exclusion by date would have possibly eliminated studies that offered critical insights into the state of knowledge in the quality of care in the PHC fast-track queue.

During a literature search, some studies did not fit the study's focus and were excluded from this study. Such studies focused on the quality of care for patients admitted to hospital, the quality of very specific care modalities, the quality of care for sick babies and the quality of care for acute illnesses.

Triangulation issues

An effort was made to ensure that a coherent and relevant analysis of pertinent literature was carried out. This study is complex in that the choice to explore the research topic using a mixed methods design created unique challenges that required the researcher to modify aspects of the literature review. The study focused primarily on the quality of care in PHC settings. There are other settings that function similarly to PHC, such as hospital outpatients' departments (known in South Africa as 'gateway clinics'). These are PHC facilities that are within or in very close proximity to a hospital building. Primary and secondary research reports were reviewed. Some issues relating to 'methodological variation' needed clarification before a proper literature review could be carried out.

It is difficult to define quality, and hence, the quality of care is assessed in various formats, and various aspects are assessed at any given time. A number of studies have been conducted to measure the quality of care through patient satisfaction within the different aspects of PHC; this is done to consider patients' perspectives when planning patient care. Quality of care is assessed on different aspects of health care, including waiting

times, communication with health care providers, quality of care for specific patient groups, accessibility, adherence to treatment protocols and the use of guidelines.

Quality of care

Quality of care has been defined in many ways by various authors from as early as 1980, when Donabedian defined quality of care in terms of structure, process and outcome. Structure refers to the physical characteristics of the buildings, availability of equipment, consultation hours and staff characteristics, while process is what is done with the health care users within the health care system, and outcomes are consequences of care that are influenced by structure as well as process (Donabedian 1980). Previously, the quality of health care was assessed in terms of cost and patient satisfaction, but in recent years, assessments of quality have included efficient use of resources and effectiveness of health care. It is therefore imperative that the concept of quality health care be clearly understood. In health care, the 'raw material' entering the health care system is the patient, and the 'finished product' is the health of the patient and their degree of satisfaction (Francu & Francu 2012). Terms that are related to quality include standards, quality assurance and continuous quality improvement. Good quality of care impacts positively on both health care user and staff satisfaction, improving the efficiency and effectiveness of health care provision in the public and private sectors. This resulted in the public trusting the health care system more, thus improving access to public health facilities (Whittaker et al. 2011). The most recent definition of quality of care adopted by the WHO (2019) is that quality of care is 'the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge'. Different authors define quality using various means as there is no standardised assessment thereof.

As such, PHC authorities in South Africa try by all means to offer cost-effective and accessible health care to underserved communities in order to ensure this quality of care. Quality is the major goal of health care services and should be evaluated regularly. Primary health care is important for effective health care systems and has made notable progress; however, there is still a gap between what communities require and the care that is being offered (Bitton et al. 2017). In addition, according to Eersel et al. (2018), there is evidence that countries with a strong comprehensive PHC system, which is a cost-effective health care system and affords all communities with high-quality care, can provide better overall quality of care. Bresick, Von Pressentin and Mash (2019) argued that since the establishment of a democratic

South Africa, the ruling party has been committed to a policy focusing on improving infrastructure and access to PHC for the population. Furthermore, the health care system (Bresick et al. 2019):

> [*R*]emains significantly inequitable with 4.1% of GDP spent on 84% of the population who are dependent on the public sector and 4.4% of GDP on 16% of the population who have insurance and utilise the private sector. In the private sector, primary care is offered by general practitioners, while in the public sector, it is offered largely by clinical nurse practitioners. (n.p.)

This, however, denotes that the system is still inefficient as far as delivering quality care is concerned. Thus, the examination of care rendered by PHC personnel, particularly in fast-track queues, is of paramount importance. Primary health care is recognised as a strong system and a strategy to improve the health care and well-being of the population and is a prerequisite to achieving universal health coverage (UHC) (WHO & UNICEF 2018).

Satisfaction with care

There is a growing trend to assess quality using patient satisfaction surveys, as patient satisfaction is growing in importance. It is undeniably one of the most effective tools to measure the quality of care rendered by health care practitioners, specifically at the PHC level. Patient satisfaction is considered as the degree to which patients feel about their needs being met by the service provider (Ng & Luk 2019). Positive patient perceptions of satisfaction with care often depended on how confident they were in nurses and the adequacy of nurses in caring for them (Aiken et al. 2021). Similarly, there was a study in this area which suggested that patient satisfaction is a good measure of quality in health care institutions (Baudier et al. 2021). Although this is a very 'subjective' measure of quality of care, it is widely used and accepted by researchers. Currently, one of the items in the ideal clinic programme is regular patient satisfaction surveys. Overall assessment of the quality of the facility might produce good results regarding high levels of quality and satisfaction. It was found in one study that patients were satisfied with efficient services from laboratory and diagnostic care, preventive health care and prenatal care, as well as the doctor's behaviour (Manzoor et al. 2019). When overall patient satisfaction is high, there are areas within the clinic that render better service than others do. In addition, Steyl (2020) found that participants were satisfied with the quality of care provided in the Western Cape's health care facilities; there were areas such as waiting time for a consultation that they were not satisfied with. This is a clear indication that good health care services have positive outcomes regarding patient satisfaction.

In Saudi Arabia, there were positive outcomes while measuring patient satisfaction with PHC, and this was because of good interactions between the doctors and patients, timely feedback as well as smooth accessibility (Albahrani et al. 2022). Furthermore, most respondents reported good feedback about their physician interaction during a consultation (Albahrani et al. 2022):

> [*W*]ith more than 80% rating their physicians as either good or very good in assessing their health needs and explaining their condition and management plan, and roughly two-thirds were pleased with their involvement in their own care. (p. 3)

According to the reported results, 90% of respondents stated that they would be happy to be assessed by the same physician again (Albahrani et al. 2022). Based on these findings, good behaviour overshadows everything that is negative. Having such good reports from other countries, such as Saudi Arabia, it is crucial for South Africa to examine the quality of care that is rendered at PHC settings, with a focus on fast-track queues.

In Ukraine, Paryi, Korotkyi and Gurianov (2020) found that in a survey conducted as part of the health care reform process, there was a high rate of positivity regarding patient satisfaction with care received at PHC. Their study further revealed that positive feedback was given by patients who expressed that communication with the doctor yielded a high level of trust and increased satisfaction with the doctor answering questions, thus helping to combat negative emotions related to the health of the patient. These findings indicate significant satisfaction with care from good communication and interaction between physicians and patients. It is against this background that this book is written, with the focus of analysing the extent to which South African PHC personnel render quality care to PHC users, specifically in fast-track queues.

Many countries are working towards improving their health care systems to provide good care and improve the experience for patients. As such, in a Greek PHC clinic, the overall patient satisfaction was 48%, and low quality of health care was reported by 28% of participants (Frengidou & Galanis 2020). Communication with nurses and doctors in Greece was found to heighten overall satisfaction with care (Mitropoulos, Vasileiou & Mitropoulos 2018). Likewise, communication with the doctor was cited as a factor that yielded high satisfaction levels with the service, as this was associated with good relationships rather than the doctors' professional competence. These authors further found that older patients showed higher levels of satisfaction than younger patients did. This was attributed to older people having formed relationships with health care providers. However, long waiting times proved to be a source of dissatisfaction among patients treated at the clinic (Francu & Francu 2012). In South African PHC facilities,

health care users were satisfied with communication with nurses even if it was not related to their illness or treatment (Sokhela et al. 2013).

One country that has maintains this trend of positive satisfaction by patients is Canada, where the public-funded health care system ensures universal access to PHC services. However, despite this accessibility, patient satisfaction remains a topic of concern, with long waiting times for appointments and limited access to specialised care contributing to lower levels of patient satisfaction (Alhozgi et al. 2021). The authors examined rural–urban disparities in patient satisfaction with oral health care in Canada and found more positive results regarding patient satisfaction in urban areas than in rural areas. This implies that when using patient satisfaction, many factors influence it, and studies must be conducted to elucidate this. Canada has implemented strategies such as telemedicine to improve access and reduce waiting times (Rickards & Hamilton 2020). This initiative has shown promising results in enhancing patient satisfaction by providing timely and convenient care. Furthermore, involving patients in the decision-making processes through shared decision-making models has also been associated with higher levels of satisfaction. This can be achieved by actively engaging patients in their own care plans, and health care providers can ensure that treatment aligns with individual preferences and values (Alhozgi et al. 2020). The Canadian example indicates that the question of quality of care is a multifaceted phenomenon that cannot be limited to one area of the health care facility. As a result, this book is of paramount importance in unveiling the quality of care that is given to fast-tracked health care users at PHC clinics in South Africa.

As shown, in most countries, health care is provided through both the public and private health sectors, and the situation in South Africa is no different. It has been found that there are differences in the quality of care between these sectors in South Africa (Gordon, Booysen & Mbonigaba 2020). Because of high rates of unemployment and poverty, many people attend public health care facilities, and health care providers cannot cope with the high levels of demand (Malakoane et al. 2020). Patients in a public facility had low levels of satisfaction associated with long waiting times and shortages of medicines, which were often ‘out of stock’. This was the major determinant of patient dissatisfaction with the public health care facilities in Tanzania, Kenya and Ghana (Hutchinson, Do & Agha 2011). When patients visit a clinic, they expect to receive medication for their illnesses, which is not necessarily always the case. Sometimes, patients only need a health care talk and home remedies, as opposed to when patients need medication and cannot get it because of stock shortages. In Cape Town, South Africa, similar results were found, where more than half of elderly patients were dissatisfied with the treatment they received from health

care professionals (Kelly, Mrengqwa & Geffen 2019). If this is the case in South Africa, it is vital, then, that studies are conducted to examine the quality of care rendered to fast-tracked PHC users.

Prescribing patterns

Prescribing patterns in every health care institution are a factor that cannot be overlooked when discussing the issue of quality of care, where guidelines are commonly used in health care as the gold standard to support health care providers who would normally work independently at PHC clinics, mostly with little or no support from a doctor (Niaz et al. 2020).

Guidelines are also useful for improving and maintaining quality and for guiding the practice of health care workers, as they are used as indicators of the quality of care rendered. Quality assurance is a major factor in health care, and the guidelines are used as tools to monitor quality care in the health care sector. The quality of appropriate medication use is monitored through the prescribing habits of the health care providers, and it also ensures that medication is not prescribed unnecessarily, leading to medication abuse and polypharmacy, which might later result in drug resistance. Guidelines help standardise prescription practices across different health care settings (Niaz et al. 2020). By following established guidelines, health care professionals can ensure that their prescribing decisions are based on the current best available evidence. This is particularly important in PHC, where patients often receive care from multiple providers, such as professional nurses and doctors. Guidelines provide a common language and approach for all health care professionals involved in a patient's treatment, reducing the risk of errors or conflicting prescriptions. Moreover, guidelines promote patient safety by minimising medication errors and adverse drug reactions (Alqenae, Steinke & Keers 2020). It is known that prescription errors can have profound consequences for patients, ranging from ineffective treatment to life-threatening complications. Therefore, guidelines are necessary to help health care professionals make informed decisions about appropriate dosages, drug interactions, contraindications and potential side effects (Alqenaeet al. 2020). By adhering to these recommendations, health care providers can reduce the risk of medication-related harm and improve patient safety, and this directly relates to the quality of health care. Discussions on prescribing patterns are vital in the landscape within which health care providers find themselves. With improvements in health care and hygiene practices, especially in more developed countries, the lifespan of the population is increasing (Niaz et al. 2020).

As the number of elderly people increases in populations, so too do chronic diseases, and health care providers acquire a new responsibility to prescribe appropriately. Developing countries face changed disease patterns, having to manage an increasingly older adult population living with long-term communicable and non-communicable diseases, known as diseases of lifestyle. This places pressure on the health care system regarding resources, such as financial and human resources (Hajat & Stein 2018). South Africa is experiencing a high burden of disease resulting from communicable and non-communicable diseases, such as hypertension and diabetes mellitus, that are emerging in both rural and urban areas (Modjadji 2021). Thus, this calls for careful decision-making about which medication to prescribe for an elderly patient who has multiple conditions to prevent medication errors and pill burden. In Finland, health care practitioners adhere to asthma treatment guidelines, and in this way they can control asthma in adults (Pakkasela et al. 2023). Additionally, improvement in technology and management of communicable diseases such as TB, as well as urbanisation, enables more people to reach old age than in previous decades. Similarly, in South Africa, an Essential Drugs Programme, consisting of an EML, was formulated in 1999 to promote rational drug prescription and use (Govender, Suleman & Perumal-Pillay 2021). There is a greater demand for health services in South Africa as a result of the increase and prevalence of non-communicable diseases (Wong et al. 2021). This is attributable to an increase in life expectancy, which is now longer and equates to older people requiring long-term care, as described. It is therefore important to have good quality of care in PHC facilities to prevent disabilities in older people. Chang et al. (2019) further asserted that an increasing trend in the prevalence of multimorbidity makes it hard for health care systems to provide effective services to their patients. For example, most (Sokhela, Sibiya & Gwele 2016):

> [*H*]ealth practitioners are not well prepared to care for the elderly who not only require management of acute illnesses but also sustained management of complex multiple chronic diseases, with the potential to commit errors. (p. 44)

It then seems imperative that health care providers employed at PHC facilities have a specific post-basic qualification and a dispensing licence to avoid prescribing errors.

Kirzinger et al. (2019) gathered data on the prescription drugs in chronically ill adults and discovered that 89% of the adults aged 65 years old and above were taking multiple prescribed medications, with 75% being adults aged 50–64 years old, 51% being adults aged 30–49 years old and 38% being adults aged 18–29 years old. The study also noted that 21% of the adults had inappropriately prescribed medication, while 12% had

overprescribed or medication prescribed unnecessarily. Furthermore, elderly patients with multiple chronic diseases were treated with multiple drugs and were therefore at risk of falling injuries from the side effects of drugs. According to Klasco (cited in *New York Times* 2018), some of the patients are more sensitive to medications and experience some side effects. This author further asserts that these patients prefer to tolerate side effects from medications and obtain the maximum benefits, while others would forego medication benefits to avoid the risk of falling and injuring themselves. It is important to consider patients' individual needs when planning their treatment plan.

Elderly people in particular may suffer in silence, not wanting to report side effects that are detrimental to their health. Govender et al. (2021) evaluated the implementation of the STGs in the 6,635 PHC prescriptions recorded in 14 PHC clinics. The study discovered that 101 (94%) doctors had access to the recent STGs that they accessed in their mobile phone application, and 41 (41.8%) nurses had access to the latest STGs. The study also found that PHC facilities scored 59.7% for adherence to the guidelines of STGs for doctors and 76.4% for nurses. Furthermore, ten of the fourteen PHC facilities scored 93.9% for prescribing the correct dose and 62.2% for prescribing the correct dose frequency, indicating that the facility meets the health care needs of patients and adheres to the STGs policy. Their findings suggested that nurses had challenges in accessing the latest STGs because of a lack of technology know-how and training, whereas there was a lack of recording of diagnoses on prescriptions by doctors. The average number of drugs prescribed per patient was 5.2, which was much higher than that of neighbouring countries, and this might be considered polypharmacy. Poor prescribing patterns can deter chronic patients from treatment adherence as they will suffer from a pill burden when there is 'a pill for every ill'. This also speaks to the lack of knowledge by prescribers; hence, it is a requirement that all professional nurses who work in PHC settings should undergo specialised training to equip themselves to provide services.

Child health care services

The findings of a study conducted by Quach et al. (2021) pointed out that it is of great importance to assess the quality of child health care services with regard to the structure and attention paid to the effective implementation of the WHO guidelines. Concordantly et al. (2017) concurred with these findings by identifying some attributes for measuring the quality of care. These are quality as a driver of service utilisation; quality as a concept shaped over time through experience; responsiveness; the role of management; quality as a social construct co-produced by families,

individuals, networks and providers; and the implications of observations for measurement (Hanefeld, Powell-Jackson & Balabanova 2017). Their research found that routine treatments were inadequately provided by health professionals in a rich city's PHC clinics, despite the availability of protocols and algorithms to follow. The coronavirus disease 2019 (COVID-19) pandemic had a negative impact on childhood immunisation, where it was found that caregivers in Sierra Leone did not bring their children for immunisations during the pandemic, most likely because of fear of infection. In addition, there was a decline in Bacillus Calmette Guerin (BCG) and the first polio vaccine (Buonsenso et al. 2020). Child immunisation was important even during the pandemic, particularly the first immunisation after birth for the infant to have some protection against acquired infections.

Like in many other countries, PHC facilities in India were the responsibility of health care workers, and one of their main functions was to immunise children. Results indicated that a significant number (78%) of health care workers had no knowledge of the immunisation schedule or the skills to administer the vaccines. This was the case, although clear guidelines had been provided (Lodhiya et al. 2012). In most developing countries, underdeveloped countries and rural areas, child health care services are not a priority. This is very concerning, because it is known that quality health care for children means a healthier future nation.

Children are the future of every country; as a result, governments always strive to ensure that there is a decline in child mortality rates, and therefore, most child health care services are provided by the public sector free of charge. In addition, there are varying opinions about the quality of care in PHC facilities, which in most countries is provided by the public sector (ANC 1994b). The popular belief is that free health care services are equated to lower quality compared to services that are paid for. There might be a perception that if the service has been paid for, health care users can expect value for their money. Furthermore, private facilities are better off structurally and are well equipped, and the perception is that better quality is obtained because the service was paid for. The DoH prioritised PHC and free primary care for children and young babies. These free services were later extended to pregnant and nursing women and eventually to all PHC users (ANC 1994b).

Accreditation of facilities

The accreditation programmes aim to ensure quality PHC services, and the process involves an independent, comprehensive, systematic and periodic assessment of compliance with a set of standards or domains in all areas of health care to improve the quality of care (Hussein et al. 2021).

The accreditation status remains valid for a certain period, after which the accreditation officers audit the facility again and score the facility accordingly. The accreditation status may change if the facility is found to no longer be compliant with the prescribed standards. There have been numerous initiatives to improve the quality of health care service delivery.

The Council for Health Service Accreditation of Southern Africa (COHSASA) is an organisation that dealt with quality improvement and accreditation of hospitals in 1993, and PHC facilities were registered with this body in 2005. The aim of this organisation was to assist health care facilities in achieving standards in a piecemeal manner, whereby incentives and certificates were issued for sections where standards had been achieved to encourage good behaviour. Over time, all standards would be achieved, and the facility would be accredited and required to maintain the standards to retain the accreditation status (Young & Smith 2022).

In Egypt, El-Shal, Cubi-Molla and Jofre-Bonet (2020) investigated the effects of accreditation of PHC facilities on the quality of care and compared the quality of care rendered in accredited and non-accredited facilities. It was established by the study that accreditation impacts the (El-Shal et al. 2020):

> [Q]uality of care through three mechanisms: coherence, organisational buy-in, and collective quality improvement action, with possible effects on patient-related outcomes. studies suggest that the accreditation process can stimulate organisational changes that enhance the quality of care. (p. 117)

The study also 'found that accredited non-governmental health units had higher compliance with quality standards compared with non-accredited units' (El-Shal et al. 2020, p. 117). Certified facilities performed no better than non-certified facilities for preventive and monitoring programmes. For new family planning acceptors, non-certified facilities fared much better than the certified facilities. This is an indication that accreditation of the facilities does not guarantee better health care quality outcomes (Hussein et al. 2021).

Bergholt et al. (2021) examined the association between accreditation and the delivery of recommended care before and after accreditation. The results showed no significant difference in the facility before and after accreditation. However, it was discovered that after accreditation, there was an improved guideline for adherent care and quality care for patients. Bogh et al. (2017) found the same results when comparing the quality of preventive health services, curative and monitoring programmes of accredited and non-accredited PHC facilities. However, these results are contrary to those of Hussein et al. (2021), who found that certified facilities performed no better than non-certified facilities for preventive and monitoring programmes.

In 2010, the NCS for health establishments reflected what was expected and required to deliver safe, quality care, and there were tools to assess compliance with these standards. The NCS guideline is still new and training is still going on for health care providers. The purpose of the NCS was to (RSA 2011c):

> [*D*]evelop a common definition of quality of care, which should be found in all health establishments in South Africa as a guide to the public and to managers and staff members at all levels. (p. 3)

The NCS guideline also 'established a benchmark against which health establishments could be assessed, gaps identified, strengths appraised and provided a national framework to certify health establishments as being compliant with standards' (DoH 2011b). The NCS are based on the *National Health Act 61 of 2003*, which states that services rendered should take into cognisance the Constitution of the Republic of South Africa (RSA 1996). Many human resource-related factors contribute to rendering quality care. Cloete, Yassi and Ehrlich (2020) asserted that quality of care and patient safety can be improved by accrediting the health care facilities. This will also ensure that there is appropriate execution of assessments and interventions relevant to the patient's condition. However, the safety and accuracy of medications also have a bearing on patient care quality and patient outcomes. Furthermore, the quality of nursing care is also influenced by knowledge, experience and nurses' ability to assess and monitor the patient for complications and should involve the multidisciplinary team in managing the patient's condition.

Different policies and legislations will be addressed to put the South African health care system into perspective to understand where it comes from with its endeavours to ensure quality health care and how change has come about over the years.

Previous discussions indicated that policy and legislation rate very low in the hierarchy of evidence, but these documents form a vital part of this study's literature review. The South African government has embarked on many efforts to continually decrease child and adult morbidity and mortality rates, which are unacceptably high for a country classified by the World Bank as 'higher middle-income' (WHO 2015).

In 2007, a quality assurance policy for the health care system was formulated by the DoH with the aim of providing a way to improve the quality of care for both private and public health sectors. According to the DoH (2007), this policy sought to strike the appropriate balance when providing health care services by avoiding quality problems of under-use and over-use or misuse of services.

Furthermore, the policy emphasised avoidable errors, variation in services, lack of resources, inadequate diagnoses and treatments, re-allocation of funds from the 'better off' to the previously poorer communities and facilities, inefficient use of resources, poor information, inadequate referral systems, disregard for human dignity, drug shortages, inaccurate records and poor delivery systems. The DoH (2021) also notes how the COVID-19 pandemic affected the quality of health care received by people during the pandemic, such as the postponement of cancer screening services during that period. The policy aims to target quality improvement interventions among health professionals, patients, communities and the health care delivery system, utilising the approach whereby an environment will support quality improvement and capacity building (DoH 2007).

According to Doherty et al. (2018), for these strategies to be successfully implemented, the DHS needs to designate individuals responsible for quality assurance and continuous quality improvement and for the hospitals to do the same. Districts have employed nurses to work as quality assurers in hospitals and clinics. However, it remains a struggle to reach the desired outcomes because of infrastructure and human resource gaps. In addition, the DoH has embarked on patient satisfaction surveys and patient complaints to develop the programme known as the Fast-track to Quality. This plan encompasses the Constitution of South Africa, the Batho Pele Principles 'people first', the Patient Rights Charter and the NCS. The programme identifies the six most critical areas of patient care, namely (DoH 2011a):

1. **Caring staff and feeling cared for:** Patients' complaints and patients' satisfaction surveys revealed that health care workers were impolite to patients, and this is perceived as a lack of quality of care.
2. **Cleanliness of facilities:** The facilities were unhygienic and unclean, and the infrastructure lacked maintenance. This indicates disrespect for patients and staff.
3. **Waiting times to receive care:** Patients waited long hours for service, queues were long, and, on some occasions, patients died while waiting for a consultation.
4. **Safety from medical harm or medical errors:** Failure to implement protocols resulting in patients not receiving the care they expect and deserve.
5. **The risk of being infected in hospital:** This is a preventable infection through adhering to infection prevention and control measures.
6. **Shortage of medicines:** If patients do not receive treatment they come to collect, they might not have the financial resources or time to return, thus impacting on compliance.

Some facilities are showing results from efforts of projects and other initiatives to improve service provision. Continuous self-assessment, monitoring and removing barriers to improvement will assist these facilities in continuing to show improvement, and these successes must be recognised and shared. While improvements are expected, there are still many facilities that are weak in this regard, with poor care, ineffective management and demotivated staff. These need strong support systems, development and training where necessary and supported self-assessments until the required standards have been reached and are being maintained (DoH 2011a).

