



Cape Peninsula
University of Technology

**PUBLIC HEALTH MANAGEMENT: AN AUDIT ON THE EFFICACY OF
HEALTHCARE QUALITY MEASUREMENT METHODS FOR WESTERN CAPE'S
'HEALTHCARE 2030' STRATEGY**

by

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Signed

Date

ABSTRACT

This study was an evaluation of the efficacy of in-programme healthcare quality assessment methods used by the Western Cape Department of Health (WCDoH) to generate health evidence needed to improve healthcare quality in the Province's primary healthcare facilities as envisioned in the Western Cape Province's Healthcare 2030 vision document.

The commitment made by policymakers in the multi-year health strategy to inculcate a culture of continuous improvement to improve healthcare quality needed to be tested on the appropriateness of data generation instruments being used to generate health evidence to improve quality. In this context, the researcher found the research problem to be an absence of operating knowledge to ascertain the efficacy of healthcare quality measurement methods used by the WCDoH to generate health evidence needed to meet the Province's healthcare quality objectives espoused in the vision document Healthcare 2030.

Reviewed literature showed an increased demand for knowledge-driven health systems where data is generated to evaluate performance, client satisfaction, clinical quality and professional development of health workers. Through qualitative research methodology, the study used purposive sampling to select 12 (twelve) participants from Bothasig Community Day Centre (CDC), 16 participants from Du Noon Community Health Centre (CHC) and 8 (eight) heads of the WCDoH's Directorates. The participants answered open and closed-ended questions on questionnaires on the appropriateness of instruments used to generate information needed to facilitate patient-centred care and evidence-driven healthcare.

Respondents highlighted the need for increased awareness campaigns on Healthcare 2030 among healthcare professionals, the need for a measurement metric to gauge the progress of medical instruction compliance over time, the need for a stakeholder-focused health facility management programme and a tailored institutional support framework.

The research concluded that the measurement of patient wellness must be tracked over time, information systems must be integrated to facilitate information sharing, Healthcare 2030 policy awareness must improve across the department and a culture of interdepartmental knowledge sharing must be promoted.

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DEDICATION

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ABBREVIATIONS AND ACRONYMS

Bothasig CDC – Bothasig Community Day Care Centre

DFM - Directorate of Financial Management

DHP - Directorate of Health Programmes

DHS - Directorate of Human Resources

DGSE - Directorate of General Specialist and Emergency

DITM - Directorate of Infrastructure and Technical Management

DMDHS - Directorate of Metro District Health Services

DRDHS – Directorate of Rural District Health Services

DSHS - Directorate of Strategy and Health Support

Du Noon CHC – Du Noon Community Health Centre

ICP – Ideal Clinic Programme

NCS – National Core Standards

NDoH – National Department of Health

NDP – National Development Plan

NHI – National Health Insurance

OECD – Organisation for Economic Cooperation and Development

OHSC - Office of Health Standards and Compliance

PSC – Public Service Commission

StatsSA – Statistics South Africa

WCDoH – Western Cape Department of Health

WHO – World Health Organization

PHC – Primary Healthcare

COHSASA - Council for Health Service Accreditation of Southern Africa

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CHAPTER 1

INTRODUCTION

1.1 Introduction and Background

This study was an evaluation of the efficacy of in-programme healthcare quality assessment methods used by the Western Cape Department of Health (WCDoH) to generate health evidence needed to improve healthcare quality in the Province's primary healthcare facilities as envisioned in the Western Cape Province's Healthcare 2030 vision document.

1.2 What Constitutes a Quality Healthcare System?

In order to understand the significance of healthcare quality assessment in the health service delivery value chain system, it is necessary to appreciate what constitutes a quality healthcare system. The Institute of Medicine (IOM, 1990:21) explains that healthcare quality is a systematic correlation that exists between healthcare services and health outcomes, as informed by existing professional knowledge. While this definition focuses on health outcomes, Whitaker (2011:60), writing in the South African Health Review, believes that client satisfaction is a major determinant of quality. He opines that healthcare quality refers to the degree to which a health facility meets its clients' needs and expectations as measured against pre-determined standards.

Both client satisfaction and pre-determined health outcomes are important elements in the attainment of quality healthcare. Their attainment rests on the use of reliable and evidence-based data that assists health decision-makers to make informed choices on resource allocation. Healthcare quality measurement thus becomes the primary tool used to generate data needed to improve healthcare quality. Families USA, a health research organisation, identifies healthcare quality measurement as the process of using health data to assess health plans and health provider performance against recognised quality standards (Morris & Bailey, 2014:2). Healthcare providers and policymakers have found it necessary to prioritise the assessment of healthcare provision because of the emergent need to improve the nature and quality of health services provided over time.

1.2.1 The Framework for Healthcare Quality Assessment in South Africa

The National Department of Health (NDoH), through its annual reports and revolving surveys such as the National Healthcare Facilities Reports, provides systematic evaluation of healthcare service provision across the country's nine Provinces. This effort is complemented by non-profit health research organisations, such as the Health Systems Trust (HST), which provide qualitative

and quantitative industry insights through publications such as the South African Health Review and the District Health Barometer.

A review of available literature revealed that in-programme healthcare quality assessments for active health policies such as Healthcare 2030 are rare. In instances where such assessments have taken place, such as the Public Service Commission's (PSC) investigation into the availability of medicines in district hospitals and clinics in the Western Cape Province, the focus has been on a specific item of the health service delivery infrastructure rather than system-wide evaluation (PSC, 2014:16). A holistic assessment of quality within the healthcare system is fundamental for the creation of information needed for evidence-driven decisions and policy interventions.