Primary health care re-engineering

The PHC approach has been promoted by the WHO as a valuable approach for government health care systems to deliver quality health care to communities, particularly in developing countries. 'The PHC approach is the underlying philosophy for the restructuring of the health system' (DoH 1994b, n.p.). South Africa has poor health care outcomes, with maternal and child mortality rates remaining high, and this could be linked to the overwhelming impact of the COVID-19 pandemic, HIV, AIDS, TB, HIV and TB co-infection, multi-drug resistant (MDR) TB and X-treme drug resistant (XDR) TB. Among the resultant problems are longer waiting times and poor quality of care because of overflowing facilities, resulting in health care users presenting with multiple complex challenges. According to Madlabana-Luthuli (2019), the re-engineered PHC will address some of these challenges and lead to improved quality of care and accountability in the provision of health care services in South Africa. It is against this background that the fast-track queue needs to be strengthened, and its quality of care must be ensured for both communicable and non-communicable diseases and routine care.

Primary health care encompasses health as a human right and is rendered free of charge to afford poor communities equitable access to quality health care. Health care providers are moving away from dictating care to health care users; the users are now becoming more aware of their constitutional rights, including the right to basic quality health care in terms of the Constitution of South Africa (*Act 108 of 1996*). Patient-centred care needs to be considered for quality and effective care. As such, the WHO has as one of its objectives the attainment of the highest possible level of health for all people (WHO 2002).

Re-engineered PHC is the strategy that is seen to address challenges faced by PHC and to transform the health sector through PHC revitalisation based on the ten-point plan. This was to ensure the implementation of

activities that would bring about the transformation of health care and address the crisis in health care services. The ten-point plan is a five-year priority strategy adopted by the DoH to ensure the implementation of activities that would bring about the transformation of health care and address the crisis in health care services. Some of these priorities are improving the quality of health care services, overhauling the health care system and revitalising infrastructure (DoH 2009). The goal of PHC re-engineering is to achieve long and healthy lives for all South Africans. It also refocuses on health care promotion, preventive care and quality curative and rehabilitative services to ensure a comprehensive package of health services at all levels of care. These levels of care include primary, secondary, tertiary and quaternary levels with guaranteed continuity of health care benefits (DoH 2011b). This will be achieved through bringing health care to the people by rendering health care in three streams, namely, (1) multidisciplinary teams of clinically competent professionals; (2) community, municipal ward-based multidisciplinary health teams; and (3) effective implementation of national school-based teams (Pillay & Barron 2011).

Primary health care re-engineering needs a strong DHS to drive PHC. It is recommended that a number of systems issues, which are directly linked to quality, be put in place, such as attending to the physical structure of facilities to enable health care users to be directed to the relevant queues with ease and that they move around without restrictions. Health care users can also be seen comprehensively under one roof to enhance the integration of services and quality because they will be attended to by one health care provider at any given time.

Primary health care re-engineering is in preparation for the National Health Insurance (NHI), which is discussed later in this book. The ten-point plan aims to (DoH 2011a, n.p.):

1. Provide strategic leaders and create a social impact for better health outcomes.
2. Implement the NHI plan.
3. Improve the quality of health care services.
4. Overhaul the health care system and improve its management.
5. Improve human resource planning, development and management.
6. Revitalise the physical structures.
7. Accelerate the implementation of the HIV, AIDS and sexually transmitted infections (STIs) National Strategic Plan 2007 and increase the focus on TB and other communicable diseases.
8. Mass mobilisation for better health care for the population.
9. Review of the drug policy.
10. Strengthening of research and development.

The important point about re-engineered PHC is that it brings back the concept of community-oriented primary care (COPC). This is a concept that dates as far back as the 1940s, when doctors Sidney and Emily Kark established primary care based on the same principles as that of PHC re-engineering at Pholela in rural KZN to help the poor rural black people of this area (Kark & Kark 2001). Community-oriented primary care today is seen as a step towards defining the practice of PHC in South Africa.

The main strategy of COPC was integrating curative and preventive health services, focusing on the health care of families and communities rather than individuals while also emphasising communities' empowerment and participation in health care delivery services (Kark & Kark 2001). According to Kark & Kark (2001), COPC is a unified practice that combines individual clinical care and family practice with community health, while Bushy (2008, cited in Stanhope & Lancaster 2010, n.p.) defined community-oriented primary health care (COPHC) as 'an effective model for delivering available, accessible and acceptable services to vulnerable populations living in underserved areas'. The main purpose of this strategy was to create better relationships between the health care user and health care services.

Two health care systems, the private and public sectors that exist in South Africa, perpetuate inequalities in health care. The quality of care in the public sector, which caters for the larger part of the population, has declined dramatically because of understaffing, declining infrastructure, poor management and the impact of HIV and AIDS. On the contrary, the private sector is accessed by employed people and others who can afford to pay their monthly contributions to belong to pre-paid medical aid schemes. The private sector has the best resources and renders high-quality care. The South African government introduced the NHI to address these challenges (DoH 2011a). The main objectives of the NHI were to provide improved access to quality health care services for all South African citizens, both employed and unemployed.

The NHI is a finance system that combines resources and risks to create a single fund, which will make it possible to control the sector in order to improve the health care system (DoH 2011a) and bridge the gap between the private and public health sectors, thus improving accessibility to health care. The processes that will make the implementation of NHI successful include the transformation of health care service provision and delivery, overhauling of the entire health care system, re-engineering of PHC and the provision of the comprehensive package of PHC (DoH 2001).

All South African citizens will have access to the comprehensive package of health care services, which will be provided through accredited and contracted public and private providers with great emphasis on preventive

and promotive health, as was initially the aim of the *Declaration of Alma Ata* (DoH 2001). To this end, even hospitals that are willing to initiate NHI face the barrier of a lack of human resources and equipment, as well as poor infrastructure and poor technological advancements (Mukwena & Manyisa 2022).

Changes in health care

The COVID-19 pandemic brought about changes in the health care system globally, with governments implementing different strategies to respond to the pandemic. In 2020, the whole world experienced the COVID-19 pandemic that resulted from the highly infectious SARS-CoV-2 virus (Matheson & Lehner 2020). The first case of COVID-19 was confirmed in South Africa in March 2020 (Abdool Karim 2020), was reported to have begun in Wuhan, China, in December 2019 (Kahn 2020) and was declared a global pandemic by the WHO (2020). Most preventive services and non-urgent clinic appointments were disturbed during this period, leading to missed and delayed diagnoses and treatment. Attendance of follow-up visits of people with chronic conditions decreased during the COVID-19 pandemic (Scheidt-Nave et al. 2020). This decrease could have been because of fear of contracting the virus as people with chronic illnesses were at high risk of infection. Another reason could be that they were not prioritised while health care providers were focusing on COVID-19-infected individuals. In most health care facilities and resources, including health care providers, were allocated to COVID-19 testing, prevention and management, thus disrupting a continuum of care for patients with chronic illnesses (Chudasama et al. 2020). The pandemic disrupted many programmes in health care facilities, such as routine preventive immunisation of children. Many countries delayed routine immunisation of children to curb COVID-19 infection and to promote social distancing in health care facilities (Dinleyici et al. 2021). This was also to protect children from contracting COVID-19 infection and to focus available resources on COVID-19 patients.

Gaps identified

Chronic illnesses contribute to the burden on health care systems. This is evidenced by overcrowding and long queues, which is a global challenge, particularly in developing and low-income countries such as South Africa. Overcrowding in health care facilities can result from the increasing prevalence of chronic diseases and may lead to longer queues and waiting times for patients. In addition to chronic illnesses and overcrowding, many low-income and middle-income countries, including South Africa, face

challenges that are related to health care workforce shortages. This is caused by most health care workers who emigrate to countries with better working conditions and higher salaries – 'greener pastures'.

Patient-centred care is important in rendering quality health care. The definition of quality can be presented from two different perspectives: that of research and that of policy, as seen from the reviewed literature. From the research point of view, it has become apparent that the variety of literature highlights the status quo of quality care at PHC facilities from the point of view of different countries, including policies, guidelines and legislation that endeavour to shed light on what needs to be done. It would seem that there are programmes in place to try and mitigate the challenges faced by health care users and providers at PHC facilities. Planning is never adequate for providing smooth workflows at PHC facilities. Populations are mobile and, at the same time, sick with diseases of epidemic levels, which could make it look like planning is inadequate.

Chapter 3

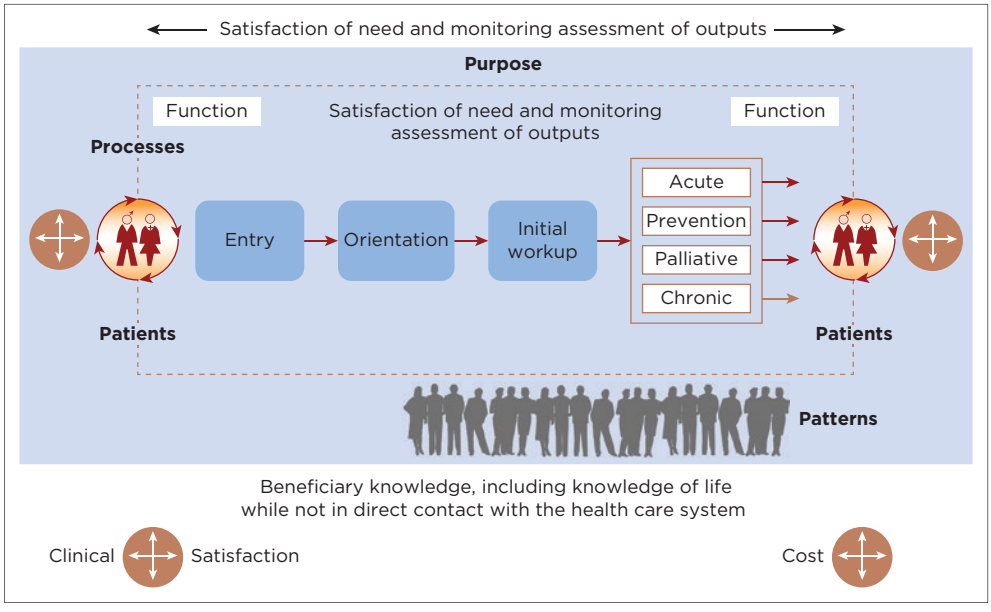
The clinical microsystems model

Describing the clinical microsystems model

The quality framework that guided the study was the clinical microsystems model (see Figure 3.1), which is the smallest replicable unit (SRU) of health care that evolves over time and is embedded in larger systems or organisations. This is where health care is provided quality, safety and value. Each individual PHC facility is a microsystem in relation to the main hospital under which it falls, but the clinic also forms a macrosystem, where it stands alone being made up of various microsystems, which are different services rendered within the clinic. It is imperative to be able to assess quality in each of the microsystems individually because quality improvement processes that are implemented in one microsystem could be replicated in other microsystems within the clinic to improve the overall quality of care in the PHC clinic (Nelson, Batalden & Godfrey 2011).

The clinical microsystems model is characterised by five Ps, namely, purpose, patients, professionals, processes and patterns (Nelson et al. 2011). These five Ps exist within the context of the population that the clinical microsystems seek to serve (Nelson et al. 2011). *Purpose* addresses the purpose of the clinical microsystem and how it fits within the overall vision of serving the population. *Patients* are served by the clinical microsystem. *Professionals* are staff members who work in the microsystem.

How to cite: Sokhela, DG 2024, 'The clinical microsystems model', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. 31–36. https://doi.org/10.4102/aosis.2024.BK452.03



Source: Nelson et al. (2011, p. xxiv).

FIGURE 3.1: The clinical microsystems model.

Processes are procedures and support that the clinical microsystem uses to provide care and services. *Patterns* are what characterise the clinical microsystem's functioning. It is crucial that members of the clinical microsystems understand the anatomy of their own systems using the five Ps to design, implement and improve their clinical services (Nelson et al. 2011). In the same way, professionals need to have in-depth knowledge of the physiology of the microsystem, which allows for extensive exploration of functional inputs and outputs of health care processes. This allows staff members to assess their systematic performance of the clinical microsystem and enables them to recommend improvements and innovations.

The clinical microsystem evolves over time and is embedded in larger systems or organisations. It is where health care is provided quality, safety and values. The microsystem is a living, complex, adaptive system and its functions include doing work associated with its core aims, to meet members' needs and to maintain itself as a functioning unit (Nelson et al. 2011). In addition, the clinical microsystem has a small group of people who work together on a regular basis to provide care for discrete subpopulations of patients, and it is where the experience of care is made or lost. As such, each microsystem has a specific purpose, clinical and business aims, linked processes and shared information, and it produces performance outcomes.

The Dartmouth Clinical Evaluation Research Institute in Liverpool developed the clinical microsystems model in 1985. Professor emeritus at the Dartmouth's Tuck School of Business, James Quinn, is regarded as 'the father of clinical microsystems'. Authors such as Edwards Deming, Kerr White and Avedis Donabedian pioneered the theoretical and empirical idea of clinical microsystems in business. Quinn researched and analysed the best of the best organisations, which were enjoying massive economic growth while also gaining popularity with customers. His finding was that the most successful service organisations focused on the SRUs or minimum replicable units (MRUs) within their enterprises (Nelson et al. 2011). This is where service and interaction with customers take place. Organisations replicated the best practices in these best-performing SRUs to be successful. Quinn identified features common in all enterprises that performed well, namely (Nelson et al. 2011):

1. There was an ongoing improvement of frontline services within the SRUs where customer-provider relationships were created.
2. Organisations ensured quality, efficiency, timelines, service excellence and innovation designed as part of the frontline work processes of SRUs.
3. There was back and forth information flow to create supportive, real-time information environments to enhance service delivery.
4. There was measurement, monitoring and management of activities to improve performance.

Nelson and colleagues were motivated by Quin and saw the importance and relevance of SRUs in health care systems; hence, they developed 'the clinical microsystems model'. The SRUs are points where customers interact with providers and are the same points where patients meet the health care providers. Every complex, adaptive system has structures, processes, patterns and outcomes. As living entities, clinical microsystems are described in terms of structure (anatomy) and function (physiology) (Nelson et al. 2011). The clinical microsystems, which are places where patients, families and professionals meet, are the building blocks of large health care systems (macrosystems). Microsystems do not function in isolation. External ancillary and supporting microsystems like laboratories, radiology departments and even transport challenges need to be included in quality improvement initiatives for patients to experience good health care in all specific microsystems that they encounter during an illness. Quality improvement is a team effort and cannot be the responsibility of one individual. The study of the five Ps framework of any clinical microsystem provides health care professionals with insight and perspective they might not usually see because of their busy schedules. Responses to these questions might help members of a clinical microsystem implement long-lasting improvements, as can be seen from the following:

- **Purpose (know your purpose):** What is our aim? What do we actually intend to achieve?
  - In this study, the purpose of a fast-track queue is to move health care users who have come for short consultations through the system expeditiously to maximise the quality of services offered by the PHC and decongest the health facility.
- **Patients (know your patients):** Whom are we caring for? Are there subpopulations we could plan services for differently? What are the most common diagnoses and conditions in our care setting? What other microsystems' support do we need? What do we do to meet our patients' needs?
  - The fast-track queue is for health care users who come in for short consultations, those who collect medications for chronic illnesses such as hypertension, diabetes mellitus, arthritis, mental health, asthma, TB, ART and epilepsy, as well as those seeking contraception or babies coming for weighing, immunisations and routine prophylactic treatment.
- **Process (know your process):** How do we deliver care and services to meet our patients' needs? Who does what in our clinical microsystem? What are our core and supporting processes? How does technology support our processes? How do we learn from failures and near misses?
  - In the fast-track queue, care is delivered expeditiously as it was established as one of the strategies to prevent unnecessary delays and to decongest the facility.
- **Patterns (know your patterns):** What are the health outcomes for our patients? What are the regularly recurring associated or sequential work activities? How does it feel to work here? What is leadership like? What traditions and rituals do we have?
  - The health outcomes expected are that health care users collect and take their chronic medications regularly so that their chronic conditions remain controlled, preventing unwanted pregnancies, preventing babies from contracting vaccine-preventable diseases, preventing TB patients from infecting others in the community and preventing MDR TB. Leadership in the fast-track queue includes the clinic manager and supervisor, who are supposed to support staff members in this queue. Regularly occurring activities are observations of vital signs where applicable, consultations and issuing of medication, health education and the administration of injections.
- **Professionals (know your professionals):** For whom do we have to provide service? Are professionals able to provide the service?

- Various personnel interact with users in the fast-track queue. Each category of nurses who provide services practise within their scope of practice, defined by their level of training and competence (South African Nursing Council [SANC]) in Regulations 2598 and 2488 of the *Nursing Act 50 of 1978*, as amended (RSA 1978).

This clinical microsystems model was chosen over other quality models because it is explicit about all elements that must be analysed when assessing quality; there is no danger of overlooking certain aspects because they are embedded in another element. This model also makes it easy to evaluate each element separately so that specific improvements can be made for each section or sub-section. Furthermore, it enhances the structure process and outcome model by including patients for whom the care had been planned and who are central to the whole process of quality improvement.

This clinical microsystems model is also beneficial in that it can be applied to one clinical microsystem, and if it works, it can be replicated in other microsystems within the facilities and enhance the quality of care rendered. The fast-track queue is seen as one of the clinical microsystems (services rendered) in the facility. If there is improvement in the elements that make up this queue, it can be replicated in other microsystems within the facility.

Other clinical microsystems would include programmes within the facility like the dressing room, oral rehydration room, maternity ward, sick baby clinic, adult clinic and laboratories, which support the fast-track queue or function independently as does the fast-track queue. While PHC facilities are macrosystems, they are microsystems in relation to the health care system and through communication with CHCs and hospitals regarding patient care and referrals back and forth.

The importance of a theoretical framework

A theoretical framework is important in health sciences research in that it guides the study and gives it direction. The Donabedian model of health care quality is the widely used model where the quality of care is the subject of study; however, it is limited to structure, process and outcome, whereas the clinical microsystems model extends to include patients, patterns and professionals. Applying this model in assessing the functioning of the fast-track queue enhances the focus on quality of care, and each element is examined separately from others, ensuring that no aspect of quality of care is overlooked.

It is therefore vitally important that all health care providers delegated to the fast-track queue are clear about its purpose so that they are able to

utilise it for its intended purpose. Knowing the process of the fast-track queue and all activities that occur will determine whether the care rendered is of quality or not. Understanding the pattern of work leads to understanding the patients for whom the service is rendered.

Application of the clinical microsystems model

The clinical microsystems model was used to frame the whole study as the study's PHC facility settings were seen as a microsystem in relation to its mother hospital or community health care centre. The PHC facility also forms a macrosystem, which stands alone and is made up of various microsystems, which are different services rendered, such as the fast-track queue. The fast-track queue has all elements of the clinical microsystems (five Ps). This study focused on investigating the five Ps of the fast-track queue. Each data collection tool, including the interview schedule, was developed and framed to fit in with the five Ps. As such, the results and findings of the study address each P of the five Ps.

Chapter 4

Philosophical underpinning[1]

Research design

A wide variety of designs are available, but the choice of design depends on the nature of the question and how the researcher is going to answer it. Mixed methods research was used and is described as a research method of enquiry with philosophical assumptions guiding data collection and analysis using both qualitative and quantitative research approaches (Creswell & Plano Clark 2011). Mixed methods research is used in different stages of the research process in a single study to gain a better understanding of the research problem than either approach could achieve on its own. Tashakkori and Teddlie (2010) defined mixed methods research as a type of research method where the researcher employs both quantitative and qualitative approaches in a single study to collect and analyse data, integrate findings and draw inferences. This design was chosen for this study because one data source would be insufficient to fully answer the question: What is the standard of quality of care that is rendered by the health personnel in the fast-track queue in PHC facilities in eThekwini district, KZN?

The six major mixed methods research designs are:

1. convergent parallel design
2. explanatory sequential design

1. Sections of this chapter represent substantial reworking of Sokhela, Sibiya and Gwele (2016, pp. 42–56).

How to cite: Sokhela, DG 2024, 'Philosophical underpinning', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. 37–53. https://doi.org/10.4102/aosis.2024.BK452.04

3. exploratory sequential design
4. embedded design
5. transformative design
6. multiphase design.

The explanatory sequential mixed methods design was selected for this study (Creswell & Plano Clark 2011). In this design, data are collected in phases, with one phase feeding into the other. As such, in this study, the results of quantitative data, which were collected during the first phase, needed clarification; hence, the qualitative phase followed and expanded on the quantitative results through individual face-to-face interviews.

The qualitative phase further explained and clarified the initial quantitative results; hence, both approaches were treated as equally important. The weaknesses of both quantitative and qualitative research were offset by the strength of using both approaches in mixed methods research. There is a consensus that for every weakness, there is a corresponding strength in both these approaches; neither approach can provide all the answers. It can be argued that in quantitative research, consideration is not given to the respondents' setting and context, just as their voices are also not heard directly as no direct quotes were used.

Quantitative data were collected and analysed first, followed by qualitative data collection and analysis. Interpretation and integration of both results were done thereafter. The researcher adopted this sequence because, beginning with the quantitative phase, the researcher conducted retrospective record reviews and structured observations to check what happened in the fast-track queues. Based on her clinical experience and a review of relevant literature, the researcher knew what events and activities she was looking for but did not know how frequently they occurred; thus, structured observations were favoured. Data obtained from structured observations would either confirm or dispute semi-structured interviews and record reviews.

Retrospective record review had an advantage as a data source in that records show patterns or trends over time about information that has been collected repeatedly; it also eliminates participant reactivity that might occur during actual observations. The researcher was able to view the records on her own with consent to view the patient records without requiring further co-operation from participants, such as is needed for the conducting of interviews; the researcher conducted a retrospective record review using a 31-item checklist. Further to this, Creswell and Plano Clark (2011) asserted that the explanatory design is most useful when quantitative data have been used to assess trends and being able to explain why those trends occurred. Quantitative data were used to examine trends, and those results were interpreted through qualitative data (Creswell & Plano Clark 2011).

It was anticipated that there might be issues requiring clarification within the quantitative phase, which the qualitative phase could help to clarify. The qualitative approach was further used to explore the implementation of the fast-track queue by health care providers.

Pragmatism

Mixed methods research is often associated with the pragmatist paradigm (Tashakkori & Teddlie 2010). A paradigm is a worldview, a way of looking at natural phenomena that encompass a philosophical assumption guiding one's approach to enquiry (Polit & Beck 2021). Mixed methods research seeks to solve real-life problems with data obtained from various sources at different phases of the research process (Tashakkori & Teddlie 2010). In this worldview, multiple methods of data collection are used to answer the question(s) being studied. Pragmatism is a school of thought that originated in North America with historical figures such as John Dewy (1859–1952), William James (1842–1910) and Charles Sanders Pierce (1839–1914).

The word pragmatism is a Greek word derived from '*pragma*' [action], implying that a set of actions need to 'work' by being useful and informative (Thayer & Rosenthal 2023). Thereby, for an idea to be true, it must be shown to 'work'. It focuses on the consequences of research; it is problem-centred, pluralistic and oriented towards what works and stresses real-world practice (Creswell & Plano Clark 2011). To the pragmatists, what is 'true' is what 'works'. Originally, there were two research approaches, the quantitative and the qualitative approaches, supported by two paradigms, positivism or post-positivism and constructivism or naturalism.

Mixed methods research emerged as the third research approach, with pragmatism as the third paradigm. There were debates and arguments with the emergence of mixed methods research, where researchers who followed the first two approaches argued that it is impossible to mix quantitative and qualitative approaches because of the different philosophical underpinnings that are incompatible – it can be either quantitative or qualitative approach, hence the 'incompatible thesis' (Teddlie & Tashakkori 2009). The pragmatists countered the incompatibility theory by positing that it is possible and acceptable to mix quantitative and qualitative methods if the research required the use of the two methods to answer the research question(s) (Teddlie & Tashakkori 2009). The basic characteristics of pragmatism are the rejection of the 'either-or' choice between constructivism and positivism and the search for practical answers to questions in which the researcher is interested (Teddlie & Tashakkori 2009). Paradigms are based on three dimensions, namely, epistemology, axiology and ontology:

1. Epistemology pertains to the relationship between the researcher and the participant. In mixed methods research, both subjective and objective relationships are possible, depending on the approach used at a specific stage of the research (Teddlie & Tashakkori 2009). In this study, the quantitative method was used in the first phase where the researcher conducted a retrospective record review and structured observations. There was no relationship created between the researcher and the owners of the records except for explaining why the researcher requested the use of their records. However, during the second phase of the qualitative research method, semi-structured interviews were conducted with health care personnel. During interviews, an interactive relationship between the researcher and the participants was required for them to be at ease in answering complex questions.
2. Axiology describes the role of the values of the researcher, which are vital in conducting research and during the interpretation of results (Teddlie & Tashakkori 2009). Pragmatists study what is important within their personal value system. The researcher in this study has vast clinical experience, has taught in PHC, has a passion for it and believes that the lives of communities can be improved through PHC and values how users are treated and managed at the PHC level.
3. Ontology describes the nature of reality. Pragmatists concur with positivists about the existence of an external reality independent of our minds and deny that truth about reality can be determined (Teddlie & Tashakkori 2009). According to pragmatists, the 'truth is what works'. The use of mixed methods research assisted the researcher in obtaining the truth by conducting research using quantitative and qualitative methods to answer the research question more clearly and precisely.

Following the pragmatist paradigm, the researcher selected facilities and participants who were as close to the situation as possible. It was envisaged that these participants would provide truthful and reliable data because they were involved in the phenomena that were studied.

Phases of the study

The study was conducted in three phases, namely, the quantitative approach as the first phase, followed by the qualitative approach as the second phase and the development of a continuous quality improvement framework as the third phase, as illustrated in Figure 4.1.

These phases can be outlined as follows:

- **Phase 1, Stage 1:** A descriptive, quantitative, retrospective review of health care user records, where the researcher assessed whether documentation of care rendered adhered to the standards established in the NCS for health establishments (RSA 2011c).

Source: Author's own work.

FIGURE 4.1: Phases of the study and summary of the data collection process.

- **Phase 1, Stage 2:** Descriptive, quantitative, structured observations of events that happened in the fast-track queue were recorded on checklists.
- **Phase 2:** Descriptive, qualitative semi-structured interviews of health care providers allocated in the fast-track queue to describe personnel's experiences on using the fast-track queue and helped clarify significant and non-significant results obtained from the quantitative phase.
- **Phase 3:** Development of a framework for continuous quality improvement.

Setting

The study was conducted at selected PHC facilities in the eThekwini district in KZN, one of South Africa's nine provinces. KwaZulu-Natal has a total population of 10,449,300, accounting for 21.4% of the total population of South Africa. Roughly 34% of the total population of KZN live within the eThekwini district (DoH 2010), one of the eleven health districts of KZN located in the southeastern part of South Africa. The district covers an area of approximately 2,297 km^2, with 36% being rural and a further 29% being peri-urban and is home to roughly 3.5 million people. It consists of a diverse society that faces various socio-economic and health care challenges (eThekwini Municipality 2011). The district was divided into three large sub-districts, namely, south, north and west, consisting of several PHC areas, to facilitate administration and control of PHC services. There were six PHC areas in the north, four in the west and eight in the south sub-district.

Primary health care services are provided by both provincial and local authorities. The provincial DoH provides 60% of the district health services, and 40% is provided by the local authority or eThekwini municipality.

There were eight CHCs, with seven being provincial and one shared between the two health authorities; these operate on a 24-h basis. There were 102 PHC facilities in total; of these, 43 were under the administration of the provincial DoH and 59 were under the local authority. There were three gateway clinics, which operate within the hospital premises of the provincial DoH, and 28 mobile units, which service hard-to-reach rural areas – of which twelve were operated by the provincial DoH and sixteen were operated by the local authority (KZN Provincial Department of Health 2013).

Sampling techniques and sampling process

Multistage cluster sampling was used in line with mixed methods research. The different phases and stages of sampling were used to sample settings and participants:

1. *Population* refers to the whole aggregation of cases in which the researcher is interested (Polit & Beck 2021). The population includes all PHC facilities of both local and provincial authorities of the eThekwini district in KZN province, South Africa. Health care user records were part of the population in Stage 1 of Phase 1 of this study. Health care personnel from PHC facilities who encountered fast-tracked health care users comprised the population for Stage 2 of Phase 1 of this study.
2. The target population is the aggregate of cases about which the researcher would like to generalise a study's findings (Polit & Beck 2021). The target population in this study comprised PHC facilities (as the study sites), records of users (as records used for data collection) and staff members (interviewees) having contact with fast-tracked health care users at selected PHC clinics.
3. Accessible population is the aggregate of cases that conform to designated criteria and that are accessible to participate in the study (Polit & Beck 2021), which in the study were all health care users who agreed to the review of their records and observations as well as PHC personnel who were interviewed.

Phase 1, Stage 1: Sampling of facilities

The 102 PHC facilities were stratified by three sub-districts, namely, south, north and west, and were further stratified according to local and provincial authorities (Table 4.1). The daily head count statistics of fast-tracked health care users were used to calculate the average number of health care users who attended the PHC facilities over a six-month period. Sixty-two PHC facilities had an average of 190 or more attendance per month. Twenty (32%) PHC facilities were randomly selected from each stratum. An equal

TABLE 4.1: Sampling process – sampling of clinics.

Sampling of clinics	Sub-districts						
	North		South		West		
	Municipal	Provincial	Municipal	Provincial	Municipal	Provincial	Total
Average 190 fast-tracked users per month	3	6	20	13	10	10	**62**
Total sampled clinics	**3**	**3**	**4**	**4**	**3**	**3**	**20**

Source: Author's own work.

TABLE 4.2: Sampling process – sampling of events and patient records.

Sample	Adults	Children	Total
Sampling of patient records per clinic	15	15	**30 × 20 = 600**
Sampling of events per clinic	Clinical tests station	Waiting for consultation	**30 × 20 = 600**
	30	30	**30 × 20 each = 600**

Source: Author's own work.

number of PHC facilities were randomly sampled between the two health authorities, with ten from each authority. A fishbowl technique was used in a simple random sampling of PHC facilities.

The names of health care facilities that met the inclusion criteria per stratum were written on pieces of paper, and the required sample was picked out of a bowl. This allowed the researcher to sample from all sub-districts to ensure geographic and economic representativeness of the population of the eThekwini district. In the south sub-district, four PHC facilities were sampled from each authority, and in the remaining sub-districts, three facilities were sampled from each. The rationale for sampling more facilities in the south sub-district is that it is larger than the other two and has the highest number of PHC facilities.

Phase 1, Stage 2: Sampling of records

The researcher used systematic random sampling for health care user records where every fifth health care user record was sampled. Health care users were handed information letters and consent forms for permission to use their records. Permission was obtained from parents and legal guardians to use the records of their babies and children. Information letters were written in both isiZulu and English, and translation was conducted from English to isiZulu and back by an isiZulu and English teacher in the presence of the researcher to assist with medical terms. The supervisor, who was a PHC expert, verified the two English versions and agreed that meaning was not lost during translation. The teacher was qualified, with a Further

Diploma in Education (FDE), Senior Teacher's Diploma (STD) and Bachelor of Education (BEd) Honours (Hons) degree. Records were collected and reviewed every day until the required number of 30 per facility had been reached, totalling 600 records (Table 4.2).

Phase 1, Stage 3: Sampling of events for observations

The first fixed point for observations was a 'vital signs station', which included weighing, urine tests, blood pressure and blood glucose tests. The second point was in the waiting area where users waited for their consultations. Structured observations were carried out for four hours in the morning until the required number of observations had been conducted. Events of 30 fast-tracked health care users were observed per facility, totalling 600 observations (Table 4.2) at the 20 participating PHC clinics.

Sample size calculation for records and observations

Thirty observations were conducted at each of the 20 selected facilities, totalling 600 observations. Factors considered in determining the sample size included that the researcher was interested in estimating the prevalence of the quality of service at each user visit. These aspects included checking the clinical tests of fast-tracked health care users at every visit and the interaction between health care providers and fast-track queue users. The researcher believed that, at most, 50% of visits would have records reflecting good quality services rendered to users of the fast-track queue. Naing, Winn and Rusli's (2006) sample size calculator was used to estimate the adequate sample size. The 1999 Daniel formula was used in the calculation of the sample size determination process:

$$n = \frac{z^2 p(1-p)}{d^2} \qquad \text{[Eqn 4.1]}$$

n = sample size, z = value of a normally distributed variable which for a 95% confidence interval takes the value of 1.96, p = expected prevalence or proportion, d = precision or allowable error. The sample size calculator produced the following information based on the provided values. A total of 585 observations in the 20 facilities were required within the study, which was rounded off to 600 observations (Naing et al. 2006).

Phase 2: Sampling of personnel

Data from the quantitative phase were used to identify PHC facilities for inclusion in the qualitative phase. Twelve facilities out of 20 were selected based on performance scores in the quantitative phase. Fifty per cent (n = 6) of the twelve facilities were high performers, while 50% (n = 6) were low performers. In total, thirteen out of 35 professionals who were involved with fast-tracked health care users were purposively sampled for face-to-face semi-structured interviews. When ten participants had been interviewed, data saturation occurred as no further new information became apparent. However, three more participants were interviewed to ensure that data saturation had indeed been reached. Health care providers were purposively selected because they would provide the most specific information as they were involved in service delivery to fast-tracked health care users.

The researcher was careful to ensure that staff from both municipal and provincial clinics were interviewed. The interviewed staff members included twelve female participants and one male participant:

- Two PHC supervisors, who are responsible for several facilities in the same geographical area and clinic managers who report to them. One clinic supervisor was from the municipality and the other was from provincial PHC clinics.
- Two PHC managers, who oversee the daily functioning of the clinic and report to the clinic supervisor.
- Five professional nurses; three from the municipality and two from the provincial PHC clinics.
- Two enrolled nurses.
- Two enrolled nursing assistants were sampled for interviews; one from each category was from the municipality and the provincial PHC clinics.

Inclusion criteria of facilities, records and personnel

- Primary health care facilities from local and provincial health authorities in all three sub-districts of eThekwini Municipal district that provide services to an average of 190 fast-tracked health care users per month.
- Records of consenting fast-tracked health care users.
- Primary health care personnel providing services to fast-tracked health care users.

Exclusion criteria of personnel, facilities and records

- primary health care facilities of the local and provincial health authorities in all three sub-districts that had an average of fewer than 190 fast-tracked health care users per month
- gateway clinics, CHCs and mobile units
- facilities used to pre-test the tools
- records of babies and children brought in by caregivers who were not their legal guardians
- facility personnel not involved with fast-tracked health care users at the time that the study was conducted.

The rationale for the exclusion was that PHC facilities that had fewer than 190 health care users a month might not depict the true picture of what really occurred at the fast-track queues because of minimal attendance and health care providers might not be under pressure to work fast. While CHCs were excluded because they function differently from PHC facilities, they are used as referral centres for very ill patients, and most fast-track queue services are not rendered at CHCs. Furthermore, the gateway clinics do not render a full range of fast-track services as they function within hospitals, and some of these services are conducted within the hospital outpatient departments.

Data collection

Data collection commenced once full ethics approval (REC 33/13) was obtained from the university Institutional Research Ethics Committee, and gatekeeper permissions were received from the district, provincial and municipal health research committees.

Quantitative data collection tools

The adult record reviews and observation of events were based on thirteen-item checklists developed based on the literature review regarding observations for diagnoses of fast-tracked health care users, such as weight, blood pressure and blood sugar, to mention a few, depending on the diagnoses and interactions between health care providers and users.

The checklist for the baby records was adapted from the front page of the Road to Health Booklet (RtHB). Responses were analysed quantitatively to produce numeric information. Checklists for adult records had ‘yes’, ‘no’ and ‘not applicable’, while for the checklist for babies, the researcher had to tick whichever was applicable according to age.

Pre-testing of the data collection instruments

The researcher pre-tested the data collection instruments at one facility after provisional ethics approval and gatekeeper permission were obtained. Pre-testing of the tools was done to ensure that the research questions were realistic and understood and that they would yield the data that the researcher was looking for. A pre-test also ensured that challenges were dealt with at this stage to avoid flaws in the main study. Uses of conducting a pre-test included evaluating the adequacy of the research method, appropriateness and quality of the instrument and identifying confounding variables that needed to be controlled. The facility that was used for pre-testing the tools was randomly sampled and did not form part of the main study. Ten observations were conducted, and four interviews were conducted with each category of health care personnel. No amendments were necessary to the methodology and tools. A trial run was conducted at the pre-test site where the researcher conducted time observation simultaneously on the same participant with the research assistant to establish interrater reliability. The research assistant recorded the time the health care user sat in the queue outside the consulting room and the times when the user entered and exited the consulting room.

Data collection from record reviews

In Phase 1, Stage 1, the researcher conducted retrospective record reviews of fast-tracked health care users who were exiting the PHC facility on the day of data collection using a checklist.

The number of days spent in each PHC clinic was dependent on the availability of participants and their willingness to participate in the study. On average, five days were spent at each PHC facility, as data were collected for four hours each day. This system enabled the researcher to overcome the challenge of attrition because all this happened in the facility while the fast-tracked users were present.

Data collection from structured observations of events

During Phase 1, Stage 2 of the study, structured observations of the fast-track queue process were conducted in selected PHC clinics. The researcher observed specific behaviours in the fast-track queue for actions and events using a formal instrument, which was a checklist developed by the researcher from literature about observations that should be carried out in specific chronic conditions. Structured observations were preferred because consistent records could provide what was being observed and how answers were recorded to enhance objectivity and reduce bias.

Six hundred observations were gathered at two points over an 80-h period in the 20 sampled PHC facilities. The researcher was at each facility for a minimum of 4 h, usually from 08:00 to 12:00, which were hours with the most fast-tracked health care users, and observed the interactions between fast-tracked users and health care providers. Each of the 20 PHC facilities was visited until the sample of 30 observations of user events had been reached. The mornings were ideal for this data collection method because fast-tracked users normally arrived at the facility early in the morning, and this was when most activities took place; the researcher was able to collect maximum data at this time. This also prevented researcher fatigue. Participant reactivity, which is when participants' behaviour changes when they know that they are being watched, was anticipated and was overcome by the fact that familiarity occurred when the researcher spent time in the facility for other activities, such as record review, which had been done prior to the observations.

The researcher made use of a trained assistant to help with the observations. The trained observer assistant signed an agreement to participate in the study, as well as a confidentiality agreement. This person was knowledgeable about research and observed those health care users who were identified by holding the information letters.

The researcher observed the first station to capture most events, and the research assistant observed the second station to record the duration of time users waited before consultations and the time spent with the practitioners during consultations.

Quantitative data analysis

Quantitative data analysis uses statistical procedures to organise, interpret and communicate numeric information obtained during the data collection. Data were entered into an Excel spreadsheet where it was coded and thereafter exported to Statistical Package for the Social Sciences (SPSS) (version 22, IBM) for analysis. Descriptive statistics, illustrating spread such as proportions, frequencies, ranges and central tendencies like the mean, mode, median and standard deviation, were computed where appropriate.

In order to test for significant trends in the data, inferential statistics were computed, such as the chi-square tests for nominal and ordinal categorical data, to compare and test associations between the observed and the expected frequencies. A chi-square goodness-of-fit test was used to test whether any of the response options were selected significantly more or less often than expected. Chi-square tests of independence were applied to a cross-tabulation to check whether a significant relationship exists between two specific variables.

Kruskal–Wallis tests were used to check whether significant differences existed between an ordinal test variable and different categories of another variable. The Mann–Whitney *U* tests were performed on pairs of categories to detect specific differences when significant differences were found for a variable with more than two categories. These numerical data were graphically presented using graphs, pie charts and tables. The findings of the quantitative study were used for structuring the questions for the qualitative phase that succeeded the quantitative phase.

Validity and reliability

In quantitative research, reliability and validity are two methods used to ensure that results are accurate and not biased. Pre-testing of the tools was conducted at one clinic that was not part of the main study to ensure reliability. Furthermore, the research instruments focused only on activities and events that were observed and reviewed with great precision. The tool for adult record reviews was adapted from the standards document that facility personnel should comply with in caring for fast-tracked health care users. The children's record review tool was taken directly from the RtHB, which is used when assessing well babies.

Qualitative data collection

After the quantitative data were analysed, thirteen face-to-face, semi-structured interviews with PHC personnel were conducted in the second phase of research using an interview schedule with few open-ended questions.

Qualitative data collection tool

The interview schedule was developed by the researcher to identify the attitudes of personnel towards the use of the fast-track queue and to get clarity and in-depth information on the quantitative findings where necessary. The interview schedule contained a section that asked for demographic data, and the next section had about five questions to guide the interview. Different probing words were used to solicit in-depth data, such as 'can you elaborate on that?', and participants were encouraged to continue using continuation probes such as 'tell me more about …'. Some questions were for clarity from observations of health care user records or observations of events.

Probing during semi-structured interviews allowed participants the freedom to express themselves without the constraints of closed-ended questions. Interviews were audio-recorded with permission from

participants and later transcribed verbatim. The interview schedule was guided and shaped according to the clinical microsystems model.

Qualitative data analysis

Qualitative data were analysed using thematic analysis. Although computer programs that assist in qualitative data analysis, such as NVivo, are available, qualitative data analysis in this study was done manually by the researcher and one independent coder. Tesch's open coding approach was used, which entails the eight steps of analysis of data (Creswell & Plano Clark 2009). These eight steps can be described as follows:

- **Step 1: Reading through all transcripts to get a general impression of the collected data.** Firstly, the researcher prepared data for analysis by transcribing audio-recorded interviews into a written form and then reading transcripts several times to be immersed in data. This helped the researcher to identify patterns of data and frequently appearing phrases and make sense of data.
- **Step 2: After reading the transcribed data, thoughts and meanings that emerged from the data were written down.**
- **Step 3: Making a list of all topics.** Similar phrases and topics were clustered together. These topics were preliminarily organised as major topics, unique topics and leftover topics.
- **Step 4: Developing codes.** Phrases and topics were abbreviated to form codes alongside the text that they emerged from. Topics or codes that emerged were written opposite the section of text and checked for new categories and codes that could emerge at this stage.
- **Step 5: Developing subcategories.** To develop subcategories, the most descriptive words from phrases and topics were used.
- **Step 6: Final decision on codes.** The researcher decided to abbreviate the developed categories.
- **Step 7: Preliminary analysis of data.** This was achieved by assembling data that belonged to each category from which themes emerged.
- **Step 8: Recoded existing data.** Recoding of existing data was not necessary.

Trustworthiness

Lincoln and Guba (1985) suggested four criteria for establishing the trustworthiness of qualitative data, namely, credibility, dependability, confirmability and transferability:

- **Credibility:** Semi-structured interviews were conducted to further clarify findings from the quantitative phase and to obtain information

on how personnel use the fast-track queue. Probing was used during interviews until data saturation had been reached after ten interviews. Three more interviews were conducted to make sure that no new information emerged during subsequent interviews. Interviews were audio-recorded and detailed field notes were written immediately after the interview. To establish confidence in the truth of the findings during report writing, voice recordings were played repeatedly to ensure that all information was transcribed. Member check was conducted whereby the researcher returned to the facilities and spoke with personnel in the fast-track queue service to test if they agreed with the interpretation of data. The researcher bracketed existing knowledge, pre-conceived ideas and personal views regarding the existing problems in the clinical area. On the contrary, data triangulation was achieved by interpreting and integrating quantitative and qualitative findings.

- **Dependability:** Dependability refers to the replicability of the results, that is, the same results will be obtained if the research were to be repeated with a similar sample and context (Lincoln & Guba 1985). Dependability relies on credibility. Data were collected from participants who had worked in the fast-track queue. An audit trail was maintained through the safekeeping of the raw data of each interview for future reference. Records kept included data collection instruments, an audio compact disc of interviews, transcripts, summaries of interviews and signed consent forms. The audit involved 'scrutiny of data collected and any supporting documentation by an external reviewer, in this case the supervisor. Although the researcher coded the interviews herself, data and analysis were checked for discrepancies and scrutinised by the research supervisor' (Sibiya 2012, n.p.).
- **Confirmability:** Confirmability is concerned with whether the data presented represent what the participants said and are without bias from the researcher to demonstrate neutrality of the research interpretations (Lincoln & Guba 1985). 'In qualitative research, confirmability focuses on the characteristics of the data gathered in the study and by utilising an audit trail' (Sibiya 2012).

  To follow sound protocol: 'Following the transcription of the voice-recorded interviews, each participant was given the opportunity to review the transcribed interview and was asked to confirm if the notes were a true reflection of their views regarding the [fast-track queue]. The researcher's interpretations were scrutinised by the research supervisor who acted as an independent coder. Themes and sub-themes identified by the researcher were contrasted with those identified by the supervisor. No discrepancies were identified between the analyses of data' (Sibiya 2012, n.p.).

Lastly, excerpts and direct quotes from the data were used to support the themes that emerged during the data analysis.

- **Transferability:** Transferability refers to the applicability of findings to other settings (Lincoln & Guba 1985). Thorough, rich and thick descriptions of study participants, research setting and the research processes were provided to facilitate the process for future researchers who might endeavour to conduct similar studies.

Appropriateness of the research methodology

The different research mixed methods orientations were applied to this study to achieve each objective. Each objective is aligned with the data sources that were used to meet the objectives of the study (Table 4.3).

Ethical considerations

Emanuel, Wendler and Grady (2000) discussed the following seven principles of ethical research:

1. **Social value:** Research should generate new knowledge to improve the health of the communities. Participants were given an information letter detailing the objectives and significance of the research, including how they were expected to participate.
2. **Scientific validity:** Reliable and valid data must be generated from research through the use of rigorous methodology. The use of mixed methods, with both quantitative and qualitative approaches, ensured data triangulation.
3. **Fair subject selection:** The selection of subjects should be aimed at achieving the objectives of the study. Observations of records and

Table 4.3: The appropriateness of the research method.

Objectives	Research orientation	Data collection and tools	Data sources
1. To determine the implementation of the fast-track queue by PHC personnel.	Quantitative	Record Review Checklist	Health care user records
2. To determine how quality of care is provided to fast-track queue users.	Quantitative	Structured Observations	Fast-track queue
3. To describe the experiences of PHC personnel working in the fast-track queue.	Qualitative	Semi-structured Interviews	PHC personnel
4. To develop a framework for continuous quality improvement based on the findings.	Qualitative	Development of a framework for continuous quality improvement	Data, findings and results

Source: Author's own work.
Key: PHC, primary health care.

events were those of fast-track queue users only, and participants sampled were those allocated to work in the fast-track queue service at the time of the study.

4. **Favourable risk-benefit ratio:** Clinical research should minimise risks, and benefits should outweigh potential risks. There was no anticipated risk for the participants. However, participants might get distressed during interviews and observations. The researcher, a professional nurse, would have intervened if any person experienced emotional or physical discomfort. Furthermore, plans were made with the Employee Assistance Programme (EAP) of both the municipal and the provincial PHC clinics to debrief staff members after interviews if such a need should arise, but no such need arose.
5. **Independent review:** Independent individuals must review the research and approve, amend or terminate it. Ethics approval was sought from the Durban University of Technology Ethics Research Committee. Permission was also sought from the KZN DoH and Municipality Health Unit Research Committees and the district office. Permission was granted by all institutions.
6. **Informed consent:** Individuals should be informed about the research and provide their voluntary consent. Full disclosure about the study was done; no deception of participants took place. All participants were informed about the research and signed consent forms but did not know on which days they were being observed. Participant reactivity was overcome by the researcher being in the facility for a few days, 'familiarising' the researcher with the staff members and with the PHC clinic's environment. Participation in the research was voluntary; they could refuse if they did not want to participate in the study. Participants were requested to sign a consent form after reading the information letter.
7. **Respect for enrolled subjects:** Subjects should have their privacy protected, the opportunity to withdraw and their well-being monitored. Participants were always assured of confidentiality. They were told that codes were used to identify facilities and individual participants – no names were disclosed, and they were known only to the researcher. They were assured that data obtained would be used for the purposes of the study only and that they could refuse to answer specific questions. If they were uncomfortable answering questions, they could withdraw at any stage of the study if they so wished (Emanuel et al. 2000, pp. 2701–2711).

Electronic data will be stored in a password-protected computer known only to the researcher and deleted at the end of five years. Hard copies will be kept under lock and key and shredded by the researcher after five years.

Chapter 5

Experiences of health care[2]

Experiences for health care users

This chapter presents the report of the research results obtained from observations, which was divided into a retrospective record review of adults and children and an observation of events within the fast-track queue. This was to establish what the health care users experienced within the health facility and if these experiences were recorded. The presentation of results is organised according to the five Ps of the clinical microsystems model discussed in Chapter 3, namely, purpose, patients, process, patterns and professionals. The purpose of this study was to evaluate the implementation of the fast-track queue in order to analyse the care rendered by PHC personnel and to develop the framework for continuous improvement in the implementation of the fast-track queue at PHC facilities.