The legislative foundation underpinning quality healthcare in the country can be found in Section 30(2) of the National Health Act (2013) which, when read with Sections 27 and 195 of the Constitution, underline the fact that every person has the right to access healthcare services through a public administration system that is responsive to people's needs (Constitution of the Republic of South Africa, 1996:11). Although efforts have been made to follow through on this constitutional requirement, not much was being done to create the necessary ecosystem where health evidence becomes the driver of health system improvement over time.

It is from this background that, in 2007, the NDoH adopted a '*Policy on Quality in Health Care for South Africa*' which sought to create a framework to ensure that quality healthcare flourished through the capacitation of the various constituent parts of the health delivery system (NDoH 2007:13). Further impetus to quality healthcare was given by the Office of Standards Compliance in the NDoH when it developed the National Core Standards to guide healthcare facilities on the minimum standards needed to provide quality health services (NDoH 2011). It has become essential to determine how these policy frameworks on healthcare quality improvement have been incorporated into healthcare policy propositions by provincial governments.

In 2011, the NDoH initiated the National Health Amendment Bill to facilitate the establishment of the Office of Health Standards and Compliance (OHSC). The OHSC was mandated to spearhead the development and recommendation of quality standards for the National Health Service (Whitaker *et al.*, 2011:64). Its most recent achievement was the establishment of the Ideal Clinic Programme which seeks to ensure that clinics meet the requisite standards for quality healthcare provision.

In addition to a comprehensive legislative and policy framework, there was recognition of the fact that a quality healthcare system should provide patients with pathways to dispute resolutions should they feel aggrieved with the standard of healthcare provided. The National Complaints Management Protocol was thus promulgated in 2013 to “readily provide information to the public on how to lodge a complaint within the public health sector and to guide the sector on managing complaints” (NDoH, 2013:4). Furthermore, the current Minister of Health, Dr Aaron Motsoaledi, announced in a parliamentary budget vote speech in May 2016 that his department would establish a Health Ombudsman. The purpose of the ombudsman “will be to investigate and dispose of the complaints laid by patients and the public in general against health establishments and health workers” (Govender, 2016). This highlighted the government’s commitment to have a patient-centred health system that is focused on improving service delivery for the primary benefit of the patient.

1.3 Western Cape Province Health System – An Overview

The Western Cape is one of the nine Provinces of South Africa and covers a surface area of 129 307km, making it the fourth largest Province (StatsSA, 2006:1). According to the 2018 mid-year estimates by StatsSA, the Province has a population of 6,6 million people and represents 11,4% of the national population (StatsSA, 2018:2).

The Province’s subdivision comprises the City of Cape Town and five District municipalities, namely Overberg, West Coast, Cape Winelands, Eden and Central Karoo. The District municipalities are, in turn, divided into 24 local municipalities.

The Western Cape Department of Health offers a variety of health services to the Province’s uninsured 4 585 791 (74.8 %) residents (WCDoH, 2015:10). Table 1.1 below provides a summary of some of the services offered by the Department.

Table 1.1: Services delivered directly to the Public by the Western Cape Department of Health*Source: Western Cape Department of Health Annual Report 2014-15*

.Health Service	Description
Primary Healthcare	Primary healthcare services take place in three distinct but interdependent care settings, namely Home-Based Care (HBC), Primary Care and Intermediate Primary Healthcare.
District Hospital Services	34 district hospitals provide emergency services, child and adult inpatient and outpatient care.
Emergency Services and Patient Transport	Patient transport, ambulance and rescue services.
Specialised Hospital Services	<ul style="list-style-type: none"> - Offer general specialist services that include maternity and neonatal health services - Specialised TB and infectious disease health centres. - Psychiatric hospitals - Specialist rehabilitation by the Western Cape Rehabilitation Centre - Dental health services
Tertiary Health Services	- Tygerberg, Groote Schuur and the Red Cross Children's hospitals offer tertiary health services.
Forensic Pathology Services (FPS)	18 forensic pathology centres offer insights into causes of unnatural death.

The foundational policy framework for healthcare quality management in the Province is informed by the 2007 National Policy on Quality Healthcare which gave authority to provincial health departments to establish dedicated units to facilitate quality assurance and improvement (NDoH, 2007:19).

Healthcare reform and transformation in the Western Cape Province is guided by the Healthcare 2030 vision document in which objectives are realised on an incremental basis through five-year and annual plans that make use of indicators and targets to measure progress.

1.3.1 Healthcare 2030 and Quality Healthcare

Healthcare 2030 is a multi-year health service delivery vision document which seeks to provide a strategic framework for the Provincial Department of Health in the setting up of health systems that will be incrementally applied to achieve optimal health outcomes (WCDoH, 2014:xiv). It identifies quality healthcare as one of the key priority areas that will be instrumental in modernising healthcare service provision in the Province. The primary objectives to quality healthcare improvement, as outlined by the vision document, are depicted in Figure 1.1 below:

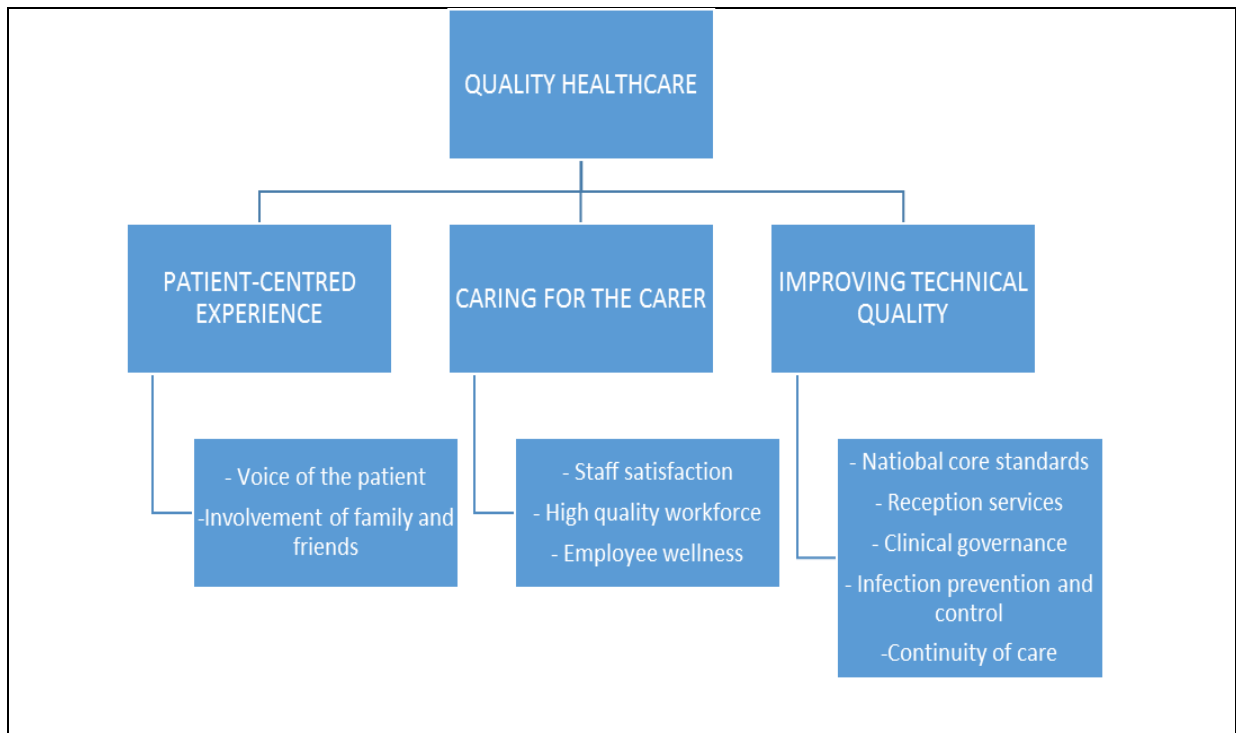


Figure. 1.1 Healthcare 2030 and Quality Healthcare

The evaluation of the measurement methods used to assess the attainment of the above-mentioned three objectives to quality healthcare in the Western Cape Province will form the basis of this research study.

Healthcare 2030 lists some of the measurement methods to quality healthcare as involving:

- annual patient satisfaction campaigns;
- health complaints management;
- aligning with national core standards, promoting health system efficiency and ensuring continuity of care;
- engaged, empowered, effective and efficient employees; and
- building a culture of continuous improvement.

1.4 Current Status of the Research Area

This section of the chapter provides an overview of the literature informing discourse into global, African and national trends of healthcare quality measurement. An attempt was made to locate the significance of healthcare indicators in providing the framework for defining the data sets essential in healthcare quality assessment.

1.4.1 Global Trends in Healthcare Quality Measurement

The World Health Organization (WHO) has been at the forefront of providing the impetus and setting the tone for quality healthcare measurement from an international perspective. Its seminal work on 'Improving Health System Performance', advanced through a World Health Report, pioneered a global health systems performance index that ranked nations according to the functionality of their healthcare delivery systems (WHO, 2000:143). The report posited that the performance of a national health system should be measured in its ability to fulfill four functions, namely financing, resource generation, stewardship and service provision (WHO, 2000:xi). Subsequent World Health Reports have maintained the primary focus on quality healthcare but there has been a shift towards specific themes like clinical governance, disease control and management, universal primary healthcare access and health policy management. Regional bodies such as the OECD have subsequently taken steps to adapt healthcare quality measurement to align with conditions obtained in their member states through a healthcare quality indicator project (Kelly & Hurst, 2006:3). Scholarly work on healthcare quality measurement have either attempted to provide conceptual models to quality assessment or have chosen to focus their attention on a specific value underpinning quality in the health sector. Writing in the *Pediatrics Journal*, Kleinman and Dougherty (2013:110) explore the theories of quality improvement, with a view to developing their own conceptual framework that prioritises the coordination of care and health operations management. They argue for the centrality of science, including rigorous theory development and testing in improving healthcare quality deliverables. While model development is central to this approach, Lopez, Wyss and Savigny (2011:4) are of the opinion that the nature of a healthcare governance system in use is a key determining factor in the performance of a health system. Their approach is centred on systems thinking which can be used for governance improvement through specific interventions and responsive policies. Some academics (Smith, 2002; Hussey, Maatke, Morse & Ridgely, 2004; Johnston, 2004; Murray & Evans, 2003) have made practical qualitative and quantitative measurements of healthcare quality to generate knowledge on best practice in the field.

South Africa's peers in the emerging economies group of countries, especially BRICS (Brazil, Russia, India, China and South Africa), are faced with similar capacity constraints on the use of health system measurement to improve quality. The Indian government admits that, lack of reliable health data often impedes efforts to improve the quality in the primary health care sector (Mohana, Hay & Mor, 2016). Poor data quality has been a consequence of a lack of incentives within the healthcare system to foster accountability among providers and dysfunctional systems in the health governance infrastructure. To reverse this trend, the government has adopted a

deliberate policy improve the frequency and reach of structural measures. Government surveys have become instrumental in generating useful information on health facilities and record keeping, which track availability of hospital resources (Mohana, Hay & Mor, 2016 p.3). A case in point is the National Health Family survey which has become an essential tool used for generating district level data on the quality of healthcare and on health outcomes.

In Russia, there is a concerted effort to improve the quality of healthcare and facilitate health promotion in underserved communities (Rozenfeld, 2018). A driving factor has been the ineffective organisation of the healthcare system, which has in turn affected the quality of care. The inflexibility and poor integration of health information management systems has meant that the medical statistics service in the Ministry of Health and Social Development (MoHSD) has not been able to offer a reliable health data management service (Popovich, Potapchik, Shishkin, Richardson, Vacroux and Mathivet 2011). For example, computerised information and analytical systems are not available publicly, making it difficult to assess national health performance. Even under these circumstances, the Russian statistics service publishes the 'Healthcare in the Russian Federation' report that covers health indicators, health system resilience, disease risk factors and citizen attitudes to health.

Brazil's Unified Health System (UHS) model has contributed significantly towards the country's universal healthcare coverage by offering primary healthcare free at the point of service. The strides made thus far have however come under threat from an economic downturn that has forced the Brazilian government to implement austerity measures and put caps on public spending (Massuda, Hone, Leles, Castro and Atun, 2018). Even so, calls from the public for an equitable and quality primary healthcare system have not changed. The Brazilian Health Information System was therefore developed with the express aim of improving the quality of care in various reporting areas such as live births, notifiable diseases, hospital functionality and health system integration. The challenge which still remains is how to 'build and standardise indicators, disseminate basic data and health status assessments' (Lima, Escamilla, Neto and Queiroz 2006). By overcoming these challenges, the Brazilian government hopes to align health systems with the push for decentralisation of administrative functions by the national government.

Healthcare reform in China has, since 2009, focused on ensuring optimal resource utilisation to improve efficiency, service delivery and quality of care as espoused in the 'Healthy China 2030 Programme' (Du, 2018). In 2010, the Chinese government announced that 'medical information systems and population health informatics would be one of the four pillars supporting reforms in the healthcare field' (Qun, 2011). Following this announcement, China has initiated a relatively

well-developed health informatics infrastructure at village, township, provincial and national government levels. The objective is to complete the construction of a national health information system by 2020.

1.4.2 Themes Informing Healthcare Quality Measurement in Africa

Most African countries have focused their efforts on improving quality at every level of the health delivery value chain system. Chief among these has been the need to improve access and quality in primary healthcare services to guarantee social justice, especially in rural Africa (Bradley *et al.*, 2011:224). Public health practitioners are of the view that the provision of functional health services in the African context is essential for personal and national security (Itam & Adindu, 2012:44). Their assumption rests on the fact that national security fundamentally depends on health security reflected in the wellbeing of citizens. Consequently, a case can be made to the effect that economic security is often intricately linked with national health fundamentals that prioritise the provision of quality primary healthcare to the most vulnerable members of society.

Within this context, African governments have sought to make it a policy priority to strengthen their health provision infrastructure to improve the quality of health services provided. This deliberate policy focus was guided by a framework agreed on through WHO (WHO, 2003:9) where it was agreed that African member states need to establish national quality of care programmes, health staff development and continuous evaluation schemes to improve health outcomes.

Most African countries have since either adopted policies on the promotion of quality healthcare or have instituted bodies tasked with monitoring and improving the provision of quality healthcare. South Africa pioneered a National Policy on Quality in Healthcare while Zambia standardised its approach to quality healthcare through a national health quality assurance programme. Ghana's national health quality programme provides a framework for total quality management in the health sector. Nigeria's federal health reform process has sought to strike a balance between healthcare access and a system of quality assurance.

1.4.3 Significance of Healthcare Quality Measures

The Canadian Council on Health Services Accreditation (CCHSA) describes a healthcare quality measure as a tool used for monitoring, evaluating and improving functions that influence patient outcomes (CCHSA, 1996). Healthcare quality measures are derived from industry best practice in healthcare that have been proven to improve health performance.

A conceptual framework for categorising healthcare quality measurements was developed by Donabedian who reasoned that quality measures can either relate to structure, process or outcome (Donabedian, 2003:26). The performance of a health system is dependent upon the optimal functionality of these categories, especially when viewed within the parameters of quality, access, cost, efficiency and equity.

1.5 Statement of the Problem

The generation of relevant healthcare evidence is a critical requirement for the attainment of quality healthcare outcomes. However, according to an evaluation conducted by the National Department of Health on South Africa's District Health Management System in 2011, it was established that the quality of information collected to improve healthcare was affected by limited attention given to the efficacy of data collection tools necessary to provide useful information to meet the goals and objectives of the health sector. In 2012, the Facilities Baseline Audit carried out by the Health Systems Trust concluded that no Province was at the required level to meet the National Core Standards (NCS) and that primary healthcare facilities, especially clinics, were struggling to meet 50% of NCS requirements. These shortcomings occur shortly after the 2007 *Policy on Quality in Healthcare for South Africa* which tasks Provincial Health Departments with committing to quality assurance and continuous quality improvement. Healthcare 2030, committed itself to improving healthcare quality by prioritising patient-centred experiences, caring for the carer and improving technical quality. In this context, the researcher finds the research problem to be an absence of operating knowledge to ascertain the efficacy of healthcare quality measurement methods used by the WCDoH to generate health evidence needed to meet the Province's healthcare quality objectives espoused in the vision document Healthcare 2030.

1.6 Research Question

How effective are the in-programme healthcare assessment methods used by the Western Cape Department of Health to generate health evidence needed to improve healthcare quality in the Province as envisioned in the Healthcare 2030 vision document?

1.6.1 Research Sub-Questions

- Are information generation mechanisms in place at the Province's primary healthcare facilities aligned with the healthcare quality data objectives of Healthcare 2030?
- How does the Western Cape Department of Health collate information at the health facility level to improve healthcare quality?

- What is the extent of patient involvement in generating data for quality healthcare outcomes?
- To what extent is data generated by healthcare facilities and collated by the Western Cape Department of Health used to inform healthcare quality reviews?
- What changes need to be made to the Western Cape's health data generation system in order to achieve healthcare quality by 2030?