Quantitative data were analysed using SPSS (version 22, IBM). Descriptive statistics were computed for the sample. Frequencies were computed for the structured observations and chart reviews. Chi-square tests were used for nonparametric findings. The level of significance was set at $p = 0.05$.

Sample description for the quantitative phase

Data were collected through structured observations of clinical tests experienced by 600 health care users, interactions between fast-track

2. Sections in this chapter represent substantial reworking of Sokhela et al. (2018).

How to cite: Sokhela, DG 2024, 'Experiences of health care', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. 55–83. https://doi.org/10.4102/aosis.2024.BK452.05

queue users and health care providers, and retrospective record reviews of 300 children and 300 adult records. The three sub-districts of eThekwini district were coded as A, B and C. The PHC clinics in the KZN province are managed by the local (municipal) and provincial health authorities, which jointly provide health care services within the district. Twenty of the 62 PHC facilities, which were found to have an average of 190 or more fast-track queue attendance per month, were randomly sampled from both provincial and municipal PHC clinics. Six PHC facilities were sampled from sub-district A, six PHC facilities were sampled from sub-district B and eight PHC facilities were sampled from sub-district C, which is larger than the other two sub-districts.

Facilities were coded as follows according to sub-district and health authority:

- **Sub-district A:** MA1, MA2, MA3, NA1, NA2 and NA3.
- **Sub-district B:** MB1, MB2, MB3, NB1, NB2 and NB3.
- **Sub-district C:** MC1, MC2, MC3, MC4, NC1, NC2, NC3 and NC4.

Adult records

The 'P' for patterns referred to how care was recorded in the clinical records of fast-tracked health care users. In nursing practice, there is a saying that 'what is not recorded is not done' (Muthathi et al. 2018). The quality of records reflects the quality of care given (Rawles 2014), and recording would assist professional nurses in assessing disease progression, including complications and compliance with medication. It would also determine if the user warranted referral to the next level of care. Clinical records are tools of communication between health care providers in health care facilities at different levels. These records should contain all the necessary information for continuity of care, even between different health care providers in the same facility; they must be legible and kept safely. During consultations, the health care provider–patient interactions that were expected to take place were documented. Good records also assist the health care provider in making decisions regarding the management of the health care user in current and future consultations. The SANC is the body that regulates nursing practice in South Africa. It sets regulations regarding the keeping of records for nurses and midwives (SANC 1978).

Patient demographics from adult records

Record reviews of fast-tracked adult health care users and those of babies and children who had come to the well-baby clinic were conducted.

Gender from records of adult users

Female records comprised the largest part of the sample at 69% (*n* = 207). This was not surprising; as women traditionally, particularly in the African context, have roles of being primary caregivers of children, the sick and the whole family (Asuquo & Akpan-Idiok 2020). Thus, they have more reasons to visit the PHC facility than their male counterparts. Similar results have been found in other countries. In Canada, women are reported to attend primary care facilities more than men for both physical and mental health illnesses (Thompson et al. 2016). Women are familiar with PHC facilities, and this could be because many health programmes are directed specifically at women, such as antenatal care, contraceptive services, the prevention of mother-to-child transmission of HIV (PMTCT) and immunisation programmes (Myburgh 2011). Men prefer to buy over-the-counter medications for minor ailments instead of wasting time and money going to the clinic to spend the whole day waiting for service, unlike women who go to the clinic for every minor illness (Das et al. 2018). To this end, there is a recent project that has been launched in South Africa to encourage men to visit clinics and get tested and treated for HIV and other illnesses. This project is known as 'Mina. For men. For health' and is supported by the President's Emergency Plan for AIDS Relief (PEPFAR) and the Joint United Nations Programme on HIV/AIDS (UNAIDS). This clearly indicates that men's health-seeking behaviour is a challenge in curbing illnesses and preventing complications.

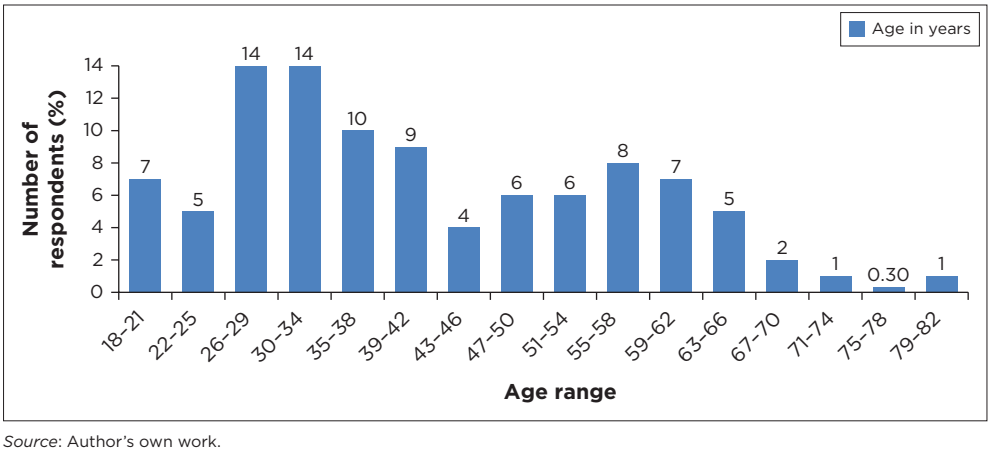
Age from records of adult users

Descriptive statistics of adult fast-track queue users' records indicated that the age of users ranged from 18- to 82-years-old, with a mean age of 41.47-years-old and a standard deviation of 14.85 (Figure 5.1). The majority age group was 26–34-year-olds (28%; *n* = 84), and these were within the female group. Contrary to this finding in 31 sub-Saharan countries, the age of the mother was found to affect the health care-seeking behaviour of their children; younger women between 15- and 24-years-old chose homemade preventive measures, and older women took their children to clinics (Adedokun & Yaya 2020). This could be because there are many health care programmes that target women of childbearing age. However, women that could be fast-tracked would be those who bring young children below the age of five years old to the clinic for well-baby visits where babies and children are checked for wellness and receive immunisation and prophylactic treatment. Young women could visit the PHC facility for their own health, including contraceptive services and to ask for advice on caring for their babies, such as feeding. The least-represented age group was 75–78-year-olds, with one participant. The emergence of HIV, AIDS and TB

co-infections has increased the number of younger chronic health care users. The HIV Prevalence Report purports that HIV prevalence is highest among the 25- to 49-year-olds at 25.2%, with younger females more often affected than males (Shisana et al. 2014).

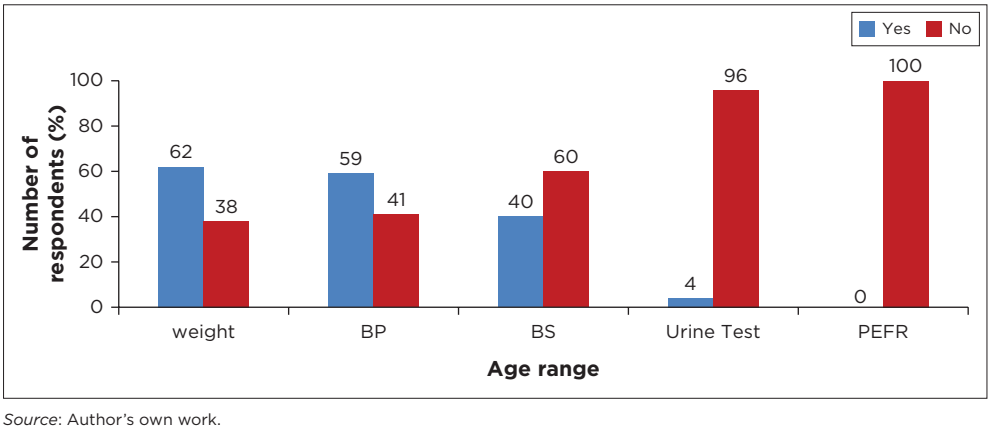
Record review of adult health care users

Vital signs are the most important part of basic nursing, specifically pulse rate, body temperature, respiration, blood pressure, weight and body mass index (BMI), which indicate the state of a patient's essential body function; they also indicate the patient's progress or deterioration of the disease (Figure 5.2).



Source: Author's own work.

FIGURE 5.1: Ages of adults from records.



Source: Author's own work.
Key: BP, blood pressure; BS, blood sugar; PEFR, peak expiratory flow rate.

FIGURE 5.2: Overall recorded clinical tests.

Weight

The overall analysis of care from the clinical tests in adults' records was conducted. Records indicated that of the 300 records, weights were recorded in 62% (*n* = 186) of the total charts. There was a high number of health care users who were not weighed. This was an indication of poor functioning at the PHC facility as this is a very important measure of illness or improvement of illness for different health care users. According to How et al. (2014), weight monitoring is vital and used as one of the measures for users suffering from debilitating chronic conditions such as TB and AIDS. Both these conditions are the archetypal wasting diseases. One of the signs that a person is suffering from a chronic debilitating disease is loss of appetite and subsequent loss of weight, and hence, weight gain is one of the signs of a good response to treatment. On the contrary, for health care users who suffer from cardiovascular disease, weight loss would be a good sign, and weight gain depicts a worsening of the condition. It is therefore important for health care providers to be cognisant of weight as an indicator of different diseases. Empirical knowledge exists to this effect. Other health care users who would gain from a good working weight scale are those on ART and TB treatment. Weight loss is one of the symptoms used to diagnose TB and weight gain is associated with a good response to treatment. Ruderman et al. (2021) observed patients in the first six months of ART initiation and found that they gained weight the most during this period. These authors further asserted that weight gain was associated with improvement in the health status of individuals, including improvement in CD4 cell count. However, they observed different weight gain patterns between new and older ART regimens. On the contrary, Bailin et al. (2020) found that the incidence of obesity in people on ART has increased, and this indicates a trend in the general population; however, this rise in obesity is also accompanied by the emergence of other conditions, such as metabolic and hepatic diseases. Weight monitoring in patients on ART is not only vital as an indicator of the response to treatment, but it can also contribute negatively to patients with dyslipidaemia. Fortunately, with advancements in treatment, dyslipidemia is no longer a problem for health care users on ART. However, when weight is not measured, it may not be possible to monitor progress as well as excessive weight gain resulting from metabolic disorders associated with ART.

Urinalysis

Urine was recorded to have been tested in only 4% (*n* = 5) of a total of 119 records of health care users requiring these checks. Urine analysis would be used to identify kidney damage in health care users with diabetes and hypertension and those complaining of urinary symptoms. Previously, it was

also used to diagnose diabetes, which is no longer the case with improvements in technology and evidence-based practice. Contrary to the stipulation of the hypertension guidelines by Seedat and Rayner (2012), it was noted that health care users would go for more than a year without urinalysis, which is in cases where blood pressure was elevated, and urine was not checked for proteinuria.

Peak expiratory flow rate

This is an important parameter to check in health care users who came for asthma treatment; the peak expiratory flow rate (PEFR) was not recorded in 100% (*n* = 8) of the charts for patients living with asthma (Figure 6.2). Patients who attend PHC clinics are still uncontrolled and therefore need close monitoring. Peak expiratory flow rate is used to diagnose asthma and monitor the lung capacity to gauge the severity of the disease. Asthma is said to be underdiagnosed and under-treated, and PEFR must be used together with symptoms to diagnose asthma. Health care providers might not check the lung function because they lack the skill to perform it, they do not have the knowledge of why it should be assessed or the required equipment is not available in the PHC facility. Emergency service workers in Johannesburg, South Africa, were found to lack training and had inadequate knowledge of the use of a peak flow metre. Few of them who had been trained had ever used the device on a patient (Vincent-Lambert & Nkuna 2020).

Blood pressure

Blood pressure was recorded just above half of the total records of 278 (59%; *n* = 165). It is concerning that the rest of the fast-tracked health care users' blood pressure was not measured. Blood pressure was supposed to be measured at every visit for health care users with hypertension and once a year for other health care users whose blood pressure was within normal limits on the first visit (Seedat & Rayner 2012).

Hypertension is a global health burden and is a silent killer, and it can complicate cardiac conditions and stroke, which are debilitating conditions. Furthermore, health care users who attend the PHC personally should have their blood pressure measured to determine compliance with treatment and whether medication needs to be added. At the PHC level, blood pressure is managed in a step-wise approach, which very much depends on blood pressure readings, and if these are not done, it is a disservice to the health care users.

Blood glucose levels

Another assessment that was checked from clinical records was blood sugar checks for 98 health care users who suffered from diabetes mellitus,

and this was found to be recorded in only 40% (*n* = 39) of the clinical records.

This was alarming to observe, particularly for health care users whose blood sugar was not measured. It has been highlighted in the literature that people who depend on public health care facilities are the poor, unemployed and elderly. As a result, it is highly unlikely that any of the fast-tracked health care users at PHC facilities possessed their own blood sugar-checking equipment and, therefore, only depended on once-a-month checks when they visited the PHC facility. During the COVID-19 pandemic, health care users with diabetes (38%) were the most affected by a decrease in health care resources (Chudasama et al. 2020). In India, people from districts that had good health facility indexes were more likely to attend PHC facilities than people from districts with poor health facility indexes. This could mean that in areas where access to PHC health facilities and the quality of health care are improved, it is more likely that people from those areas will seek medical help from PHC facilities (Mustafa & Shekhar 2021). This means that if governments can invest in ensuring the availability of PHC facilities with adequate resources, communities can use them more.

☐ Next appointment booked

Records indicated that almost all (99%; *n* = 297) fast-tracked health care users had their next appointment booked. Missing an appointment has an adverse effect on compliance with medication and on the health of a user who misses the appointment. Wolff et al. (2019) assert that when health care users miss appointments, continuity of care is disrupted, which is an important aspect of care in chronic patients. Young age, male gender, low education and unmarried status were found to influence non-attendance for follow-up appointments. In my study, it was important to inform health care users about their next appointments and to have it written in their carrier cards as reminders that they needed to get to the health facility on a specific day. However, this does not guarantee that the health care user will turn up for their next appointment, but it is important for health care providers to do their duties well. In addition, the further apart the appointments are, the more likely they are to be forgotten.

☐ Prescription of medications

Prescriptions were written correctly in 92% (*n* = 276) of the health care user records. The SANC stipulates how a legal prescription should be written. Regulation 2418, Section 45 of the *Nursing Act 50 of 1978* as amended and Section 56(6) of the *Nursing Act 33 of 2005*, as promulgated, relate to the keeping, supply, administering and prescribing of medicines by registered nurses. This regulation stipulates that the following should be included in a

prescription: date of prescription, schedule and name of drug, strength, dose, amount, frequency, route and duration. The prescriber should attach their signature and print their name and qualification. Nurses should adhere to these regulations throughout their practice, as it is legally binding (RSA 2003).

Interaction between health care providers and fast-tracked health care users

Health care user records were also observed for recorded interactions such as communication regarding the condition of the health care user. Between health care providers and fast-tracked health care users, this was vital as it created a good relationship and trust between them. This interaction also influences care in that it can deter or encourage health care users from attending a PHC facility. Interactions are important as they help the health care user understand their illness and its management and what to expect, as well as build a good relationship with health care providers. Interaction is important at every visit because it might negatively affect the health care user in the long term if the relationship is not good. Health care users might be affected by previous encounters with health care providers thus causing a breakdown in the relationship (Lim et al. 2016). Communication between health care providers and users is at the core of effective health care, and if there is miscommunication between the two, it reduces satisfaction and decreases the quality of health care rendered (Al Shamsi et al. 2020).

Presence of side effects of medications

Records revealed that some interactions were not always documented as expected, and the presence of side effects to medications was only discussed with 25.3% (n = 76) of the users when they were asked whether they had experienced any side effects from their medications. Health care users might stop using medication if they experience side effects, particularly if they are not informed about them.

Barker and Faasse (2023) concur that health care users were more likely to adhere to medication when they were informed about few side effects compared to not being informed at all. Furthermore, health care users are always concerned about side effects, even when they are not provided with information about them. The WHO further explains that when chronic health care users suffer from side effects and complications from medications, they might not show up for their follow-up appointments. This might result in the development of resistance to treatment for users who collect ART or anti-TB medications. In South Africa, treatment success for TB was very low in 2008 despite the availability of medications (WHO 2008).

Users asked about how they feel and the presence of complications

Fast-tracked health care users were asked about how they felt on the day they visited the health care facility. This would also reveal the presence of complications because of the chronic illness. It was documented that health care users were asked about their health on the day of the visit in 56.3% (*n* = 169) of the records. This would inform the health care provider to review the medication given or refer the health care user for further investigations. In the fast-tracked health care user records, the presence of complications was discussed with 22.7% (*n* = 68) of users. This meant that a whole 232 health care users were not asked about this. Other studies have found that chronically ill health care users do suffer from disease complications. According to Masupe et al. (2021), those health care users living with diabetes mellitus and hypertension suffered from disease-related complications but were not adequately monitored for risks of complications despite regularly attending the health care facility. This is a clear indication of the importance of interaction between health care providers and users.

Lifestyle modification

Lifestyle modifications such as dietary control and smoking were, according to the documentation, only discussed with 20% (*n* = 61) of the users. In nursing, 'if it is not recorded, it is not done' (Gasper 2011). Records indicated that health care for these users was incomplete as the interaction that was not done could be detrimental to their lives and would assist with the control of their illnesses. This was when the health care users would be able to verbalise anything with which they were dissatisfied, either regarding their health or the medications that they were taking and even new health problems.

Lifestyle modification is vital for the control of chronic diseases; therefore, patient education is vital for health care users suffering from both non-infectious and infectious chronic diseases as successful behaviour changes can have a positive effect on these health care users' health status. It is important for health care providers to include patients in their education by listening to them and what their needs are. It is also crucial that when giving written information to patients, it should be written in simple language without the use of medical terms that the patient may not understand (Wittink & Oosterhaven 2018). This will strengthen the relationship between nurses and patients and impact positively on their management decisions. The following results indicate how important and useful it is to communicate about lifestyle modification, whether by asking health care users about it or discussing the relevant one for their chronic illness. In a study to determine the effectiveness of lifestyle modification

counselling and its adherence to the holistic intervention model on glycaemic control and physiological parameters among type 2 diabetes mellitus patients, Kumari et al. (2018) found that with dietary counselling, body weight was regulated accompanied by a reduction in blood pressure, pulse rate and HbA1C. There was a high adherence rate to reduced sugar intake, improved physical activity and stress management. Therefore, it is clear from this study that communication with health care users about their chronic illnesses is very important in their treatment; patients comply because they understand what is done and why.

It was important for the study to check for significance in the results so that it is apparent that results were not found by chance or did not have meaning. A chi-square goodness-of-fit test was applied to determine whether 'yes' or 'no' was selected significantly more often than expected in the total review of all the adult records regarding health care provider–user interactions, as shown in Table 5.1.

These results were statistically significant at $p < 0.0005$ because in more than 50% of the records, interaction was documented. In 56% ($n = 169$) of the records, users were asked how they felt, $p < 0.0005$ (1, $n = 300$) = 41.612. Similarly, prescriptions were written correctly in 92% ($n = 276$) of the records, $p < 0.0005$ (1, $n = 300$) = 24.66. Booking of the next visit, correct prescription and asking the user about how they felt elements were recorded in more than 50% of the records (Table 5.2). These results are statistically significant, where 'yes' was chosen more than 'no'. The health care providers had done something right by recording interactions with fast-tracked health care users. Where 'yes' was chosen, it indicated that

TABLE 5.1: Recorded provider–user interactions in the fast-track queue of primary health care clinics.

Interaction	Yes	No	Percentage (%)
Referral	6	0	100
Book next visit	297	3	99
Correct prescription	276	24	92
How user feels	169	131	56.3
Presence of side effects	76	224	25.3
Presence of complications	68	232	22.7
Lifestyle modification	61	239	20.3

Source: Author's own work.

TABLE 5.2: Differences in health care providers' interactions with fast-track queue users.

Component	Yes	Percentage (%)	Chi-square value	*P*
Correct prescription	276	92	24.66	0.0005
How the user feels	169	56	41.61	0.0005
Presence of side effects	76	25	45.64	0.0005
Presence of complications	68	22	57.25	0.0005
Lifestyle modification	61	20	74.39	0.0005

Source: Author's own work.

health care providers had complied with the regulations of the SANC that stipulate how records should be kept (SANC 2005 R387, as amended).

However, two of these elements were least often recorded in 25% of the records. The presence of side effects was recorded in 25% (n = 76) of the records, $p < 0.0005$ (1, n = 300) = 45.64, while the presence of complications was recorded in 22% (n = 68) of the records, $p < 0.0005$ (1, n = 300) = 57.25. In the same way, lifestyle modifications were recorded in 20% (n = 61) of the records $p < 0.0005$ (×2 (1, n = 300) = 74.39), and those that required referral (n = 6) were not referred. It could be detrimental to fast-tracked users' health, who might not have been afforded an opportunity to talk about what was troubling them at the time besides collecting treatment (Table 5.2).

Contraceptive services

Another category of fast-tracked health care users came for contraceptive services. Health care providers should have asked questions to exclude pregnancy and other conditions that might be contra-indicated to contraceptives. Records indicated that health care providers did not always record the last normal menstrual period (LNMP), which is the main indicator of pregnancy. It was recorded only in 30% (n = 41) of 135 records. A pregnant woman cannot be issued a contraceptive method, whether a hormonal or barrier method, because this could compromise the pregnancy, and hence, the question on LNMP was important.

Not checking the required vital tests can be detrimental to health care users' lives, because health care providers will be unable to diagnose complications early, which could prove life-threatening. Vital checks are a simple way of doing this without having to do blood tests. Otherwise, health care users can be under- or mistreated. Family planning contributes to reducing child and maternal mortality. In India, the second most populated country in the world, family planning clients' records were available; however, they were insufficient as the most important criteria were not asked about (Mathur, Goyal & Mathur 2017). On the contrary, performing these checks and not recording them is equivalent to not doing them. We have alluded to patients' records being a communication tool among health care workers for the continuum of care; if proper records are not kept, this is not possible because every time the health care user consults, there will be no previous record, and thus, continuity of care cannot take place.

Child record review

Gender of children

Data were obtained from 300 records of children who came to the well-baby clinic for either weighing, immunisation, intestinal worm prophylaxis

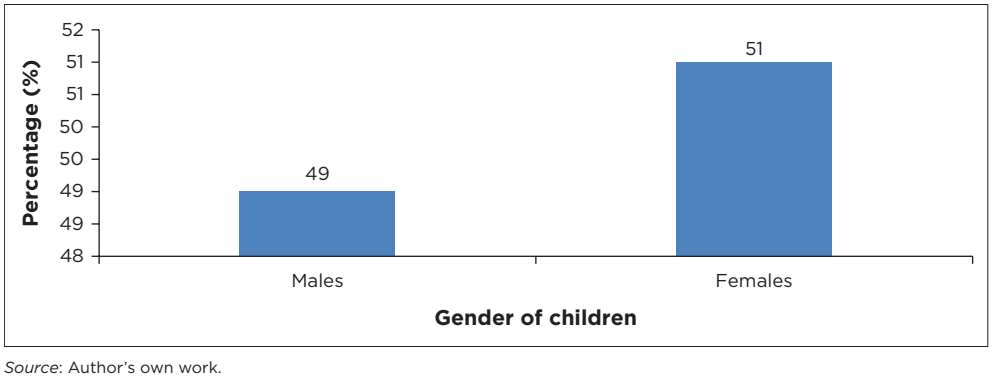
or vitamin A supplementation. As indicated in Figure 5.3, female children were in the majority at 51% (*n* = 153).

Ages of children

The highest number of charts were those of the youngest group, from birth to five months old, which comprised 35.3% (*n* = 106); at this age, there are still mandatory regular visits to the PHC facility for immunisations scheduled from birth to 14 weeks old, at four-weekly intervals. The lowest number was charts of children between 38 and 43 months old, 0.1% (*n* = 3). There are no regular immunisations at this age; however, caregivers may still need guidance from health care providers regarding various issues such as feeding and for children to be given routine prophylactic treatment.

Records of babies and children

Three hundred RtHBs of babies and children, below the age of 60 months old were reviewed to determine the care received by checking if all required information had been captured in accordance with the requirements of the RtHB. There were sixteen components, such as weighing and immunising the child (Table 5.3). The researcher used this sixteen-item checklist to identify whether a specific component had been recorded or not and if it was not indicated according to the age of the baby. Caregivers of children are always asked to carry the RtHB whenever they visit a health facility, whether the child is ill or well. As such, caregivers were expected to be carrying them at the PHC facility on the day of data collection. Fortunately, all caregivers carried the RtHBs. An essential component of patients' clinical care is proper clinical documentation. Therefore, it is imperative that health care providers strive to keep good clinical records (Koh & Ahmed 2021). It is important to record information in the RtHB so that the next carer can check what has been done and how the baby is growing. Table 5.3 indicates the overall results of the



Source: Author's own work.

FIGURE 5.3: Gender of children.

babies' and children's record reviews. The new RtHB commenced in 2010 and provides a table with all assessments that should be conducted on a child at specific time periods. This table provides spaces to record the information and results obtained from the assessment. The RtHB is based on the WHO's (2006) growth standards, which describe the growth of healthy children under optimal conditions. The point of reference of normal growth, which children should be compared to, is a breastfed child, and hence, exclusive breastfeeding for at least six months is recommended for all mothers, irrespective of their HIV status. Malnutrition is associated with 60% of child deaths worldwide and is caused by insufficient food intake or a lack of micronutrients in the diet. Hence, breastfeeding is promoted to provide proper nutrition to babies (DoH 2012). In South Africa, infant morbidity and mortality rates are decreasing at a very slow pace (UNICEF 2011).

Weight, plotting and growth classification

To assess the pattern of growth in infants, babies and children from birth to below the age of 60 months old, different anthropometric tests are used. These include weight-for-age, which is the most commonly used, height-for-age, BMI and head circumference (WHO 2006). Furthermore, measuring the mid-upper-arm circumference (MUAC) for children at 6 to 59 months old is the latest addition to the anthropometric tests. Mid-upper-arm circumference is most useful in detecting subcutaneous fat or muscle wasting, or both, from the arm. It is an easy and quick non-invasive tool to evaluate the nutritional status of children (Boshoff 2014).

All babies who attend the health facility must be weighed, and the weight must be plotted on the graph in the RtHB. Records indicated that 98.7% (n = 296) of the babies were weighed. Malnutrition remains one of the causes of morbidity and mortality in children under the age of five years old in Africa. It is crucial to detect malnutrition early through regular weighing because many diseases and deaths could be prevented if malnutrition is detected early and addressed effectively (KZN Provincial Department of Health 2019). In addition, if weight-for-age and length/height-for-age are not plotted and interpreted, children with malnutrition and at high risk of contracting infections can be missed. These children can easily die from common curable illnesses such as diarrhoea and pneumonia.

The lines on the graph represent the expected weight of normal children of that age group. Plotting the weight on the graph makes it easier to determine the child's growth and to classify the baby for malnutrition according to where the weight is placed on the lines of the graph. In this study, 71% (n = 213) of the weights were 'plotted' in the RtHB, which is more user-friendly and has different booklets for boys and girls, which makes it easier to classify weight correctly compared to the previously used the RtHC.

The road to health chart is smaller and does not differentiate between genders, making it difficult to plot the weight. In RtHC, both male and female weights were plotted in the same card, and yet, they grow differently. In addition, the RtHB gives a better understanding of the nutritional status and growth of the child as it is larger and therefore helps to improve growth monitoring in health facilities, assisting in the fight against malnutrition (Cloete et al. 2013). Only 56.3% (*n* = 169) weights were used to classify the growth of the child according to the integrated management of childhood illnesses (IMCI) protocol (KZN Provincial Department of Health 2019). Weighing the baby alone does not help if weight is not interpreted because only then will the health worker know if the child is growing well or not. Additionally, the classification of growth directs the health worker to the relevant or suitable intervention for the child's nutritional status. This is similar to the findings by Thandrayen and Saloojee (2010), indicating that in the PHC clinic in one of the large cities in South Africa, all babies were weighed, but not all those weights were plotted or interpreted.

The classifications for malnutrition are as follows: not low weight if the baby's weight follows the growth curve and is on or above the 2 line; low weight if weight is below the 2 line; and very low weight if weight is below the 3 line. These lines also assist with the interpretation of the growth curve, which compares the previous weights of the child to determine the pattern of the child's growth (KZN Provincial Department of Health 2019). An inability to interpret the weight means that the necessary intervention will not be executed timeously, and the baby might end up in hospital with severe malnutrition or another illness, or they might even die. Contrary to the results of this study, it was envisaged that the RtHB would increase the likelihood of interpreting weight to classify growth (Cloete et al. 2013).

Immunisation

Immunisations are given at scheduled intervals as prevention for certain communicable diseases. The South African Expanded Programme on Immunisation (EPI) is based on the WHO immunisation schedule, and these guidelines are not legal requirements in South Africa (Saloojee 2014). There are ten vaccine-preventable diseases that include TB, polio, measles, diphtheria, pertussis, tetanus, haemophilus influenza type B, hepatitis B rotavirus and pneumococcal conjugate vaccines. The RtHB is an important document that should be legible and completed with care as it contains the baby's history. In 207 records of babies who had come for immunisations, immunisation dates, batch numbers and signatures had been recorded in 100% (*n* = 207) of the records, confirming that immunisations had been administered. This was commendable, for all facilities to have achieved this.

Side effects from immunisations and the management thereof should be discussed with caregivers at every immunisation session, whether it is informing them in the current visit or checking their previous knowledge. This was found to be recorded as having been done only in 9.7% (*n* = 20) of the 206 babies' charts. In addition, when the baby has an adverse reaction to immunisation, it is important to have the batch number of the vaccine available. This will enable all vaccines with the same batch number to be checked and babies who received immunisations from that batch to be monitored. These were to be discussed with the caregiver, informing them or checking their knowledge so that the caregiver is not alarmed when the child develops side effects. The caregiver should know which side effects could be managed at home and for which side effects the baby should be taken to the health care facility. Contrary to the findings of this study, Roberts et al. (2011) found that, in South Carolina, immunisations were not always recorded, making it difficult to determine the child's immunisation status. Effective communication with caregivers is important, as it could reduce the number of visits to the health care facility for minor side effects that could be managed at home (Donovan & Bedford 2013). If caregivers are not informed about the side effects of immunisation, they might not bring their babies to the clinic again for the next immunisation for fear of side effects, thus exposing their children to vaccine-preventable illnesses.

☐ Feeding options

Health care providers should routinely enquire about feeding options from caregivers of babies from birth to six months. Out of 137 babies' RtHBs who were at this age, feeds were recorded in 73% (*n* = 101) records. In South Africa, it is a common practice to introduce solids to babies at a very young age, before they are six months old, thus amounting to mixed feeding, especially for the low socio-economic and illiterate communities, and exclusive breastfeeding is rarely practised (DoH 2012). Previously, mothers were given the option to formula feed if they were infected with HIV, to exclusively breastfeed for six months and to discontinue breastfeeding when they introduced solids. In 2011, the South African Department of Health adopted the exclusive breastfeeding policy for all mothers irrespective of their HIV status (DoH 2011d). This marked a move from the previous policy of HIV-positive mothers breastfeeding for six months only and the introduction of alternative feeding methods from then on.

☐ Routine prophylaxis

Prophylactic treatment is routinely given to babies from the age of six months and repeated every six months until the child is 60 months old.

The RtHB indicated that 'vitamin A prophylaxis' was given in 99.3% (*n* = 150) of 151 babies. These results are contrary to Thandrayen and Saloojee' s (2010) findings, where growth monitoring and vitamin A supplementation were not administered regularly. Worldwide, young children suffer from vitamin A deficiency; in South Africa, a high percentage of children aged one to nine years old were found to have vitamin A deficiency. The DoH commenced vitamin A capsule supplementation in the PHC clinics of South Africa in 2001 for children aged 6 to 59 months old on the recommendation from the WHO, UNICEF and International Vitamin A Consultative Group (IVACG) Taskforce (1997). Its administration was to be six-monthly from the age of six months old and was to coincide with immunisation to minimise clinic visits for these children (DoH 2012). Vitamin A supplementation was initiated to reduce the number of deaths from measles, diarrhoea and overall mortality of children below five years old (DoH 2012). Additionally, to ensure further distribution of vitamin A, even to the low socio-economic communities, the South African government mandated the fortification of staple food, maize meal, wheat flour and those products that contain 90% of these foods, such as bread.

Deworm prophylaxis was recorded to have been given to 98.2% (*n* = 112) of 115 babies and children who should have received these routine prophylactic treatments. These included babies and children who were due by age and those who were catching up because of having previously missed their appointments. Worm infestation affects the child's growth and, consequently, the general health in poor countries and regular deworming significantly reduces worm infestation and improves children's growth (Saloojee 2014). Deworming prophylaxis medicine should be given to babies from the age of twelve months old and at six-monthly intervals thereafter until they are 59 months old. In India, compliance with six-monthly deworming of children was 86%, and after two years of treatment, there were significant weight gains in children (Awasthi et al. 2013). Worm infestation contributes to anaemia and poor growth. This is supported by the results of a study that was conducted in Nigeria, which found that 26% of children had normal haemoglobin levels above 12 mg%. However, after deworming with a single dose of albendazole tablet 400 mg, the number of children with normal haemoglobin increased to 57.3% (Sufiyan, Sabita & Mande 2011).

☐ Booking follow-up dates

Caregivers were given return dates to bring babies for the next visit, as 'book next visit' was recorded in 90% (*n* = 270) of the babies' records. Booking an appointment and giving return dates written in the RtHB serve as a reminder for mothers to bring their children to the clinic for their next appointment. If the child misses an appointment, it could be detrimental to

their health, resulting in poor health outcomes (Jong, Sikora & MacDonald 2021). It means that by missing immunisation that is due for age, a child might suffer from vaccine-preventable diseases. It was important to tell the health care users about their next appointments and to have it written on their carrier cards as reminders that they need to get to the health facility on a specific day. The date of the next appointment was booked in 99% of the adult records, whereas in baby records, 'book next visit' was recorded in 90% of the records. Similarly, in Saudi Arabia, all diabetic participants were given follow-up dates, but not all participants honoured these dates. Only 7.9% were found not to have missed any follow-up date in the past year, while more than half of the participants had missed follow-up appointments once or twice during the past year (Khan et al. 2012). Missing an appointment has an adverse effect on compliance with medication and on the health of a user who misses the appointment.

Furthermore, the mortality rate is higher in non-compliant health care users with chronic illnesses than in those who comply (Khan et al. 2012). Patients may miss their appointments because they fell ill, had work commitments or simply forgot. In addition, the further apart the appointments are, the more likely they are to be forgotten. Age had a role in missing appointments; younger patients defaulted on appointments more than the older ones (Kunutsor et al. 2010). On the contrary, Adeponle et al. (2007) found that patients did not return for follow-up visits because they were feeling better or taking alternative treatments or because medication from the clinic did not make them feel better. Analysis of record reviews indicated that the following elements were least often recorded.

☐ Developmental milestones

According to the RtHB, babies' developmental milestones were assessed at the ages of six weeks old, fourteen weeks old, six months old, nine months old, eighteen months old, 36 months old and 60 months old. In this study, milestones were recorded in 34% (n = 51) of 152 records of children who were in the age groups when milestones should have been assessed. According to the RtHB, milestones should be assessed on babies at six weeks old, fourteen weeks old, six months old, nine months old, eighteen months old, 36 months old and 59 months old. Developmental milestones are achieved at different stages of growth and development at a pace unique to each baby, such as crawling. Sometimes milestones can be considerably delayed, and if this happens, the child needs thorough investigation (Saloojee 2014). In this study, milestones were recorded in only 34% of the records of children who were within the age when milestones are assessed. Milestone assessment should be performed regularly to monitor child development and to identify developmental problems as early as possible. This could be done through observing the child during the physical assessment and by asking the

caregiver relevant questions (Dosman, Andrews & Goulden 2012). As only a small number of assessed milestones (34% in this study) were recorded, delayed milestones might be missed by health care providers. These results are corroborated by those found by Thandrayen and Saloojee (2010) in the Johannesburg PHC facilities, where developmental assessments were found to be inadequate in both sick and well babies, as such milestones were recorded only in 26% of babies' charts.

Prevention of mother-to-child transmission of HIV and TB status

Young children commonly acquire HIV infection from their mothers during pregnancy, labour or breastfeeding. According to IMCI, all children are assessed for HIV infection at every visit and classified so that they are managed and the mother is advised appropriately. Records indicated that 'PMTCT and HIV status' was recorded in 77% of RtHB. Currently, HIV and TB are major health problems in South Africa. There are strategies in place to try and curb these diseases, such as the 10-point plan, whose priority number ten of the health care sector aims to accelerate the implementation of the HIV and AIDS strategy and to reduce infant mortality because of TB and associated diseases. In order to improve maternal and child health care, in 2009, HIV and TB services were integrated into maternal and child health (DoH 2010a). For practicality, HIV tests have been aligned with the scheduled immunisation and assessment baby visits (DoH 2010a). There is a requirement that the HIV test is done to check the HIV status or exposure to HIV of the baby from the mother at birth, ten weeks old, six months old and all infants at eighteen months old, irrespective of HIV exposure, and six weeks after cessation of breastfeeding, followed up at six-monthly intervals thereafter until eighteen months old and whenever necessary thereafter (KZN Provincial Department of Health 2019).

Tuberculosis status should be assessed from the age of fourteen weeks, but it was only recorded in 13% (n = 27) of 214 records. TB is the thirteenth-largest cause of mortality worldwide and the second leading infectious killer (WHO 2020). It affects people of different age groups; hence, the IMCI strategy prescribes that all children are assessed and classified for TB risk, and further investigations conducted if at high risk or commenced on TB prophylaxis if exposed and full TB treatment if confirmed for TB infection (KZN Provincial Department of Health 2019).

Oral health

Oral health was supposed to have been assessed and recorded in 50 RtHBs. However, it was not recorded in 100% of these charts (Table 5.3). Children suffer from tooth decay from a very young age; hence, their teeth need to be

TABLE 5.3: Recorded aspects of babies' and children's consultation in percentage.

Recorded baby assessments	Percentage of responses	
	Yes	No
Oral health	-	100.0
Management of side effects	9.7	90.3
Side effects of immunisation	9.7	90.3
IMCI-TB status	13.0	87.0
Milestones	34.0	66.0
IMCI growth	56.3	43.7
IMCI-PMTCT/HIV status	77.0	23.0
Weight plotted	71.0	29.0
Feeding (EFF/EBF/mixed)	73.0	27.0
Book next visit	90.0	10.0
Weighed	0.8	98.2
Prophylaxis deworm	0.7	99.3
Immunisation signature	-	100.0
Immunisation Batch No.	-	100.0
Immunisation date	-	100.0

Source: Author's own work.
Key: IMCI-TB, integrated management of childhood illnesses – tuberculosis; IMCI, integrated management of childhood illnesses; IMCI-PMTCT, integrated management of childhood illnesses – prevention of mother-to-child transmission of HIV; HIV, human immunodeficiency virus; EFF, exclusive formula feeding; EBF, exclusive breastfeeding.

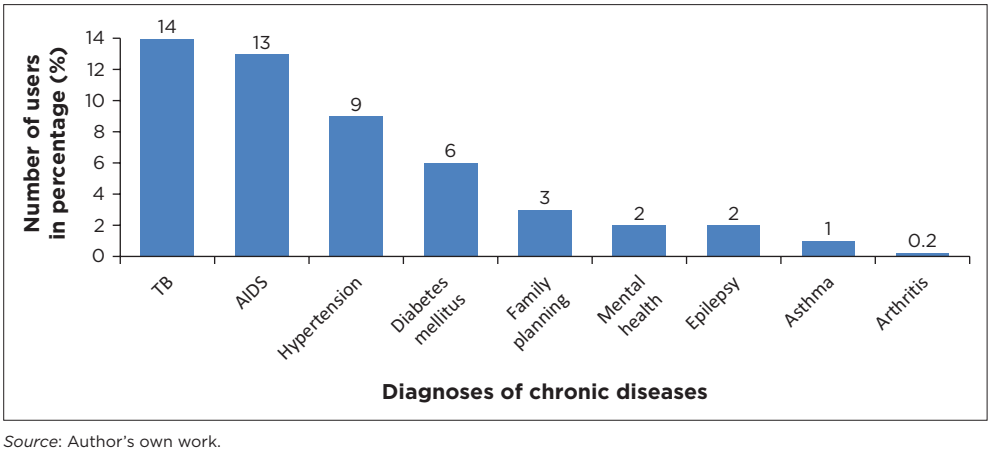
cared for from as early as one year old. This assessment would be conducted from the time the first teeth erupt and yearly until the child is 60 months old. Kumarihamy et al. (2011) agree that screening of dental caries should be conducted as soon as the first primary teeth erupt but not later than one year old. Early childhood caries is a challenge throughout the world and is described as the presence of one or more primary teeth with caries, which may result in loss of teeth. It is important for primary or milk teeth to be looked after because they keep space for permanent teeth (Kumarihamy et al. 2011). To this end, in Sri Lanka, 32.19% of children who were found to have dental caries were between the ages of 1–2-years-old, and further to this, caries were highest in children aged 18–24 months old than younger children, and this was linked to dietary changes at this age (Kumarihamy et al. 2011).

Vamos et al. (2014) asserted that health care workers were uncomfortable with assessing oral health or treating babies with oral problems who were younger than three years old as they were seen as being too young to have dental and oral problems. Similarly, for the same reason, by one year old, parents had not commenced dental care such as brushing their teeth. Both parents and health care workers might fail to take care of the oral health of young babies and children. This implies that these children could develop dental caries and other oral problems without them being noticed until they are at an advanced stage and interfere with the child's nutrition or cause chronic infections of the mouth and throat and even of the entire gastrointestinal tract (Sokhela, Sibiya & Gwele 2018, pp. 43–46).

Record reviews indicated that health care providers weighed adult fast-tracked health care users and measured their blood pressure; however, if the blood pressure was very high, urine tests were not checked for proteinuria. Some of these vital signs were not documented in the records of fast-tracked health care users. Few of the fast-tracked health care users who had diabetes mellitus had their blood sugar tested, and none of the asthmatic health care users had their lung function measured, as there were none documented in their records. Most times, records of health care users indicated that health care providers interacted with them about the fast-track queue as well as asking them about how they felt on the day. However, there were other aspects that were omitted, such as findings about the presence of medication side effects and complications from the illness.

Records indicated excellence by health care providers in recording baby immunisations, including dates, batch numbers, next appointment and signatures. However, health care providers lacked in assessing babies for milestones for age as well as assessing them for TB, which is a major challenge in South Africa. Records revealed that caregivers of babies were not told which side effects to look out for following immunisation of their babies, which was a serious omission, as this could be a deciding factor for caregivers to continue immunising their babies or not if they suffered side effects that they did not know about.

Well-baby care is an important component of a PHC facility. Child morbidity and mortality is high in South Africa in babies and children below five years old, and the country is working hard to meet the SDGs of reducing child mortality rates. Recommendations were made on how the lower categories of health care providers can assist so that health care providers spend enough time completing assessments of babies. For a child, all



Source: Author's own work.
Key: TB, tuberculosis; AIDS, acquired immunodeficiency syndrome.

FIGURE 5.4: Adult diagnoses from observations.

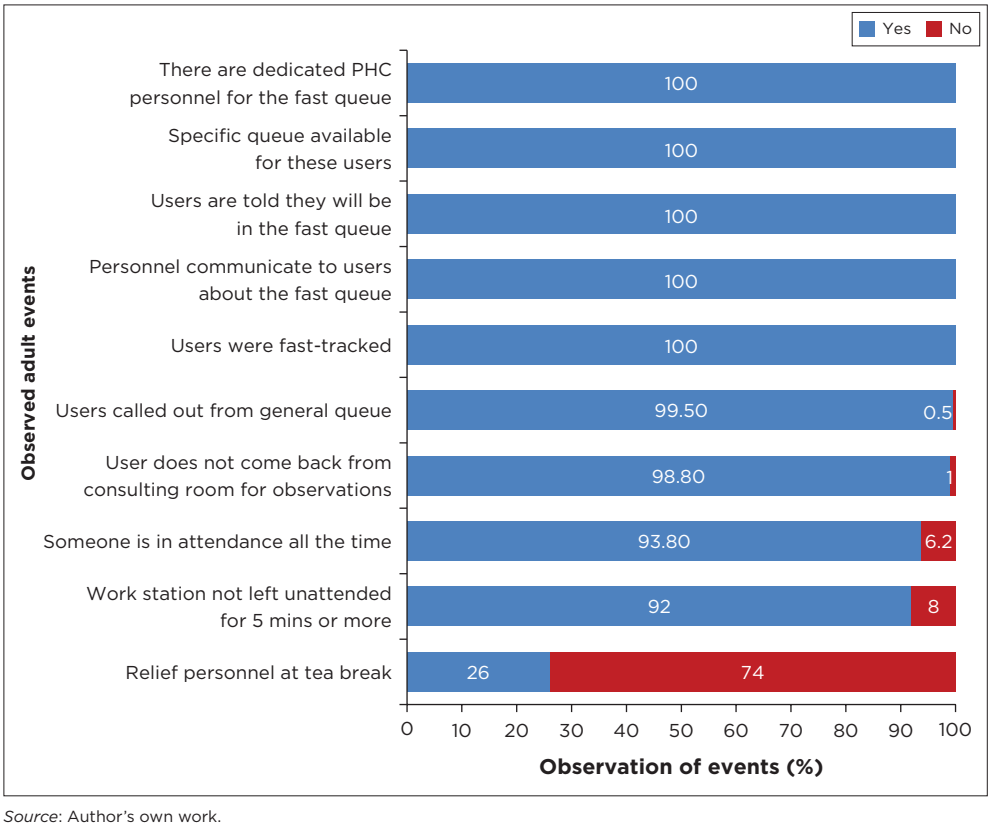
assessments are critical, as the child's future depends on them; it could become a major issue if these aspects are not completed, recorded and acted upon in case abnormalities are detected or missed. Oral health was not assessed, and oral problems may result in malnutrition; malnutrition affects the growth and development of the child.

Process of observed activities within the fast-track queue

Process refers to the 600 observed activities in the fast-track queue and interaction between fast-tracked health care users and health care providers. This was necessary over and above interviewing health care providers to triangulate what they said and what occurred (Figure 5.5).

Diagnoses from observations

The fast-tracked users who were observed at the PHC facilities had different diagnoses of chronic diseases where the majority had TB 14.2% (*n* = 85)



Source: Author's own work.
Key: PHC, primary health care.

FIGURE 5.5: Observed activities.

and only one had arthritis 0.2% (*n* = 1) (Figure 5.4). The TB survey 2017–2019 indicated that TB remains an important public health issue in South Africa and revealed that the TB burden is higher than that in the previous years with 360,000 new TB cases in 2019 (Hassan 2022). The concurrent emergence of HIV and AIDS with TB co-infection has made the situation worse, although people are no longer dying from these conditions as the scaling up of ART increases the life expectancy of sufferers (WHO 2013).

Users directed to the fast-track queue

The overall results (Figure 5.5) of the fast-track queue process indicated that 99.5% (*n* = 597) of users were directed to the fast-track queue by health care providers. Health care users who came to the health care facility for the first time might have been unsure about which queue they should join. Health care providers needed to provide additional explanations as to who should join the fast-track queue. As health care users entered the health facility, they were met by the clerks who recorded their names in the daily attendance sheet and issued them with a clinic-based record before proceeding to where clinical tests were conducted. The clerks also directed health care users to where they needed to go after they had received their cards. Bogart (2022) recommended the provision of patient-level suggestions for improving the programme by providing information and educating patients and the community on the purpose of the programme and how it operates. In the clinical microsystems model, the orientation of health care users to the facility is important for the quality of health care when they know where to go for procedures to be carried out and for consultations (Nelson, Batalden & Godfrey 2011).