1.6.2 Objectives of the Research

The overall research objective of the study was to review the effectiveness of in-programme healthcare assessment methods used by the Western Cape Department of Health to generate health evidence needed to improve healthcare quality in the Province as envisioned in the Healthcare 2030 vision document. To achieve this objective, the research sought to:

- establish whether or not the information generation mechanisms in place at the Province's primary healthcare facilities aligned with the healthcare quality data objectives of Healthcare 2030;
- evaluate the process by which the Western Cape Department of Health collates information at the health facility level to improve healthcare quality;
- establish the extent of patient involvement in generating data for quality healthcare outcomes;
- assess the extent to which data generated by healthcare facilities and collated by the Western Cape Department of Health informs healthcare quality reviews; and
- ascertain the nature of changes that need to be made to the Western Cape's health data generation system in order to achieve healthcare quality by 2030.

1.7 Research Design

Research design is defined by Mouton (1996:107) as a systematic formula that provides a researcher with instructions to abide by when addressing the research problem. It enables the researcher to calibrate research decisions in order to maximise the validity of the eventual results.

This study used a phenomenological research design because of its strong emphasis on descriptive analysis of phenomena under study.

The phenomenological approach, according to Lester (1999), allows for the identification of specific elements under study and the acquisition of perceptions of actors involved through

information gathering using qualitative methods and presenting it from the viewpoints of research participants.

The approach to this study was such that there is a need to describe the healthcare quality measurement methods currently in use by the WCDoH and evaluate their efficacy in generating relevant health evidence to improve quality of care as set out in the vision document Healthcare 2030. In this context therefore, the adoption of the phenomenology research design allowed the researcher to understand the health systems framework in the Province from the perspectives of decision-makers and health professionals.

1.8 Research Methodology

Since this study sought to evaluate the efficacy of in-programme healthcare assessment methods used by the Provincial Health Department in generating evidence needed to improve healthcare quality in the Province as envisioned in the Healthcare 2030 vision document, the researcher made use of the qualitative research method. Wyse (2011) posits that:

Qualitative methods are designed to help a researcher gain insight into underlying reasons, opinions and motivations of phenomena under study. They provide insight into the subject under study and help in the development of ideas or hypothesis for potential quantitative research. Qualitative research enables the uncovering of trends in discipline thought and offers incisive insight into the research problem

The specific qualitative method that was used to extract qualitative data on healthcare quality output in the WCDoH was the descriptive evaluation method. Descriptive evaluation, viewed within the context of the phenomenological approach, was used to gain insight into scholarly thought currently informing the phenomenon under study, in respect to the competing variables (Key, 1997:39). The use of the descriptive evaluation method was informed by the need to determine whether the healthcare quality system assessment framework being used by WCDoH is operating as planned, producing the types of outputs and outcomes required, and to ascertain whether it is operating under clear processes, goals and objectives.

Since the study is qualitative and descriptive in nature, its target populations were senior management staff (middle and senior management staff) at the WCDoH and clinic administrators and health professionals at two selected clinics, namely Bothasig Community Day Centre (CDC) and Du Noon Community Health Centre (CHC). The researcher chose Bothasig CDC and Du Noon CHC because of the potential unique insight they present if one is to understand the factors informing the provision of quality healthcare services in Primary Healthcare facilities as envisioned by Healthcare 2030.

1.9 Unit of Analysis

Middle and senior managers at the WCDoH, who are responsible for policy formation, implementation and evaluation, were approached to get their input on what they consider to be quality healthcare, what the systems are that they have put in place to measure it and what capacity-building interventions were implemented to strengthen healthcare quality in the Province. Clinic administrators responsible for operational systems management at Bothasig CDC and Du Noon CHC provided insight on healthcare service delivery systems currently in place and their impact on quality of care. The following section on sampling technique will provide the unique characteristics of this unit of analysis.

1.10 Sampling Technique

1.10.1 Purposive Sampling

Purposive sampling, which gives the researcher control over who, where and how the research objectives are met, was used for this study. Patton (2002:45) is of the view that purposive sampling enables the identification and selection of information-rich cases related to the phenomenon of interest. According to Cresswell and Clark (2011:176), it gives the researcher the ability to identify and select knowledgeable individuals who are knowledgeable on a phenomenon of interest, hence selecting the unit of analysis mentioned earlier.

While purposive sampling helped provide a broad characterisation of the sample population of managers at the WCDoH and administrators at the two clinics under study, the sub-instrument of stakeholder sampling created a knowledge map of their role in the healthcare quality value chain system. Stakeholder sampling helps in the identification of prominent stakeholders involved in the implementation of the programme or service being evaluated, and are in effect affected by it (Palys, 2008:698).

1.10.2 Sample size

A sample of eight Chief Directors at the WCDoH was chosen to take part in the open-ended questionnaire on healthcare quality as advocated for by Healthcare 2030. This senior management staff contingent is responsible for the Directorates of:

- general specialist and emergency;
- health programmes;
- infrastructure and technical management;
- metro district health services;

- financial management;
- rural district health services;
- human resources; and
- strategy and health support.

28 administrative and health professionals at both Bothasig CDC and Du Noon CHC were asked to respond to a closed-ended questionnaire on healthcare quality provision within their respective facilities. This population group comprised clinic managers, medical officers, nurses, pharmacists and midwives.

1.11 Data Collection

The research made use of both primary and secondary data.

1.11.1 Primary Data

The study made use of open-ended and closed-ended questionnaires for primary data collection. The questionnaires were administered to both the senior management staff at the WCDoH and the clinic administrators and health professionals at Bothasig CDC and Du Noon CHC. The demographics of these target populations are mentioned in the sampling section above. Open-ended questionnaires were used to gather detailed information on the concept of healthcare quality in the Western Cape Province, its operationalisation across the Province's health centres and the challenges faced by those tasked with implementing it as per the requirements of Healthcare 2030.

The questionnaires administered to the 28 health professionals at both clinics under study sought to gain insight on health evidence use at facility level, its use and its impact on quality healthcare provision on clinical processes.

1.11.2 Secondary Data

Secondary data was obtained from annual patient survey reports at the two clinics, the WCDoH annual reports, the National Health Review reports by the National Department of Health and health assessment surveys by civil society organisations on healthcare quality measurement.

1.12 Data Analysis Techniques

While this research study, because of its policy evaluative focus, had a strong qualitative bias, data analysis also included the quantitative data from patient survey reports that were acquired from the two health centres under study. The merging of qualitative data (questionnaire responses

from health practitioners at the two health centres and policymakers at the WCDOH) and quantitative data (annual patient satisfaction survey reports from the two health centres) were done through thematic codes to ascertain whether or not the data being gathered by health policymakers to improve healthcare quality are leading to desired health outcomes, through positive patient experiences.

It is for this reason that data analysis techniques used for this research included analytic induction, document analysis, descriptive and evaluative coding, thematic analysis and descriptive statistics.

1.12.1 Analytic Induction

Analytic Induction (AI) is, according to Smelser and Bates (2001:84), a data analysis technique that collects data, develops analysis and organises the presentation of research findings. Its ability to establish a causal explanation between research findings will be instrumental in developing a research relationship matrix between the theoretical framework, research objectives and the research findings. There was need to have a clear narrative link between the theoretical underpinnings of this study and the trends informing quality healthcare in the Western Cape as espoused by the data gathered from the interviews and questionnaires.

1.12.2 Document Analysis

Document analysis was used as the main method of data collection and analysis for this study. Document analysis corroborates observational and interview data in order to produce evidence to interrogate what is being told (Yanow, 2007: 411). The documents that were analysed include patient survey reports at Bothasig CDC, Du Noon CHC, the WCDoH annual reports, the National Health Review reports by the National Department of Health and health assessment surveys by civil society organisations.

1.12.3 Descriptive and Evaluative Coding

Saldanha (2009:70-72) advises on the use of descriptive coding on studies that use document analysis because, due to the voluminous nature of information contained in documents, it summarises in a word or short phrase, the primary theme of a passage of data. It also leads primarily to a categorised inventory of the data's content.

Descriptive coding was used together with evaluation coding because the latter is appropriate for evaluation studies that use data which "is derived from individual interviews, focus groups, participant observation, surveys, and documents" (Saldanha, 2009:98-100).

1.12.4 Thematic Analysis

The qualitative data gathered for this study needed to be interpreted, explained and developed into a succinct structure. To achieve this, thematic analysis was used to define the themes that relate to the data gathered (Boyatzis, 1998:67). Thematic analysis of the data gathered was guided by the five research objectives identified for this study in order to answer the research questions and appropriately address the research problem.

1.12.5 Descriptive Statistics

The patient survey reports that were evaluated, as part of document analysis, were numerically rich and as such could only be reviewed using descriptive statistics. The use of descriptive statistics enabled the researcher to describe the basic features of the patient survey reports. Through the use of simple graphics analysis, the reports provided simple summaries about the samples and measures used to compile the patient survey reports.

1.13 Delineation of the Research

The research sought to ascertain the level of adoption of in-programme healthcare quality measurement methods used by the Western Cape government to fulfil the objectives set in its Healthcare 2030 vision document since 2014. The research primarily focused its attention on the senior management staff at the WCDoH who are responsible for implementing and evaluating Healthcare 2030, especially as it relates to quality healthcare. In order to get further insight into quality healthcare at the point of delivery, Bothasig CDC and Du Noon CHC were used as case studies. The researcher did not interview patients, as their input was covered by the two clinics in their annual patient surveys. An effort was made to engage middle and senior management staff to get their views on the provision of a quality healthcare service in their facilities.

1.14 Contribution of Study

This research sought to provide information to policymakers in the WCDoH on the efficacy of the interventions they have in place to improve quality healthcare provision in the Province as required by Healthcare 2030. It strove to highlight impediments that might be working against the full realisation of quality healthcare in the Province. The study highlighted how international best practice in quality healthcare can be adapted to strengthen similar systems in the Western Cape health infrastructure. The research inquiry will contribute to the body of knowledge on quality healthcare in South Africa in line with the objectives of the National Development Plan which identifies quality healthcare as a priority area of focus to improve the quality of life for citizens.

1.15 Ethics Statement

Research ethics, according to Burns and Grove (2003:85), refers to the principles of appropriate conduct that govern participant rights, researcher obligations and research data management. The significance of ethics for this study was premised on the need to ensure that the sample population participates voluntarily and the information they provide is shared according to the specifications provided for in the confidentiality clause in the letter of consent. Relatedly, the information gathered from patient survey documents secured from the two clinics under study will only be used for the purposes of this research and will not be used for any unrelated activities.

The researcher undertook to “honestly report data, results, methods, (and) procedures and not fabricate, falsify, or misrepresent data” (Resnik, 2015). The potential use of the research findings generated from this study by the WCDoH to improve healthcare quality measurement required that the margin of error in data collection and analysis be kept low. In this context, the researcher committed himself to abide by the guidelines governing health research in the Western Cape as defined by the Provincial Department of Health.

1.16 Chapter Outline

Chapter 1: Introduction and background

The purpose, objective and background of the research study was introduced in this chapter. Furthermore, a statement of the research problem was made as a foundational framework for the research question and the research objectives. The chapter concluded by giving a detailed outline of the research methodology that was used to address the research problem and fulfill the research objectives.

Chapter 2: Literature Review

Healthcare quality measurement is underpinned by a broad array of literature that captures national (South African) and international best practice. Chapter 2 critically analysed this literature in order to provide the context for healthcare quality measurement in the Western Cape Province. The chapter further explored the theories that inform healthcare quality measurement practice and their impact on healthcare output.