Dedicated personnel for fast-track queue

At least one health care provider was responsible for the fast-track queue in 93.8% (*n* = 563) of the observations. In a study conducted in South Africa, it was found that dedicated personnel were available in 31% of the PHC facilities, and dedicated TB consulting rooms were available in 20% of facilities (Naidoo, Seevnarain & Nordstrom 2012). It was easier for health care providers to form good relationships with their patients if they were allocated to a specific programme rather than providing an integrated service prescription (Uebel et al. 2013). In this study, there were dedicated personnel for the health care users in the fast-track queue, and every workstation in this queue had a health care provider allocated to provide care to the health care users. This assisted in preventing unnecessary delays for fast-tracked health care users. Fairall et al. (2012) and Uebel et al. (2013) concluded that in South Africa, patients were satisfied to be consulted in their own section of the clinic where they could avoid the long queues and

could be seen by a specific nurse, preferably the same one every time. It was confirmed that for nurses as well, it was easier to form good relationships with their patients if they were allocated to a specific programme rather than providing an integrated service.

Relief personnel during tea breaks

In most circumstances, 97% (*n* = 582) of health care providers did not have to leave for tea breaks during observations of the clinical tests. Of the nineteen situations in which the tea breaks occurred, fewer than 26% (*n* = 5) provided relief personnel to fast-tracked health care providers. Therefore, those workstations were left unattended as there were no relief personnel available, and this caused bottlenecks in the fast-track queue. Staff could suffer from mental or physical fatigue from not taking breaks. Fatigue reduces concentration and can compromise the quality of care for fast-tracked health care users, thus increasing the risk of errors and injuries (Pasupathy & Barker 2011). Section 14 of the *Labour Relations Act 75 of 1997* (RSA 1997a) specifies the basic conditions of employment and stipulates that workers should have at least an hour interval after five hours of work. Furthermore, an agreement can be reached to reduce this interval to not less than 30 min and the remaining 30 min used for smaller breaks within the work schedule or taken as time off. Staff shortage is a reality in South Africa. Health care providers did not abandon their allocated workstations except on official breaks.

Vital parameters station left unattended

As indicated under patterns, clinical screening tests were required prior to consultation with the health care provider, and it was observed that this screening station was not left unattended for more than five minutes in 92% (*n* = 553) of the observations. This was an important observation towards eliminating delays and bottlenecks in the fast-track queue, as fast-tracked health care users expected this.

Politeness towards health care users

Politeness is a general sign of respect towards a fellow human being, and it influences the relationship that develops between people. Health care users in South African PHC clinics viewed any form of communication by health care providers as a sign of respect (Sokhela et al. 2013). When fast-tracked health care users asked questions, it was observed that they were spoken to politely in all health care facilities. This is one of the requirements of the NCS (DoH 2011b). Respect and dignity are the sub-domains of the first domain, namely, patients' rights. It states that patients should be

treated with respect, dignity, courtesy and empathy. The standard is that staff must treat patients with care and respect, with consideration for patient privacy and choice. The nurse–patient relationship is influenced by personal characteristics and cultural and educational background because what one may do as a sign of respect might not be perceived as such by others. In six European countries, there was a lack of convergence between nurses' and patients' opinions on respectful behaviour provided and received in clinical care. In their study, a lack of and the minimum frequency of communication experienced by patients meant a lack of respect from nurses (Papastavrou et al. 2012).

Fast-tracked users' vital observations

Fast-tracked health care users were not sent back from the consulting room if their vital parameters had not been checked in 99% (*n* = 593) of observed events. Professional nurses checked these themselves in the consulting room if they had equipment or obtained equipment from their colleagues to do these checks. This confirmed that good care was rendered to fast-tracked health care users.

Observed compliance

It was observed that compliance was 100% for the following observed activities, which means that in all health facilities, these were available and were performed: dedicated PHC personnel for the fast-track queue, specific queue available (fast-track queue) (Figure 5.5). These results are similar to those of another study where dedicated personnel were available in 31% of the PHC facilities (Naidoo et al. 2012).

Waiting time

During waiting time observations, it was noted how long fast-tracked health care users waited before a consultation took place and how long the consultation lasted. This was carried out in all 20 PHC facilities, and a total of 600 waiting time observations, equally distributed across the three sub-districts, were conducted.

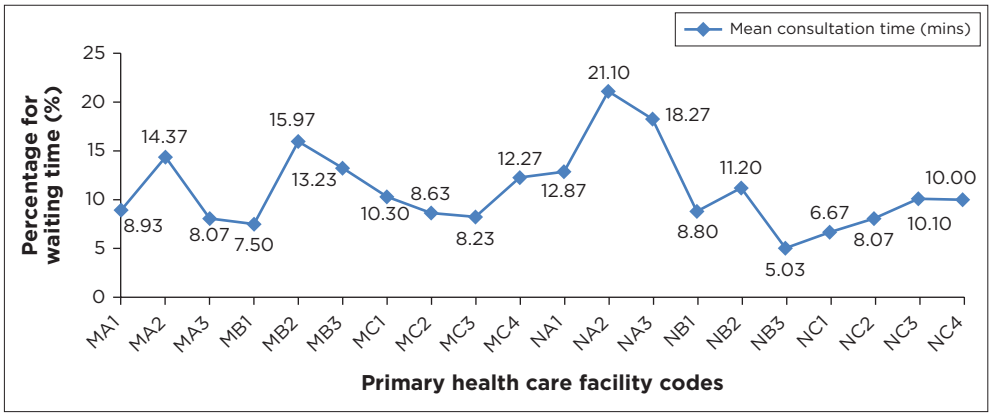
There is a strong relationship between waiting times and patient satisfaction. In Ethiopia, almost half (47%) of the study participants were satisfied with the waiting time (Asamrew, Endris & Tadesse 2020). For them, waiting time for service was perceived as short and thus acceptable. When waiting time is minimised, patient satisfaction improves, and those patients may recommend the facility to others. According to Deslauriers et al. (2021), drawing direct comparisons internationally poses numerous

challenges because of variations in definitions of waiting times. Data on waiting times from other settings are scarce, yet available evidence indicates that waiting times significantly hinder access to health care across various services. Moreover, there is evidence suggesting that waiting times disproportionately affect individuals of lower socio-economic status, though improvements may be observed in certain countries. Several studies that have been conducted in South Africa revealed that long waiting times were common and had become a norm in South African public PHC facilities (Kagee & Delport 2010; Sokhela et al. 2013; Wanyenze et al. 2010). Contrary to these results, the maximum time waited before consultation with a health care provider was 120 min, with a mean of 10.98 min and a standard deviation of 9.377. Fast-tracked health care users finished their consultations in a maximum of 13 min, with a mean of 4.30 min and a standard deviation of 1.979. The maximum total time waited from entering the fast-track queue to leaving the clinic was 123 min, with a mean of 15.27 min and a standard deviation of 9.809.

There is no general standard waiting time; each health facility has an estimated waiting time displayed on the notice board. Waiting time for fast-tracked health care users was far below these times, as these are meant for general health care users. This was good for health care users in that they could go back to work or school after visiting the clinic, as long waiting costs the health care users a day's work and losing out on a day's salary, and this also exposes them to the risk of losing their jobs because of 'absenteeism'. Given the high rate of unemployment in South Africa, health care users may decide to forego their clinic appointments rather than lose their jobs.

The Mann–Whitney *U* test was performed on pairs to check where significant differences could be identified when comparing the provincial and municipal PHC clinics. Fast-tracked health care users from municipal PHC clinics tended to wait significantly longer (total 328 min) than those from provincial PHC clinics ([273 min]; [n = 600] = – 2.143, p = 0.032), corresponding with the length of consultations that were also significantly longer at municipal PHC clinics ([n = 600] = – 5.394, p < 0.0005).

As indicated in Figure 5.6, there were vast differences in waiting times between the facilities. The two facilities with the longest waiting times were NA2, where the waiting time was 21.10 min, followed by NA3, with a waiting time of 18.27 min. The two PHC facilities with the shortest waiting times were NB3, with 5.03 min, followed closely by NC1, where the waiting time was 6.67 min. This was the time health care users waited for consultations after the clinical tests had been completed at the workstations. The perception is that long waiting times have a negative effect on patients and play a role in determining whether patients honour



Source: Author's own work.

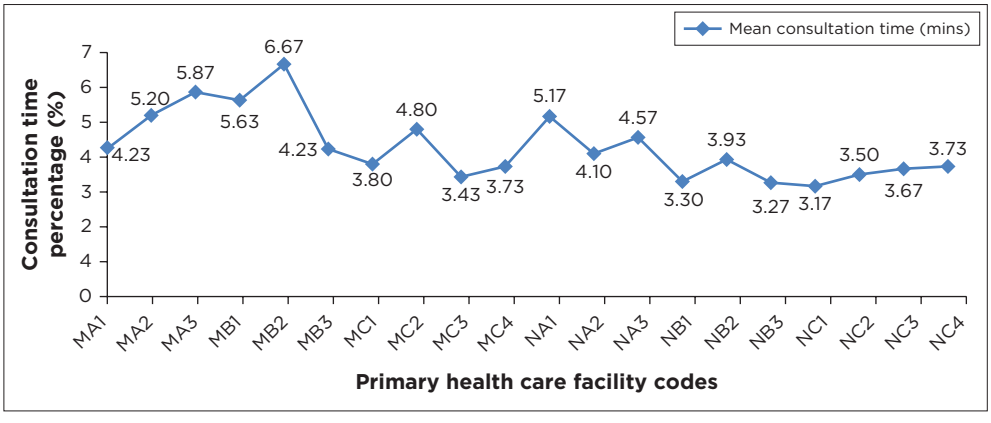
FIGURE 5.6: Mean waiting times in minutes by facility.

their follow-up appointments or not. Waiting in overcrowded PHC facilities would expose young children to potential infections from other users in the waiting area.

Consultation time was the time the fast-tracked health care user spent with the health care provider while delivering health care service through history taking, assessment and managing the illness. The length of consultation time was observed in each facility, as indicated in Figure 5.7. The two facilities with the longest mean consultation times were MB2 at 6.67 min and MA3 at 5.87 min. The facilities with the lowest mean consultation time were NC1 with 3.17 min and NB3 with 3.27 min. Health care users come to the PHC facility for different reasons; it is then assumed that the duration of time spent in consultation will vary. The shortest waiting times were observed in consultations with health care users who had come for contraceptive services. Hutchinson, Do and Agha (2011) indicated that in public PHC facilities, the waiting times for contraceptive services were 69.5 min compared to a non-profit organisation (NGO) where it was 25.4 min. Here, health care providers (ENs) had their own way of ensuring a quick service; they prepared and drew contraceptive injections beforehand in readiness for health care users, and there were two health care providers in the consulting room. While one administered the injection, which was the method most commonly chosen by health care users, one health care provider recorded the procedure. Igumbor et al. (2016) proposed that when there was a lower category nurse to assist the professional nurse, time spent with the patients was about 4.27 min less. Consultation time is longer in fixed clinics than in mobile units, while the number of ENs in the clinic influenced waiting time for patients. This is evidence that the presence of lower categories of nurses relieves professional nurses of other duties to focus on patient care, which is their core function at PHC facilities.

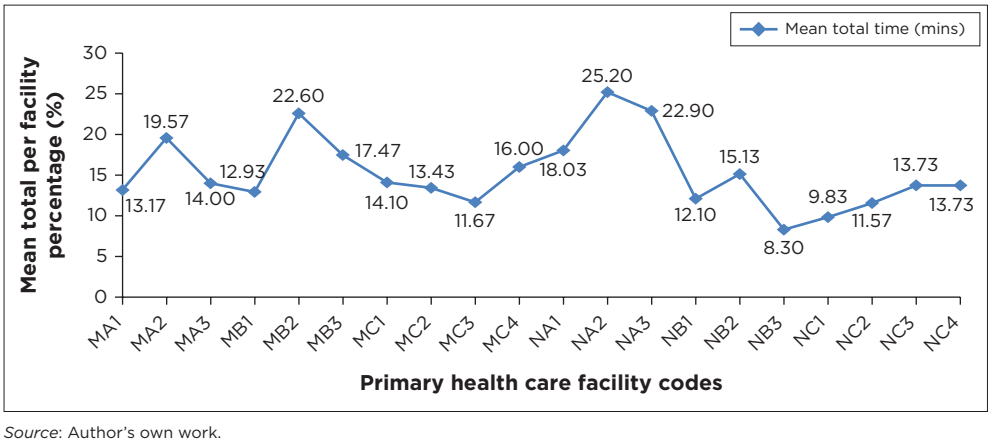
While completeness of care is vital, a health care provider who would provide all care necessary for the specific health care user might take longer than the one who does not provide complete care. In a systematic review conducted by Htay and Whitehead (2021), it was found that nurse practitioners provided slightly longer face-to-face-consultations, which patients preferred as they perceived it to be of better quality than consultations with a general practitioner.

Figure 5.8 indicates the mean total waiting time at each facility. The two facilities with the longest mean total waiting times were NA2 with 25.20 min and NA3 with 22.90 min. The two facilities with the shortest mean total waiting times were NB3 with 8.30 min and NC1 with 9.83 min. In Kenya, mystery patients waited an average of 74 min for a consultation with the health care provider, while the total waiting time ranged from 2 min to more than 4 h (Williams et al. 2022).



Source: Author's own work.

FIGURE 5.7: Mean duration of consultations by facility.



Source: Author's own work.

FIGURE 5.8: Mean total waiting times by facility.

The Gauteng Member of the Executive Council (MEC) for Health and Social Development, Mrs Q Mahlangu, announced in August 2009 that she was going to ensure a reduction of waiting by means of fast-track queues for the elderly, people with disabilities and pregnant women, with the use of queue marshals (Republic of South Africa 2009). To indicate their commitment to reducing patients' waiting time, various DoH documents have been developed, namely, the NCS (DoH 2011b), the PHC package for South Africa, a set of Norms and Standards (DoH 2001) and the NHI (Republic of South Africa 2011a).

Reagon and Igumbor (2016) assert that facilities and service points showed a wide variation of waiting times, and some of the causes of these long waiting times were found to be high workload, flow problems, queueing problems and high demands at specific peak times such as during workers' lunch times.

The need for keeping records

Health care user records are tools of communication between health care providers in health care facilities at different levels. These records should contain all the necessary information for continuity of care, even between different health care providers in the same facility; they must be legible and kept safely. Good record keeping is associated with good quality of care, and poor recording constitutes professional misconduct and incompetency (Dimond 2008).

Waiting times were acceptable to fast-tracked health care users. There was only one clinic, which was an outlier, where waiting times were very high. Long waiting times can be a deterrent to compliance with follow-up visits and treatment.

Primary health care brings health to the communities, and the ability to increase the package of care is beneficial to them. Treatment for most conditions, especially chronic conditions, is available at the PHC clinics, thus enabling health care users to obtain treatment near their homes. This contributes to the improvement of the general health of populations as well as the patients' outcomes. Long waiting times are a norm in public health facilities, and they are a source of discontentment. Health care users are given the dates to return and not specific times in the day, which results in overcrowding if they all arrive at the same time. On the contrary, health talks with health care providers did not happen as often as they should, which could affect the control of chronic conditions.

Health care users who visited the facility for the first time were orientated to the health facility and directed where to go if they did not know. This was important information as it orientated health care users to the facility.

Clinical tests were performed prior to a consultation. However, clinical tests were not performed when equipment was unavailable, such as if it was sent in for repair, there would be no replacement or if there was no health care provider available to perform them.

Health care should be patient-centred because the success of management and treatment outcomes depends on it. On the other hand, health care providers got to know and understand their customers over time and could plan management around individual needs. The flow in the fast-track queue was smooth, and there were no bottlenecks. The flow from one point to the next was clear and known by all health care providers involved. If health care providers were on duty, they were at their workstations and doing their designated duties, and they all knew their roles within the facility and within the fast-track queue.

Health care providers have a huge responsibility on their hands; they cannot do this all by themselves without the support of the facility manager. In turn, the facility manager is powerless without the guidance and support from the facility supervisor, who could negotiate for more resources, including both human resources and equipment, at the request and recommendations of the facility manager, who is faced with the crisis of staff shortage and patients' complaints in her daily work. A team effort is necessary to achieve the quality of health care required by health care users.

Chapter 6

Experiences of health care providers[3]

Professionals in the fast-track queue

Qualitative data were collected through semi-structured interviews to determine how health care providers implemented the fast-track queue and what their views were towards this service. Qualitative data were also used to obtain clarity and in-depth information on the quantitative findings, where necessary. Such cases were where the results indicated that there were good practices and where most of the procedures were not carried out as expected. The organisation of these results was aligned with the elements of the clinical microsystems model that guided the study. These elements were used as categories under which themes that emerged from the data were discussed (Table 6.1). Qualitative data were analysed using Tesch's open coding approach, whereby data were interpreted by classifying the words in the text into categories in order to give them meaning through the identification of themes that emerged after the researcher had immersed herself in the data.

The thirteen nurses who worked in the fast-track queue are categorised in Table 6.1. Enrolled nursing assistants (ENAs) were at the forefront of the health facility and performed clinical tests required by the health care users. Enrolled nurses (ENs) administered injections to health care users in

3. Sections of this chapter have previously been published in: Sokhela, Sibiya & Gwele (2016).

How to cite: Sokhela, DG 2024, 'Experiences of health care providers', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. 85–105. https://doi.org/10.4102/aosis.2024.BK452.06

the injection room, including immunisations. Registered or professional nurses (RNs or PNs) managed health care users' consultations.

Demographic data of professionals

The ages of health care providers (professionals) ranged from 27 to 56 years old, with an average of 42.4 years. There were only 6% of nurses in the SANC register who were younger than 30 years old (SANC 2022). Globally, school leavers no longer seem interested in nursing as a career (George et al. 2012). This poses a challenge for the nursing profession as it seems that there is no younger generation of nurses to replace those who retire or die. There were more female (12) than male nurses. This is indicative of the social perception that nursing is a profession for females, and it has traditionally been a female-dominated profession. In recent years, more males have entered the nursing profession, but they still cannot match the number of female nurses. According to Vere-Jones (2008), barriers preventing males from considering nursing as a profession include males seeing nursing as a 'Florence Nightingale' profession, that is, female-dominated, with low salaries, and the fact that caring is a female duty and fears of the perceptions of society seeing a man who is a nurse.

The more experienced the person is, the easier and quicker it is for them to judge the situation and act accordingly (Benner 2001). In this study, nursing professionals' experience ranged from three to 32 years, with an average of fifteen years. According to Paans et al. (2010), the more experienced the nurse is, the better the records are. Igumbor et al. (2016) confirmed that the greater the years of experience of the health care worker, the less time patients spend in the health facility (Table 6.1).

Qualitative findings

Elements of the clinical microsystems model were used as categories under which themes that emerged from the data were discussed (Table 6.2).

Personnel roles

There were different personnel in the facility who were allocated to service fast-tracked health care users. They had clearly defined roles that they fulfilled, contributing to the flow of work, and eventually ensured that users at this service point received the desired care. Different categories of nurses function according to their scope of practice which is aligned with their qualifications. The scope of practice is determined by the SANC (1984), and each category of nurses has a specific scope. This makes it easy to allocate duties to nurses, knowing exactly what one is supposed to

TABLE 6.1: Category, age and years of experience of professionals.

Variable	Sub-variable	Frequency
Categories of nurses	ENAs	2
	ENs	2
	RNs	9
Age	20–29	2
	30–39	2
	40–49	5
	50–59	4
Gender	Female	12
	Male	1
Years of experience	0–4	3
	5–9	0
	10–14	3
	15–19	2
	20–24	3
	25–29	0
	30–34	2

Source: Author's own work.
Key: ENA, Enrolled nursing assistant; EN, Enrolled nurse; RN, registered nurse.

TABLE 6.2: Summary of themes and sub-themes.

No.	Elements of the clinical microsystems model	Themes and sub-themes
1.	Professionals	1.1. Personnel roles: • Supervision • Management and allocation of resources • Patient and clinical care • Wellness and preventive and promotive health • Initial screening and prioritisation
2.	Purpose	2.1. Purpose of fast-track queue: • Preventing delays and minimising clinic stay • Ensuring compliance • Quick service for those needing immediate attention
3.	Patients	3.1. Fast-tracked patients
4.	Process	4.1 Process of the fast-track queue: • Patient flow • Workload • Support • Nature of the consultation
5.	Patterns	5.1. The anatomy of the fast-track queue service point

and what not. Sub-themes that emerged are in line with the different roles of professionals: (1) supervision; (2) administration and allocation of resources; (3) patient and clinical care; (4) wellness, preventive and promotive health; and (5) initial screening and prioritisation.

☐ Supervision

The PHC facility supervisor is in an office located away from the facility and has several facilities. The role of the facility supervisor is to support and ensure that the clinic managers have resources available for work to be done properly. The facility manager reports directly to the facility supervisor, who visits the facility regularly or communicates telephonically with the facility manager to ensure that everything in the facility is running smoothly.

Supportive supervision by PHC supervisors is an important role that assists health care workers in rendering quality health care, resulting in good health outcomes, and this strengthens the health care system. Nurse managers must understand the South African population and its health needs, such that the services meet these needs (Jooste & Jasper 2012).

When asked about their role in the fast-track queue, the facility supervisors expressed themselves in this way:

> 'I do not have a direct function in this queue, but I have to make sure that the clinic manager ensures that this queue happens because it was introduced and accepted.' (Facility supervisor, interview number 4, female, 53 years old)

> 'I am not directly involved with the queue as I am not always in the clinic; I rely on the clinic manager to see to the daily running of the clinic, including the fast-track queue.' (Facility supervisor, interview number 4, female, 53 years old)

Facility supervisors are not directly involved in the day-to-day running of the facility but support the facility manager and ensure the provision of resources.

☐ Facility manager and allocation of resources

The facility manager is clinic-based and should ensure the smooth functioning of the facility and manage all staff in the facility. The facility manager allocates staff and resources and ensures that all areas of the facility are operated by suitably qualified staff. This manager also administers staff issues such as off duties, leave and sick leave and writes reports to submit to the facility supervisor. According to Smith (2008), the facility supervisor should assist staff in trying to resolve problems in a facility. Nurse managers knew exactly what their roles were in the facilities.

The facility managers had this to say when asked about their roles:

> 'My core function is to allocate staff and make sure that all areas of the clinic are well staffed as required by the service. I have to make sure that patients are not

delayed in the fast-track queue; therefore, I allocate an ENA to check vital signs and a professional nurse to consult. I also make sure that medication is available all the time for these patients.' (Facility Manager, interview number 3, female, 45 years old)

'My function is actually to see that the clinic runs smoothly. I allocate staff to ensure that all stations of the fast-track queue are manned so that it can work as fast as it is intended.' (Facility Manager, interview number 13, female, 49 years old)

☐ Patient and clinical care

Professional nurses (PNs) work independently of the medical officer. They refer users to the next level of care whenever necessary. Professional nurses report directly to the facility manager and perform daily duties in the facility. All professionals working with fast-tracked users knew what their roles were in the care of users and in the facility. The practice of each category of nurse in South Africa is guided by the scope of practice outlined by the SANC (2005). Clinical nurse practitioners at fixed clinics performed non-core functions slower than curative functions, which was their area of expertise, indicating that they were more efficient in performing their prescribed roles (Igumbor et al. 2016). Professional nurses explained their role as follows:

'I consult, prescribe and issue medication, give health education and counselling about adherence to medication. With every patient that comes in, it is important that I ask this because I have to make sure that they have the information. It is important for patients not to default on their ARVs, which can happen if they have problems and you have not asked them.' (Professional nurse, interview number 9, female, 40 years old)

'Screening patients and issuing of medication. I give them the return date.' (Professional Nurse, interview number 10, female, 33 years old)

Professional nurses provide clinical care for health care users as they function without the doctor at PHC facilities.

☐ Wellness, preventive and promotive health

The ENs carried out procedures that had been prescribed by the PN or the doctor if the patient had been referred from another level of care. When asked about their role in the fast-track queue, the ENs had this to say:

'I am responsible for the injection room. All injections in the clinic are given by me for family planning and TB clients and watch TB clients taking their tablets. I also give immunisations to babies.' (Enrolled nurse, interview number 6, female, 27 years old)

'I administer immunisation to babies and children and make sure that I record and sign, so that when the baby comes next time the nurse who is immunising can see what has already been given, even if it is me, I will not remember. Sometimes mothers do not know what immunisation was given if you ask them.' (Enrolled nurse, interview number 12, female, 47 years old)

> 'I give injections to family planning and TB clients and immunisations to babies.' (Enrolled nurse, interview number 12, female, 47 years old)

Initial screening and prioritisation

The ENAs were tasked with checking vital signs and managing the fast-track queue in that they would call users to check their clinical tests and direct them accordingly. The ENAs responded as follows:

> 'I check vital signs on all patients because the queue will not move fast if the professional nurse has to check them herself. I check the diagnosis and then see which clinical tests to check, sometimes they complain about something to the professional nurse then they need more clinical tests e.g. if they have hypertension and when they complain the professional nurse thinks they might be getting diabetes then they will ask me to check urine and prick the finger for blood sugar.' (Enrolled Nursing Auxilliary, interview number 11, female, 55 years old)

> 'Check vital signs and refer as urgent to the professional nurse, those that are very sick or who have abnormal clinical tests like high BP, high blood sugar or high temperature especially babies.' (Enrolled Nursing Assistant, interview number 8, female, 48 years old)

The purpose of the fast-track queue

All categories of health care providers who were interviewed agreed that the purpose of the fast-track queue service point was to reduce waiting times. They also felt that it was successful in fulfilling this purpose because health care users who utilised this service point spent a reasonable amount of time in the clinic compared to their counterparts. The themes that emerged were: (1) preventing delays and minimising clinic stays, (2) ensuring compliance, (3) quick service for those needing immediate attention and (4) unintended consequences.

Preventing delays and minimising the duration of clinic stays

It emerged during interviews that this service point helped fast-tracked health care users to spend minimal time in the facility. These users came to the clinic regularly to collect their chronic medications, and they did not need to stay long in the consulting room. Moreover, the clinical tests would be performed prior to the consultation; therefore, it becomes very quick. This is irrespective of whether the consultation provided quality care for the users; 'fast' was seen as good. Delays pertain to how the patient physically flows through the health facility from the point of entry to discharge. If delays could be prevented and patient flow improved, the microsystem would achieve its goal of quick service (Hall 2013). Participants' views were expressed in the following excerpts:

'Patients here wake up very early; they sit miserably and hungry and sometimes having not taken medication for the day because they are rushing for the queue. That is why I do not want to waste their time. I consult them quickly and let them go home before they become irritable.' (Professional Nurse, interview number 10, female 33 years old)

'This queue prevents delays for patients who are regular clinic attendees and minimise clinic stay for patients who are only collecting medication.' (Professional Nurse, interview number 2, male 26 years old).

'For me, the purpose of this queue is so that babies who come for immunisation do not wait with sick patients and so that they go home quickly before they catch infections from sick adults.' (Enrolled nurse, interview number 6, female, 27 years old)

☐ Ensuring compliance

According to the participants, the fast-track queue helped health care users not to default on their medication because they knew that they would be consulted quickly. Defaulting on treatment would have negative repercussions for the health care system. Those with chronic conditions could develop complications such as strokes, MDR TB, women at childbearing age would fall pregnant unintentionally and children would contract infectious diseases. Interviewees felt that health care users would get motivated to visit the health facility if they knew that they were going to receive a quick service. When patients were happy with the service, they visited the clinic regularly for follow-ups, and this improved compliance with antihypertensives. The views of participants were expressed as follows:

> 'Others come for injections for family planning and immunisation, these are commonly young clients who are either rushing to work or school. It will be hard for a schoolgirl to tell the teacher that they are late because they went to the clinic for family planning; if the service is not fast, they could fall pregnant.' (Professional nurse, interview number 9, female, 33 years old)
>
> 'Patients that are coming to collect treatment are seen quickly because sometimes they are rushing to work, especially family planning clients. Most male TB and ARV patients do not want to disclose at work; they want to collect medication and rush off. It is so much better with female patients. If they are not seen quickly, they may not come again.' (Enrolled Nurse, interview number 12, female, 47 years old).
>
> 'This queue helps to care for patients quickly so that those that are rushing off to work or school are not delayed.' (Enrolled Nurse, Interview 12, female 47 years old).

☐ Quick service for those needing immediate attention

Providing service on time is key in PHC (Dobson, Hasija & Pinker 2011). Facilities had adapted the concept of fast-tracking to the needs of

the facilities. PHC clinics are small and do not have a casualty section; all users come in through the same process. This fast-track queue is used mainly for users who collect treatment regularly. However, there are times when it is used to treat users requiring emergency care. To ensure that these users are not missed or delayed, they are channelled through this service point. Fast-tracked users were delayed, while the health care provider attended to very sick patients in between consulting those who were expected on the day (Dobson et al. 2011). Urgent patients would disrupt the established routine care of chronically ill patients. Participants' views were expressed in the following quotes:

> '[...] identify and treat patients that need immediate attention. Yes, they take long, but it becomes fast for them to be seen because they are very sick; they have a separate nurse than those that are collecting medication, so they are not delayed.' (Professional nurse, interview number 2, male, 26 years old)

> '[...] provide quick service to those who are very ill [...].' (Facility supervisor, interview number 4, female, 53 years old)

> 'The purpose of this queue is to prioritise patients that need immediate attention and route them appropriately.' (Professional nurse, interview number 1, female, 37 years old).

Unintended consequences

On the contrary, it was noted that babies who came for immunisations in one facility were not attended to as quickly as expected. The researcher observed that there was a delay of up to an hour, and the delay was not because of anything that benefited babies or caregivers directly. It was because of the many forms and registers that the EN needed to fill out, such as the immunisation register, the daily tally sheet, and the RtHB. This EN worked alone in the injection area and seemed overwhelmed with work, while in other facilities there were two ENs performing this role. Georgeu et al. (2012) assert that paperwork demands have increased in the health care system. Health care providers confirmed the researcher's observation, citing the following:

> 'Yes, they do not go home early. There are too many registers to write, and it takes a lot of time to fill them [*sic*], including statistics, which is what the manager is most worried about.' (Enrolled nurse, interview number 6, female, 27 years old)

The issue of registers was corroborated by participants from a different facility, who also felt that they took too much of their time:

> 'There are two of us working in this room; one will not manage because of the registers that we have to fill in and statistics forms; it works better if there are two of us.' (Enrolled Nurse, interview number 12, female, 47 years old)

These participants had also resorted to measures that would be unacceptable for quality care to make the queue move fast. It was observed

that users in this queue spent the shortest time ever in the injection room, and participants responded thus:

> '[...] because we know that most family planning clients come for the three months injection, we draw it up before they get here, so, as soon as they come in, one gives the injection while the other is writing in the card and the registers and statistics.' (Enrolled Nurse, interview number 12, female, 47 years old)

Patients in the fast-track queue

Fast-tracked health care users came for family planning, collecting medications for chronic illnesses, including, but not limited to, hypertension and diabetes mellitus (most of whom are elderly), TB, mental health, epilepsy, asthma and ART, and babies coming for immunisations. Planning had been made for this group to be routed to this specific queue to meet their needs. In a South African rural population, there is a high prevalence of cardiometabolic conditions, and about one in four persons has HIV (Chang et al. 2019):

> 'It is those that come to collect treatment for chronic illnesses like TB, diabetes, hypertension, ARVs, family planning, and immunisations.' (Professional Nurse, interview number 5, female, 50 years old)

> 'It is divided according to what the patient came to do, for instance, FP, TB, ARVs, HPT, DM and immunisation.' (Facility Manager, interview number 3, female, 45 years old)

The process of the fast-track queue

Fast-tracked health care users were admitted by a clerk who handed them their clinic-based records, and then they had clinical tests performed by the ENAs. Thereafter, they waited for a consultation where they would be seen by either the EN or the PN. Themes that emerged from data regarding the process are (1) patient flow, (2) workload, (3) support and (4) nature of consultation.

Patient flow

Patient flow was well organised and understood by all participants, including the facility managers and the facility supervisors and was seen as a major part of a quick service.

Participants were also clear that this process contributed to the short consultations, thus minimising delays and reducing clinic stays for the users. In Gauteng, high volumes of patients affect patient flow and cause a challenge in sorting them (Stott & Moosa 2019). Participants expressed their views as follows:

> 'Patients are first seen by the clerk who takes their details and gives them their cards, together with all other patients. They then go for checking of clinical

> tests, weight, blood sugar or blood pressure, whichever applies and urine tests.' (Facility manager, interview number 3, female, 45 years old)
>
> 'Patients get clerked and get their cards, then have their clinical tests performed by the ENA, and they are then directed to their queue, the fast-track queue.' (Facility manager, interview number 13, female, 49 years old)

Sometimes, users were observed coming out of the consulting room for more observations, and the response of the participants regarding this was as follows:

> 'I would check the vital signs according to the diagnosis that I see on the patients' cards. When the patients get in, they complain to the professional nurse, if she thinks it is sugar for instance, she will send the patient back for me to check sugar from the finger prick and urine.' (Enrolled Nursing Assistant, interview number 8, female, 48 years old)

☐ Workload

The workload is described as the number of patients the PN attends daily at a health facility. Health care facilities began experiencing high caseloads with the increased access to PHC facilities. All participants complained about the workload, which they felt was too high. They had to consult very ill health care users who had to be treated at a PHC level, which took up a lot of time. They also stated that there were illnesses that were commonly treated by doctors, which nurses have now been trained to treat. The managers were aware of this but could not do much about it. Because of the overwhelmingly high workload for nurses, counsellors could be trained to perform some duties to relieve PNs (Kallon, Calivn & Trafford 2022). The views of participants were expressed in the following excerpts:

> 'If one nurse is not in or the ENA to check the vital signs, we have to do it ourselves or not do it at all. The manager has no staff to spare, everyone is allocated in their own area of work.' (Professional nurse, interview number 5, female, 50 years old)
>
> 'Everyone is allocated to a programme, so if you are too busy or short-staffed. Nothing can be done because everyone is at their stations; there is no extra staff. To top it all, there are so many new programmes where we have to work alone with very sick patients. It is sometimes too much for us.' (Professional nurse, interview number 9, female, 40 years old)
>
> 'I check all vital signs alone, even for more than 100 patients sometimes. It becomes a problem if I am not in; there is no one to take my place.' (Enrolled nursing assistant, interview number 8, female, 48 years old)
>
> 'Unfortunately, I cannot do much; the staff is stretched to the limit because of the many programmes that are now in the clinic. Patients that were treated in hospital before are now treated in the clinic by nurses. If someone is not at work, it becomes an impossible task to replace them.' (Facility manager, interview number 13, female, 49 years old)

Barron et al. (2005) suggested that the target nurse workload should be about 35 patients per day, but in certain districts, 92 patients might be seen by each PN per day. Task-shifting of doctors' work to nurses, such as nurse-initiated management of anti-retroviral therapy (NIMART) and initiating chronic medication, have increased the workload not only of nurses but other categories of staff as well such as the reception clerks, pharmacists, laboratory technicians and dieticians (George et al. 2012). Participants in this study had to say concerning the high workload and long waiting times. Health care providers attributed this to many programmes that were introduced at the PHC level which had been previous hospital-based programmes. Task-shifting in the form of referrals from hospitals to PHC clinics and the introduction of new services at the clinics was carried out without a matching increase in the number of staff members.

It seemed that the situation was beyond the PHC facility manager. Employment of staff does not depend solely on the facility manager, but the process is long and involves the mother hospital's human resource officers. It also depends on whether those posts can be funded by the DoH. Facility managers are aware of the situation but can hardly do much about it. The process from recruitment to appointing a new person takes a long time. One way of relieving nurses of the high workload would be that, according to Tobi et al. (2008), having the ART programme away from the general clinic would ease the load off the nurses of the very sick patients and reduce demands on general services. In Gauteng province, South Africa, Davies, Homfray and Venables (2013) found that facility supervisors were frustrated and disappointed because they were not allocated the extra human resources that they needed to effectively implement NIMART.

It was found during interviews that nurse shortage was a major factor in the health care facilities that contributed to long waiting times and high workloads. In South Africa, 40% of nursing posts were vacant in 2020 (Saloojee 2020). Health care users expect quality care when they visit the health care facility, irrespective of the availability of staff. According to the statistics of the SANC (2022), the ratio of ENA : EN : RN was 3 : 2 : 1. Davies et al. (2013, p.3) found that there were nurse shortages when NIMART was introduced. These shortages were compounded by the lack of lower categories of staff that could assist with administrative and basic clinic tasks, and this compromised the quality of care provided to patients. Nurses were unable to initiate enough patients on ART, and this resulted in delays for patients needing ART and other patient groups. These authors further concluded that when lower categories of staff are in short supply, it makes it difficult to delegate basic clinic tasks, and this results in a compromised quality of care and increased waiting times for patients.

Support

Health care providers needed support from managers and other colleagues to ensure that the process was flawless and to avoid bottlenecks. Support would be in the form of staffing and equipment. Supportive supervision is important and can give subordinates confidence and improve performance, thus improving the quality of health care and management (Avortri, Nabukalu & Nabyonga-Orem 2018). Participants, including managers and supervisors, had different opinions about this issue, which became evident from the following quotations:

> 'I get support from the staff because sometimes they organise themselves if the clinic is too busy. They know who can work better, for instance, in TB or ART clinic. I think by allowing them to be creative about how they man the clinic, I am supporting them because they are at the cold face of the clinic. They know what works better and what does not. They are professional nurses – they know what they are doing.' (Facility Manager, interview number 3, female, 45 years old)

> 'The support I get is that I always have things to work with like urine stix, blood glucose strips and BP machine.' (Enrolled Nursing Auxilliary, interview number 11, female, 55 years old)

> 'I do not get any support as I am the only EN in this clinic. I could be very busy, and my queue can get very long. No one comes to help me. I do not need to even report; as you can see, I work opposite the manager's door. When she comes out, she can see the long queue.' (Enrolled nurse, interview number 6, female, 27 years old)

As such, Georgeu et al. (2012) found that in South Africa, nurses complained that middle and upper management did not offer them the support they needed to sustain their clinic work. In addition, nurse managers need to be able to lead in addressing issues of the disease burden in South Africa (Rispel & Moorman 2010).

The nature of the consultation

Participants felt that consultation times were shorter at the fast-track queue, citing clinical tests that are performed before users get into the consulting room. Users were regular attendees collecting medications or injections and did not require long examinations. Opinions differed regarding what a 'short consultation' entailed and what was meant to take place during a consultation. According to the different categories of personnel working in the fast-track queue, this happened for various reasons. In another study, during a consultation, nurses were in a hurry but examined patients thoroughly. Furthermore, they had time to explain the condition. Participants felt that they had more time with nurses than with the doctor (Stenner, Courtenay & Carey 2010). The voices of PNs follow:

> 'We tell the mother about the baby's weight and ask about previous immunisation. We also emphasize that if the child gets a bit feverish she is not to worry unless

> it lasts for more than three days and how to manage fever at home. It does not take up a lot of time; the mother is not delayed by talking to her. It is important because from here they go to a staff nurse, I cannot trust her to do it, I want to do it myself.' (Professional nurse, interview number 1, female, 37 years old)

> 'When we issue medication, we ask the patient to tell us how he/she is taking it. Also, if they are new patients we ask if the medication is not giving them problems. If they are old regular patients, there is no need for all that because they have been collecting medication for a long time. Medication would give them problems if they were still new patients. They are new within the first six months of starting medication after six months they are old patients.' (Professional nurse, interview number 2, male, 26 years old)

Other participants felt that no health information was required as most users are 'old patients' who had been on treatment for longer than six months, and they would do it with 'new patients', those who are within six months of starting treatment, as was described by the below respondents:

> 'It depends; if the clinic is not busy, I have time to talk to them. I ask if they have any problems and if the tablets are not giving them any problems and if they are taking their tablets correctly, especially if they are new patients. Those that have just started taking medication; maybe in their first six months. Sometimes they feel that tablets are not working if packaging has changed. We are supposed to tell them that it is the same medication it is the packaging that changed. We do not always do this like I said that if the clinic is full there is no time to talk. We have so many new programmes and the – patients are so sick.' (Professional nurse, interview number 5, female, 50 years old)

> 'I consult and prescribe and issue medication and give health education and counselling about adherence to medication. With every patient that comes in it is important that I ask this because you have to make sure. It is important for patients not to default on their ARVs which can happen if they have problems and you have not asked them.' (Professional nurse, interview number 9, female, 33 years old)

It was part of a consultation for PNs to perform PEPFAR on asthmatic health care users. This was not done for all asthmatic health care users at all facilities. This was detrimental to the health of health care users, and disease severity and progression were not monitored. PNs had this to say:

> 'We do have the peak flow metre, but we ran out of mouth pieces long ago, we have stopped making an order for it because it is always out of stock. We reported to the manager, but we have not received them up till today. I don't know if I would still know how to use it.' (Professional nurse, interview number 1, female, 37 years old)

> 'I have not used the peak flow metre in a long time since I was last taught in class when I was doing B Tech in PHC. I forgot because we do not have mouth pieces in this clinic, even the manager has failed to get them. I feel bad for my asthmatic patients.' (Professional nurse, interview number 9, female, 40 years old)

When asked about oral health in children, which was another element that was not assessed, and when it was due according to the child's age, PNs indicated that they did not see the need to assess a baby's oral health,

while others were unsure about what and how to assess it, as can be interpreted from the below responses:

> 'Children are young, and they do not have problems with their new teeth. I will check them when they are older maybe form 3 years old.' (Professional nurse, interview number 1,female, 37 years old)

> 'To be honest with you, I do not know what to look for in the child's mouth, I was last taught this in my basic training which was many years ago. If someone can refresh my memory, I can do it.' (Professional nurse, interview number 7, female, 53 years old)

In the injection room, there were no interactions, as the ENs did not discuss anything with caregivers who brought babies for immunisations because they consulted a PN first and came to the EN who gave immunisations and completed the records. The ENs expected that the PNs would have discussed the side effects of immunisations and the management thereof with the caregiver. Similarly, for users who came for family planning, not much was discussed by the ENs:

> 'We do not discuss anything because they are old clients, they know everything, so we just give the injections and write the return date. As I have said that these are old clients, they no longer get their menses. The ones that come regularly know everything we do not need to tell them anything. They know that sometimes you gain weight on the injection. As I have already said, we have our old regular clients we do not worry about all that with them. Babies are assessed by the professional nurse first; all we do here is give immunisations. The professional nurse gives health education in the consulting room. It is their duty mine is to give injections.' (Enrolled nurse, interview number 12 female, 47 years old)

> 'When they come to me they have already been seen by the professional nurse, so I suppose they have been told everything there is to tell I just give injections and record.' (Enrolled nurse, interview number 6, female, 27 years old)

Patterns in the fast-track queue

Health care providers were satisfied with making a difference in decongesting the facility and assisting health care users who would, under different circumstances, not come to seek help from the facility. It helped that health care users had their clinical tests performed before consultations with the PNs, as it saved time for the PNs. Patterns included the leadership within the fast-track queue and, subsequently, the leadership of the facility as a whole. Each category of health care provider had a senior to report to if there were problems. Findings by Pillay (2009) concur that in South Africa, management capacity is lacking in the public sector. The following remarks are therefore illuminating:

> 'I rely on the clinic manager because I am unable to do the scheduled clinic visits because of other commitments like meetings which come at a spur of the moment and are unscheduled. They throw one off completely. As a clinic supervisor you

> come to the clinic to merely collect reports and statistics from the clinic manager.' (Facility supervisor, interview number 4, female, 53 years old)
>
> 'There is so much to write for us clinic managers. When people from the national DoH come to check on NCS, they want to see what you have written for the clinic and you are judged on that. Even my supervisor wants reports, statistics, and performance appraisal for staff.' (Facility manager, interview number 3, female, 45 years old)

The support from facility management was important to the health care providers for this to be achieved. It would seem this was not the case, as shown in the following excerpts:

> 'The support would be mainly to assist the clinic manager with motivating for posts if there are unfilled posts since there are new programmes and patients are so sick and staff is needed and nagging maintenance for equipment that went for repair because it goes for an unreasonably long time while there is nothing to use in the clinic.' (Facility supervisor, interview number 4, female, 53 years old)
>
> 'To be honest we do not get time for supervision neither does the clinic manager, there is just too much that is required from us. What is most difficult is that everyone says they get instructions from above them, and then clinic work suffers.' (Facility supervisor, Interview number 4, female 53 years old)
>
> 'Supervision is another task that is almost impossible. As a clinic manager, I have a lot of written work that I need to do, in fact I cannot manage to finish it during normal working hours, often I have to take work home and come in on weekends.' (Facility manager, Interview number 13, female, 49 years old).[4]

When professionals were interviewed, it was clear that the system has many challenges, and in trying to overcome them, some of the participants carried out their duties incorrectly. Others, such as ENs, abandoned their duties of communicating with health care users because they relied on PNs to do so. Other participants improvised to make the service quick. The fast-track queue is one good strategy to consult health care users who are responding well to treatment, well-baby visits and those coming for contraceptive services. Facility supervisors and managers have their own challenges in overseeing the functioning of the facility, and this affects professionals who are hands-on in the facility.

Integration of quantitative and qualitative data

Qualitative data were collected through semi-structured interviews that were conducted with health care providers at the PHC facility to gain more insight into the functioning of the fast-track queue and to get clarity on

4. Cited in Sokhela, Sibiya and Gwele (2016).

issues observed from retrospective record reviews and events that took place in the fast-track queue. All fast-tracked health care users were directed to the correct queue, and this could be attributed to the fact that all workers at PHC facilities knew their roles, as revealed in the interviews. This was a very good practice because time could be wasted while the health care user is in the wrong place in the facility. It also helps new and returning health care users to feel comfortable knowing that they have been taken care of and directed correctly. Additionally, all participants knew what the fast-track queue was for, hence the ease that they had in functioning within it.

Adult record review

A retrospective record review was conducted to check if what was done was done and what professionals said they did was recorded.