Chapter 3: Research Design and Methodology

Chapter 3 provides an outline of the research design and methodology used to gather primary and secondary data from the population under study. A critical analysis of the phenomenological research design approach was made to justify its use for this research study. The discussion

further explores how the descriptive evaluation method was essential in fulfilling the requirements of an evaluation study with a qualitative bias. The sampling method, data collection and analysis tools were also discussed in this chapter.

Chapter 4: Research Findings and Analysis

The raw data collected from the interviews, questionnaires and documents was coded and analysed in this chapter. The objective was to ascertain whether the data gathered adequately answered the research problem and addressed the research objectives.

Chapter 5: Conclusions and Recommendations

Conclusions were drawn from the analysis made on the raw data gathered in order to provide insight into the research question. Furthermore, recommendations were made on possible research focus areas to advance healthcare quality measurement in the Western Cape and across South Africa. Limitations encountered in carrying out this research were also discussed in this chapter.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Health scholars and practitioners are of the view that while there have been concerted efforts to improve universal access to healthcare, equal focus should be given to quality of care as a measure of improving equitable health outcomes and delivery of care (Das & Hammer, 2014; Martin *et al.*, 2016; Barnsteiner *et al.*, 2014; Atlas, 2016 & Leng, 2014). The need for quality healthcare provision has necessitated a demand for knowledge-driven health systems where data is gathered to evaluate performance, client satisfaction, clinical quality, health establishment standards and the professional development of health workers. Mainstream research on the quality of care has found expression through various sub-themes which include the development of healthcare quality measurement indices (South Africa Health Review, 2016), health system performance review (Smith & Papanicolos, 2013), healthcare quality strategy development (Joshi *et al.*, 2014) and national and international policy development (Brown, 2014). This chapter will give insight into global and South African literature informing the debates on quality of care assessment, why it has become an essential requirement for modern-day healthcare management and the challenges faced by those tasked with its implementation. A systematic comparative review of methodologies for quality of care assessment will provide the basis for highlighting whether or not the Western Cape Province's current approach meets set national and international standards. An endeavour will also be made to critically review the Western Cape government's Healthcare 2030 vision document as a means of evaluating its efficacy in line with current best practice on quality healthcare assessment.

2.2 Rationale for Healthcare Quality Assessment

Quality measurement in healthcare is a function of healthcare system performance management where health information is used for health plan performance evaluation using recognised quality standards. The health standard framework to improve quality is defined by indicators which include:

- the optimal use of healthcare services, with priority on patient safety;
- identification of healthcare enablers that facilitate improvement;
- ensuring accountability from healthcare providers;

- identification and elimination of disparities in the delivery of care and associated health outcomes; and
- capacitating consumers to make informed choices on health services rendered (Morris & Bailey, 2014:2).

The deliberate focus on healthcare quality assessment has largely been driven by rising costs, the need for accountability, inequality, medical injuries and errors, poor service and decreasing health budgets (Finkelman, 2017:26). The World Health Organization (WHO, 2016:15) is of the view that the focus on quality in health systems is prompted by the need to ensure that there is an incremental and timely provision of professional care for the attainment of health outcomes that are consistent with prevailing professional knowledge.

Performance measurement of healthcare quality produces evidence in the form of data sets that are central to enabling a health system to effectively and efficiently use its resources to achieve optimal health outcomes in the service of its users. Evidence generated from these assessments is instrumental in public health monitoring to inform safety interventions, treatment paths, professional development of healthcare staff and promotion of accountability (Smith & Papanicolas, 2013:1). Table 2.1 below provides a summary of the significance of information for quality improvement in a healthcare system:

Table 2.1 : Significance of information for healthcare quality improvement.

Source: (Erasmus, Poluta & Weeks, 2012. p.24)

<i>Stakeholder</i>	<i>Examples of needs</i>	<i>Data requirements</i>
Government	<ul style="list-style-type: none"> - Monitoring the health of the nation - Setting health policy - Ensuring that regulatory procedures are working properly - Ensuring that government finances are used as intended - Ensuring that appropriate information and research functions are undertaken - Monitoring regulatory effectiveness and efficiency 	<ul style="list-style-type: none"> - Information on performance at national and international levels - Information on access and equity of care - Information on utilisation of service and waiting times - Population health data
Regulators	<ul style="list-style-type: none"> - Protecting patients' safety and welfare - Ensuring broader consumer protection - Ensuring that the market is functioning efficiently 	<ul style="list-style-type: none"> - Timely, reliable and continuous information on patient safety and welfare - Information on probity and efficiency of financial flows
Payers (taxpayers and members of insurance funds)	<ul style="list-style-type: none"> - Ensuring money is being spent effectively, efficiently and in line with expectations 	<ul style="list-style-type: none"> - Aggregate, comparative performance measures - Information on productivity and cost-effectiveness - Information on access to (and equity of) care
Purchaser organisations	<ul style="list-style-type: none"> - Ensuring that contracts offered to their patients are in line with the objectives the patients expect 	<ul style="list-style-type: none"> - Information on patient experiences and patient satisfaction - Information on provider performance - Information on the cost-effectiveness of treatments
Provider organisations	<ul style="list-style-type: none"> - Monitoring and improving existing services - Assessing local needs 	<ul style="list-style-type: none"> - Aggregated clinical performance data - Information on patient experiences and patient satisfaction - Information on access and equity of care - Information on utilisation of service and waiting times
Physicians	<ul style="list-style-type: none"> - Staying up-to-date with current practice - Being able to improve performance 	<ul style="list-style-type: none"> - Information on current practice and best practice - Performance information benchmarks
Patients	<ul style="list-style-type: none"> - Being able to make a choice of provider when in need - Information on alternative treatments 	<ul style="list-style-type: none"> - Information on location and quality of nearby emergency health services - Information on quality of options for elective care
The public	<ul style="list-style-type: none"> - Being reassured that appropriate services will be available if needed in the future - Holding government and other elected officials to account 	<ul style="list-style-type: none"> - Broad trends in, and comparisons of, system performance at national and local level - Efficiency information - Safety information