Monitoring of vital parameters

Blood pressure, blood sugar and weight were not checked in other facilities or were not checked for all health care users who needed it. If the nurse allocated this function was not at work, as indicated by the ENA who said that she works alone in the fast-track queue and there is no one to replace her if she is absent, professional nurses had to check vital parameters themselves. In this study, blood pressure monitoring was carried out by ENAs and ENs. This cadre of nurses complained of a high workload as there was usually one person at the observation station where blood pressure was performed. It was also apparent that ENAs would be tired of checking vital signs because of the high number of health care users with no one to relieve them. The ENA indicated that it was problematic if there were more than 100 health care users, and all had to be checked by them alone, as exemplified by the following responses:

> 'If one nurse is not in or the ENA to check the vital signs, we have to do it ourselves or not do it at all, the manager has no staff to spare, everyone is allocated in their own area of work.' (Professional nurse, interview number 5, female, 50 years old)

> 'I check all vital signs alone even for more than 100 patients sometimes. It becomes a problem if I am not in; there is no one to take my place.' (Enrolled Nursing Auxilliary, interview number 8, female, 48 years old)

None of the health care users who suffered from asthma were checked for lung capacity, which is checked using a peak flow metre, a simple gadget to learn and use. As much as PNs were trained on the use of peak flow metre in their initial general training, this is repeated when they specialise and get trained in post-basic courses that are related to disease management, such as primary care nursing; however, evidence indicated

that they do not practise it. This means that people living with asthma were not managed appropriately. This is what they said (as previously alluded):

> 'I have not used the peak flow metre in a long time since I was last taught in class when I was doing B Tech in PHC. I forgot because we do not have mouth pieces in this clinic, even the manager has failed to get them. I feel bad for my asthmatic patients.' (Professional nurse, interview number 9, female, 40 years old)

Prescriptions

Health care providers were able to perform at their best when writing prescriptions, which is an important part of the registered nurses' practice. Records could be required in a court of law in cases of litigation, and it is therefore very important that this is done correctly. In addition to the regulation, the STG and EML are used by nurses and doctors working at PHC facilities. The STG and EML provide guidelines for the management of common conditions, specify medications and dose calculations in the form of tables and indicate mg/kg body weight, as well as in terms of age and weight bands (DoH 2008). These are revised regularly so that health care providers are kept up to speed with new changes and discoveries. During interviews, participants complained about too much writing during a consultation, citing registers and tally sheets:

> '[...] there are too many registers to write and it takes a lot of time to fill them including statistics, which is what the manager is most worried about.' (Enrolled nurse, interview number 6, female, 27 years old)

Side effects of medication

Other participants felt that no health information was required as most users are 'old patients' who had been on treatment for longer than six months, and they would do it with 'new patients', those who are within six months of starting treatment:

> 'It depends; if the clinic is not busy I have time to talk to them. I ask if they have any problems and if the tablets are not giving them any problems and if they are taking their tablets correctly, especially if they are new patients. Those that have just started taking medication; maybe in their first six months. Sometimes they feel that tablets are not working if packaging has changed. We are supposed to tell them that it is the same medication it is the packaging that changed. We do not always do this like I said that if the clinic is full there is no time to talk. We have so many new programmes and the – patients are so sick.' (Professional nurse, interview number 5, female, 50 years old)

Records of children

Immunisation

Records of babies indicated that routine prophylaxis medication was documented accurately as having been administered in 100% of records,

including immunisation date, batch number, signature, vitamin A supplementation and deworming. This was a good practice to be commended as this is crucial to quality health care. Documenting is important to communicate with the next health care provider for continuity of care. Health care providers were able to fill this information in the RtHB despite their complaints about their busy work schedule and being short-staffed. It seems this is what they saw as important rather than communicating with caregivers and doing other assessments. One participant explained:

> 'I administer immunisation to babies and children and make sure that I record and sign, so that when the baby comes next time the nurse who is immunising can see what has already been given, even if it is me, I will not remember. Sometimes mothers do not know what immunisation was given if you ask them.' (Enrolled nurse, interview number 12, female, 47 years old)

Immunisation, side effects and management

The RtHB indicated that no interaction was recorded in relation to talking to caregivers about possible side effects of immunisation and the management thereof. This is very important as side effects can deter caregivers from bringing their children to the clinic for immunisation. The ENs handling immunisations verbalised that they did not say anything because the child and guardian had been consulted by a PN who will have discussed these with the caregiver. However, some babies had come straight to the immunisation room from home if they were repeating the same injections they had in the previous four weeks, and caregivers were still not asked about side effects in such cases because they consulted a PN first and then came to the EN who gave immunisations and completed the records. The ENs expected that the PNs would have discussed the side effects of immunisations and the management thereof with the caregiver. Similarly, for users who came for family planning, not much was discussed by the ENs:

> 'Babies are assessed by the professional nurse first; all we do here is give immunisations. The professional nurse gives health education in the consulting room. It is their duty mine is to give injections.' (Enrolled nurse, interview number 12, female, 47 years old)

> 'We tell the mother about the baby's weight and ask about previous immunisation. We also emphasize that if the child gets a bit feverish, she is not to worry unless it lasts for more than three days and how to manage fever at home. It does not take up a lot of time; the mother is not delayed by talking to her. It is important because from here they go to a staff nurse, I cannot trust her to do it, I want to do it myself.' (Professional nurse, interview number 1, female, 37 years old)

Oral health and integrated management of childhood illnesses tuberculosis assessment

Records of children indicated that oral health was not assessed in 100% of children who were at the age that warranted this, and TB was assessed in

13% of children who were due for this assessment. It is possible that health care providers did not know how to carry out these assessments, or they simply overlooked them because of a lack of knowledge that young children require these assessments. Literature indicated that health care workers were uncomfortable assessing oral health in children younger than three years. When asked about it, they had this to say, as previously highlighted:

> 'To be honest with you, I do not know what to look for in the child's mouth, I was last taught this in my basic training which was many years ago. If someone can refresh my memory, I can do it.' (Professional nurse, interview number 7, female 53 years old)

Observations of events

Observations were conducted to check what occurred in the fast-track queue and to identify bottlenecks.

Contraceptive services

Health care users who came for contraceptive services were the quickest to leave the PHC facility. In one of the facilities, it was observed that health care providers (ENs) had their own way of ensuring a quick service; they prepared and drew contraceptive injections beforehand in readiness for health care users. There were two ENs, and while one administered the injection, which was the method chosen by most health care users, one health care provider recorded the procedure. According to the participants, they did this to help users get a quick service. It should also be noted that it has been reported that eliciting the history of current pregnancy from the health care users was not done, where they were not asked about their LNMP. One respondent indicated:

> 'We do not discuss anything because they are old clients, they know everything, so we just give the injections and write the return date. As I have said that these are old clients, they no longer get their menses. The ones that come regularly know everything we do not need to tell them anything. They know that sometimes you gain weight on the injection. As I have already said, we have our old regular clients we do not worry about all that with them.' (Professional nurse, interview number 2, female, 26 years old)

Health care users sent back for vital observations

Sometimes, users were observed coming out of the consulting room for more observations, and the response of the participants regarding this was as follows:

> 'I would check the vital signs according to the diagnosis that I see on the patients' cards, when the patients get in they complain about something else

to the professional nurse, if she thinks it is sugar for instance, she will send the patient back for me to check sugar from the finger prick and urine.' (Enrolled Nursing Auxilliary, interview number 8, female, 48 years old).

Rendering quick service

These participants had also resorted to measures that would be unacceptable for quality care to make the queue move fast. It was observed that users in this queue spent the shortest time ever in the injection room, and participants responded thus:

[...] because we know that most family planning clients come for the 3 months injection, we draw it up before they get here. So, as soon as they come in, one gives the injection while the other is writing in the card and the registers and statistics.' (Enrolled nurse, interview number 12, female, 47 years old)

Short consultations

Participants felt that consultation time was shorter at the fast-track queue, citing clinical tests that are performed before health care users get into the consulting room. Fast-tracked health care users were regular attendees collecting medications or injections and did not require long examinations. Opinions differed regarding what a 'short consultation' entailed and what was meant to take place during a consultation. According to the different categories of personnel working in the fast-track queue, this happened for various reasons.

Waiting time

It was imperative to observe the waiting times that vary in each PHC facility. During interviews, participants did express that some health care users had not disclosed their illnesses to their employers, and they needed to be issued their medication quickly and return to work without raising suspicions from the employer. Other fast-tracked health care users were schoolchildren who would come for their chronic medications or contraceptives and would not want the teachers to know that they attended the health care facility regularly for these services.

Observed delays in waiting times

The researcher observed that in one facility, there was a delay of up to an hour, and the delay was not because of anything that benefited babies or caregivers directly. It is indicative that one respondent remarked that:

'Yes, they do not go home early, there are too many registers to write, and it takes a lot of time to fill them including statistics, which is what the manager is most worried about.' (Enrolled nurse, interview number 6, female, 27 years old).

The issue of registers was corroborated by participants from a different facility, who also felt that they took too much of their time:

> 'There are two of us working in this room; one will not manage because of the registers that we have to fill in and statistics forms, it works better if there are two of us.' (Enrolled nursing auxiliary, interview number 12, female, 47 years old)

In this section, health care providers knew the procedures that they did not perform, and they had their reasons for not performing them, which were discussed above. No reason is acceptable for not performing a certain task, because the health of the user is compromised. The main reasons for not performing procedures were, among others, too many records to write, such as registers and tally sheets and health care user records, and being short-staffed, particularly where there was one ENA monitoring vital signs of all health care users in the fast-track queue. Another reason that was cited was not knowing how the procedure is performed, such as in the case of peak flow metres and assessing oral health in children. These require re-training and in-service education of nurses, and this is addressed in the newly developed framework.

Chapter 7

Framework for continuous improvement in implementing a fast-track queue

Understanding the framework

This chapter presents the development of the framework that will be used in the continuous improvement of the implementation of the fast-track queue in PHC facilities within eThekwini health district. The purpose of the study was to evaluate the implementation of the fast-track queue in order to analyse care rendered by PHC personnel and ultimately develop a framework for continuous improvement in the implementation of the fast-track queue based on the results and study findings. A framework is described as a physical or conceptual structure intended to serve as a support or guide for building something that extends the structure into something useful (Lutkevich 2020). This author further states that a framework is generally more comprehensive than a protocol and more prescriptive than a structure. According to Lutkevich (2020), a framework is often a layered structure indicating what kind of programmes can or should be built and how they would interrelate. Improvement of a service requires collaboration from all members within

How to cite: Sokhela, DG 2024, 'Framework for continuous improvement in implementing a fast-track queue', in *A framework for continuous quality improvement for fast-track queues in clinics in eThekwini*, ITUTA Books, Cape Town, pp. 107–114. https://doi.org/10.4102/aosis.2024.BK452.07

the clinical microsystem – a PHC clinic in this study. These include patients and their relatives, professionals and everyone involved in the care of patients (Nelson, Batalden & Godfrey 2011). The clinical microsystem, which is the framework that guided this study, uses the smallest replicable health care units, which consist of a small group of people working together regularly, providing care to a specific category of patients. The principles for improving the performance of a microsystem are (Nelson et al. 2011):

- involving everyone in the microsystem in continuous work improvement
- intelligent use of data
- extensive understanding of the needs of the patients served by the microsystem
- establishing and maintaining good relationships with other microsystems which have a role in the care of these patients.

The intended use of the framework

The results of the study have indicated areas that are lacking in rendering care for fast-tracked health care users and highlighted areas where improvements are required. The goal of continuous improvement in the implementation of the fast-track queue is to ensure that health care users are consulted timeously without compromising quality and ensuring optimal and effective utilisation of health care providers.

Describing the development of the framework

Key areas of intervention that have been identified are presented in the framework in line with the elements of the clinical microsystems model, namely, interaction between health care providers and fast-tracked users, human resources, complete care and supervision.

The elements of the clinical microsystems were used to guide the development of the framework (five Ps): purpose, process, patients, professionals and patterns. As such, a structure to support continuous improvement in the implementation of the fast-track queue in PHC facilities was developed. The researcher used these elements that arose from the results and study findings to develop the framework, guided by the model that guided the study (Figure 7.1). The patients are central to the framework because they are important, and the whole purpose of the fast-track queue is to render quick, quality service to health care users and improve health outcomes. The first step was to group together principles for improving

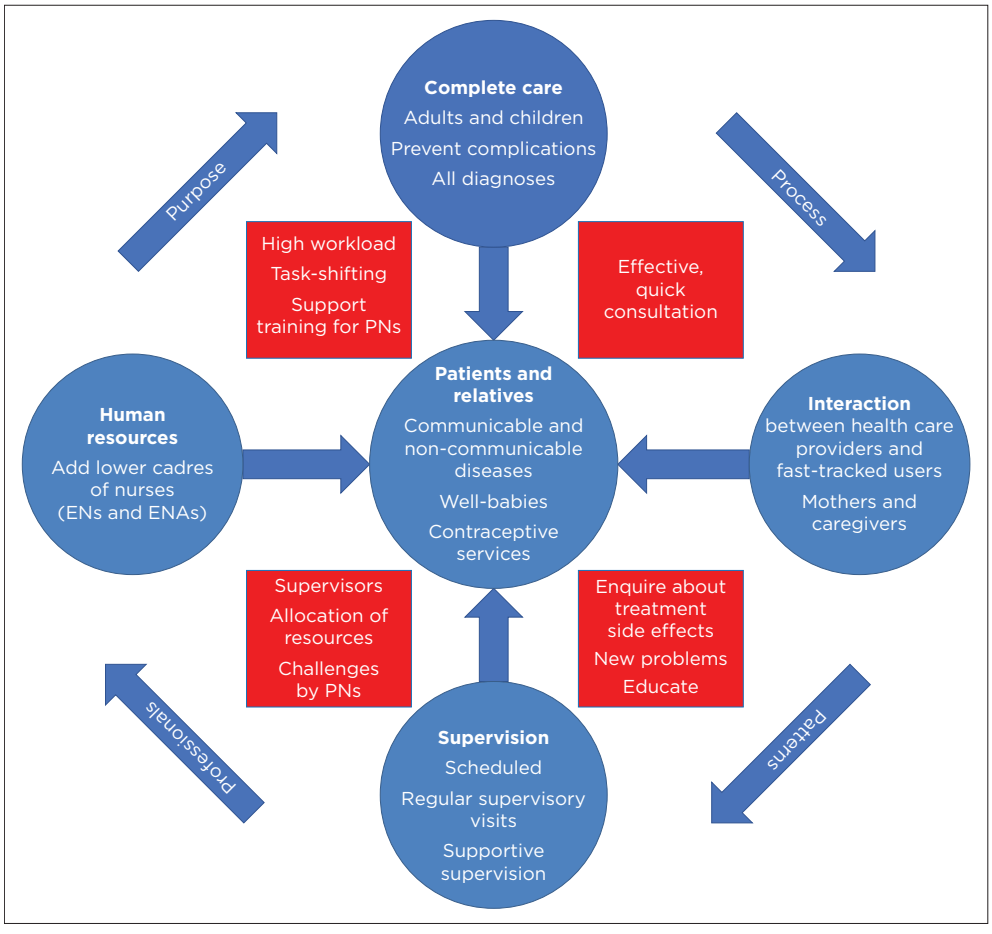
the performance of a microsystem – in this case, the PHC facility followed by corresponding elements of the clinical microsystem model, then results and findings from the study and lastly, the concepts of the new framework that was to be developed.

The newly developed framework was presented to a group of experts in the PHC field who reviewed the framework and made comments. There was no consensus by all members in the first round, where they suggested the addition of more concepts and the removal of some. The framework was sent back to experts after corrections were made; they were all satisfied, and consensus was reached on the developed framework.

The diagrammatic illustrations of the grouping of elements and the new framework are presented in Figure 7.1 and Figure 7.2. The framework was named *The Sokhela framework for continuous improvement in implementing the fast-track queue at PHC facilities*. The elements of the framework are recommendations made for this study.

Principles for improving the performance of a microsystem	Elements of the clinical microsystems model	Components of the new framework	Findings or results
• Involving everyone in the microsystem in continuous work improvement • Intelligent use of data • Extensive understanding of the needs of the patients served by the microsystem • Establishing and maintaining good relationships with other microsystems which have a role in the care of these patients	• Patients and professionals • Professionals • Purpose, process and patterns • Professionals	**Interaction between:** • Health care providers and fast-tracked users • Mothers and caregivers **Human Resources:** • Add lower cadres of nurses (ENs and ENAs) **Complete Care:** • Adults and children • Prevent complications • All diagnoses **Supervision:** • Regular scheduled supervisory visits • Supportive supervision • Training needs	• Lack of interaction between health care providers users • Lack of knowledge of procedures • Task-shifting • Poor record keeping • PNs, ENs, ENAs and supervisors • Fast-tracking the chronically ill • Communicable and non-communicable diseases • Well-baby visits • Contraceptive visits • Lack of supportive supervision

Source: Author's own work.
Key: PN, professional nurse; EN, enrolled nurse; ENA, enrolled nursing assistant.
FIGURE 7.1: Key intervention areas for improving implementation of fast-track queue.



Source: Author's own work.
Key: PN, professional nurse; EN, enrolled nurse; ENA, enrolled nursing assistant.

FIGURE 7.2: The Sokhela framework for continuous improvement in the implementation of fast-track queue.

Description of the new framework

Purpose

Complete care

The purpose of the fast-track queue was to render effective and quick consultations. As much as a consultation should be quick, care provided to health care users in the fast-track queue should be complete in that vital parameters should be checked, interpreted and used to plan for the management of each health care user. Completeness of care also implies quality service through communication with health care users, writing legal scripts and proper record keeping, and involving health care users in

decision-making about their care to increase co-operation and compliance. It has been discussed that health care user records are a communication tool among health care providers for a continuum of care. The clinical microsystems should ensure that health care users go through the health care system smoothly, with a major focus on improving health care outcomes. Health care providers can learn the habit of doing things the right way all the time, and by doing so it happens naturally and authentically without putting in extra effort.

Minimise delays

There should be at least one health care provider to perform triage functions and consult very ill and urgent health care users. These patients are bound to require longer consultations because of the complexity of their illness. This health care provider must be allocated additional duties while there is no urgent consultation and can be paired with the nurse from the lower category to support and assist the professional nurse or can even be asked to call for help if required. In a poorly resourced PHC facility, the health care provider can be allocated but continue consulting the general queue if there is no emergency.

Patients

Patients or health care users are central to health care provision and are also at the centre of the framework. They are the most important element of the framework because everything revolves around them. They have a right to quality care and good health outcomes. Patients should experience quality health care in the clinical microsystem, which is the PHC facility in this case. The PHC facility is a place where patients, families and professionals interact. It is crucial to know the needs of the patients so that care is planned around their individual needs. Fast-tracked patients are all those with chronic illnesses and communicable and non-communicable diseases such as mental health challenges, epilepsy, asthma, hypertension and diabetes mellitus. They also include those who come to the health facility for contraceptive services and well-baby visits.

Process

Interaction between health care providers and users

Effective interaction between health care providers and fast-tracked health care users is important for the well-being of individuals. It was gathered from data that fast-tracked health care users were not asked questions that would facilitate the management of their illness and early diagnosis of complications of the illness. They were not asked how they felt nor given

the opportunity to verbalise problems that they were experiencing with medication or with the chronic disease. The interaction would assist in preventing complications or diagnosing them early and plan further management of the health care user. Immunisation side effects and management thereof were not discussed with mothers and caregivers of babies and children, and this was a big omission on the part of health care providers. Health care providers would not give more information on the disease if the health care user had been collecting treatment for more than six months; that was not a good way of judging whether to ask health care users or not, as one can never know when the health care user experiences problems and might gather the courage to speak about them to the health care provider. These problems could be social but may affect the management of the chronic condition. Interacting with health care users could increase knowledge and encourage self-care and self-reliance.

Patterns

Supportive supervision

Supervision was fitted into patterns as a recommendation from the experts. The reason is that supervisors and managers are the visionaries of the PHC facility. Patterns in the fast-track queue occur under their leadership. Health care personnel are allocated in different microsystems within the PHC facility by supervisors according to their scope of practice and capabilities, which is what creates patterns in the fast-track queue. An effective supervisory system was devised by facility supervisors to ensure day-to-day functioning of the facility and ensure that special programmes such as the fast-track queue happen seamlessly. Facility supervisors need to be visible in the health facilities to support the facility manager. Managers have the power to authorise resource allocation and deployment; if they do not physically visit the facilities, they may not have an idea of how desperate the situation is at the functional level. Supervision should be planned and not sporadic; there should be objectives for each visit so that these can be measured afterwards to evaluate if the visit was successful. Managers should encourage feedback from their subordinates and use it to support and improve the working environment of the health care providers.

Training needs

Extensive ongoing training should be conducted to equip health care workers with knowledge and skills to work independently. There are vital parameters that were not performed at all by health care providers, such as PEFR and assessing oral health in children; this could have been because of a lack of knowledge and skills. In-service education should be conducted

regularly to keep health care providers abreast of new developments. They should also be afforded an opportunity to request in-service education on areas of uncertainty as well as on new problems that they might encounter in their day-to-day engagement with health care users, such as interpreting weights for babies and the assessment of their milestones. Training needs can be identified by supervisors or brought forward by health care providers, but they should be given an opportunity to do so. Lack of knowledge and skills could be detrimental to the lives of health care users who come to the fast-track queue.

Professionals

Human resources

Increased accessibility of the PHC facilities should match the resources that are vital in the rendering of care, namely, human resources. The staff in all categories should be increased to meet the needs of the community. There is no legislation or regulation that stipulates how many ENs or ENAs can be employed in a PHC facility, yet employing them may be very beneficial to the quest of implementing the fast-track queue. There are many duties that are not core for PNs, and these can easily be performed by ENs or ENAs.

Task-shifting

Literature has indicated that lower categories of staff can assist in relieving PNs to do duties that are their co-function. Task-shifting is a term used when non-complex duties are delegated to less specialised personnel to enable others to attend to more specialised duties. This has happened over the years without a corresponding increase in human resources. The transition of work from one category to the next must be managed so that it is a smooth process. Nurses need to be prepared well for the 'new' roles. Failure to manage task-shifting with the resultant transition of work from one category of health care provider to another is bound to result in frustrations when nurses are faced with complex illnesses that they are unable to manage. According to WHO (2008), task-shifting is a response to the global shortage of nurses. Furthermore, task-shifting increases access to health services, especially for countries with a high burden of HIV.

Skills development

Equip lower categories of nurses with skills that will allow them to obtain wider competencies so that they are able to assist and support professional nurses, such as performing some of the administrative and

non-complex duties. Facility managers should define methods for measuring performance to determine the needs of health care providers which can be measured through evaluation of training to ensure that the skill that was obtained is retained. This could be conducted during consultations with health care users or during reviews of users' records to decrease the workload from PNs.

Co-ordination of care

Effective teamwork and good planning are central to the implementation of fast-track queue. For the smooth flow of health care users through the fast-track queue, co-operation between supervisors and all categories of nurses is imperative. Care should be co-ordinated and should involve all functional areas of the PHC facility because they all impact and affect care. Work should be co-ordinated so that the PHC clinic, as a microsystem, functions seamlessly. The framework could be adapted and utilised by health care providers to improve on areas that were found to be lacking in PHC facilities to improve the care of health care users.

Limitations of the study

The study was conducted in one of the nine districts of KZN province. Therefore, results and recommendations cannot be generalised to other districts. According to the health care providers, seriously ill patients were consulted in the fast-track queue; however, the study excluded these health care users. It would be vital to monitor the quality of care for these health care users as well. The study assessed that the necessary clinical tests were performed but not how they were performed. Health outcomes of health care users were not measured in terms of whether chronic illnesses were well controlled or not. The study was completed in 2015, so it is possible that practice at PHC facilities might have changed.

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APPENDICES

Appendix 1: Record review tool for children

Facility Code: **Date:** **Municipality/KZN:** **Key:** **Yes:** **No:** **N/A:**

Child	Age	Gender	Wt.	Wt. plotted	IMCI classification			Feeds	Immunisation given			Side effects to expect	Management of side effect	Prophylaxis		Milestones	Oral health	Next visit
					growth	PMTCT/ HIV status	TB status		Date	Batch No	Signature			Vit A	Deworm			
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Appendix 2: Record review tool for adults

Facility: **Date:** **Municipality/KZN:** **Key: Yes: 1 No: 0 N/A:**

USER	Age	Gender	Diagnosis	WT	BP	BS	Urinalysis	LNMP	How user feels	Lifestyle modification	Presence of complications	Presence of side effects	Correct prescription	Referral	Book next visit
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

Appendix 3: Structured observation tool

Facility Code: **Date:** **Municipality/KZN:**

			Performed		
No.	**Activity/Event**		**No**	**Yes**	**N/A**
1.	Users called out from general queue.				
2.	Is there someone in attendance all the time at this point?				
3.	Is there relief personnel at tea break?				
4.	Is station left unattended for more than 5 minutes?				
5.	Users are fast-tracked?				
6.	Users told they will be in the fast-track queue service point (FQSP)				
7.	Vital observations conducted before consultation	Weight			
		BP			
		Blood sugar			
		Urine test			
8.	User does not come back from consulting room for observation				
9.	Personnel communicate to users about FQSP				
10.	Specific queue available for these users				
11.	There is a dedicated PHC personnel for this service point				
12.	Users are spoken to politely if they ask questions				
13.	Other				

Appendix 4: Interview guide

Section A: Demographic Data

Category: Experience: Gender:

Age:

Section B: Questions

1. What is the purpose of the fast queue service point?
2. Briefly describe this service point
3. What is your core function in this service point?
4. What support do you get in this service point?
5. Describe the patients in this service point?

Probing where necessary:

Elaboration probes
Continuation probes
Clarification probes
Attention probes
Completion probes
'Tell me more about.....'
'What happened then...'
'Could you explain.....'

Some questions will be to further explain quantitative results

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A framework for continuous quality improvement for fast-track queues in clinics in eThekwini provides scholars with an exploration of the intricate dynamics of primary health care facilities in South Africa. This insightful book delves into the indispensable role of primary health care facilities in mitigating the burdens confronting the South African health care system, from escalating rates of communicable and non-communicable diseases to endeavours to expand health care access to historically marginalised groups. Despite concerted efforts, these facilities have grappled with resource constraints, exacerbated waiting periods and compromised care quality due to the coronavirus disease 2019 (COVID-19) pandemic's health care supply shortages and information gaps, leaving nurses in precarious positions. In the book, the author introduces a new patient fast-tracking solution designed to improve patients' experience using health care amidst persistent challenges, such as staff shortages and increased workloads, that inhibit comprehensive assessment of patients.

This book seeks to decipher and enhance the efficacy of fast-track queues, evaluating the care dispensed by primary health care workers to devise a framework for ongoing refinement. The author uses a clinical microsystems model and mixed-methods approach to identify patterns in patient fast-tracking and point out areas for improvement based on interviews and observations. Offering valuable insights and recommendations for scholars and professionals, this book proposes a model to bolster nurse support and optimise health care delivery, while ensuring timely consultation without compromising quality. An indispensable resource for scholars and professionals specialising in primary health care and related fields, this book paves the way for transformative advancements in health care service delivery and patient outcomes.

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Open access at
https://doi.org/10.4102/
aosis.2024.BK452

ISBN: 978-1-990982-06-4