2.3 Dimensions of the Healthcare System Measured for Quality Improvement

A healthcare system, according to the WHO (2015), should be structured to provide quality services for everyone through a professional staff contingent that is well resourced and is enabled through a free flow of information to inform decisions and supported through a well maintained physical infrastructure and reliable medicinal provision. The measurement of its components to improve quality of care requires a precise framework that defines the goals of the system against which outcomes can be derived and performance quantified (Strome, 2013:58). Avedis Donabedian (1988:1743), the developer of the Donabedian theoretical framework that this study is based on, posits that structure, process and outcomes are the core features that should constitute any framework designed to measure healthcare quality.

The Donabedian conceptual model is an essential tool in the development of healthcare quality indicators that act as a guide of what, how and where health assessments for quality should be made. Health indicators act as summary measures designed to describe specific aspects of a health system through measurable and actionable attributes in order to improve health outcomes. They fall into one of the six areas of healthcare quality measurements (Agency for Healthcare Research and Quality, 2016). These measures should be:

- safe: ensure that patients are not harmed by the health service being provided;
- effective: facilitate optimal use of health services to ensure maximum benefit to those who need it;
- patient-centred: provision of care that is responsive and caters for the needs and values of patients;
- timely: reduce delays in the provision of care;
- efficient: minimise waste to ensure optimal resource utilisation; and
- equitable: ensure the provision of quality healthcare to all people regardless of personal circumstances and socio-economic status.

Table 2.2 below provides an example of dimensions of health performance measures:

Table 2.2: Dimensions of health performance measures

Source: (Smith, 2014. p.4)

Measurement area	Description of measures	Examples of indicators
Population health	Measures of aggregated data on the health of the population	Life expectancy Years of life lost Avoidable mortality Disability-adjusted life-years
Individual health outcomes	Measures of individual's health status, which can be relative to the whole population or among groups Indicators that also apply utility rankings to different health states	Generic measures: • Short form 36 (SF-36) ^a • EQ-5D ^b Disease-specific measures: • arthritis impact measurement scale • Parkinson's disease questionnaire (PDQ-39)
Clinical quality and appropriateness of care	Measures of the services and care patients receive to achieve desired outcomes Measures used to determine if best practice takes place and whether these actions are carried out in a technologically sound manner	Outcome measures: • health status • specific post-operative readmission and mortality rates Process measures: • frequency of blood pressure measurement
Responsiveness of health system	Measures of the way individuals are treated and the environment in which they are treated during health system interactions Measures concerned with issues of patient dignity, autonomy, confidentiality, communication, prompt attention, social support and quality of basic amenities	Patient experience measures Patient satisfaction measures
Equity	Measures of the extent to which there is equity in health, access to health care, responsiveness and financing	Utilization measures Rates of access Use-needs ratios Spending thresholds Disaggregated health outcome measures
Productivity	Measures of the productivity of the health care system, health care organizations and individual practitioners	Labour productivity Cost-effectiveness measures (for interventions) Technical efficiency (measures of output/input) Allocative efficiency (measured by willingness to pay)

2.4 Global Perspectives on Healthcare Quality Measurement

2.4.1 The Organisation for Economic Co-operation and Development (OECD) Experience

The OECD, as an economic grouping of the world's most advanced economies, faces health challenges that are different from countries in the developing world. Murray (2013:591) asserts that countries such as the United Kingdom (UK), Australia and the United States of America (USA) are faced with unique challenges that range from a growing elderly population, a rise in chronic diseases and enhanced public expectations as a result of easy availability of information from the Internet. This explains why safety and the quality of care have been made national priorities in the pursuance of healthcare quality, largely as a consequence of medical errors and the resultant demands by their populace for efficient health systems (Gauld, 2014:4). The United States National Association for Healthcare Quality (NAHQ, 2012) notes that, while there has been an emergence of a safety culture to improve healthcare quality, an immediate shortcoming has been the unavailability of infrastructure to facilitate precise reporting of patient safety and concerns. In the UK, the National Health Service (NHS) Litigation Unit states that the NHS's total expenditure on clinical negligence claims has risen from £769,2 million (R13 billion¹) in the 2008-9 financial year to £1,1 billion (R18,7 billion) in the 2013-14 financial year (Robinson, 2017). The Australian Commission on Safety and Quality in Healthcare (ACSQHC, 2015) argues that while information about safety incidents in Australia is gleaned from various sources such as research surveys and patient complaints, challenges still remain regarding collecting holistic data on issues affecting the primary healthcare system.

Despite these challenges, governments in OECD countries mentioned above have made concerted efforts to foster health performance measurement for quality improvement. The interventions made include regular health system performance reviews, national health infrastructure strengthening, integrated performance information systems, enforcement of quality standards and financial incentives (Secanell *et al.*, 2014:8). In the USA, the President's Commission appointed in 1997 to assess the quality of healthcare in the country, recommended the promulgation of patient rights legislation and capacitation of the health system to enable it to be responsive and effective (President Advisory Commission, 1998). The Commission's most notable achievement was the establishment of the National Forum for Quality Measurement and Reporting which brought together 100 organisations from the public and private sectors to develop a common framework for performance measures across the health services sector. This initiative was born out of a realisation that the USA had extensive knowledge in health performance which

¹ Using the exchange rate (£1 – R17.05) from Standard Bank for the 19th of December 2016.

was not being put to effective use, including a fragmented system where two performance-evaluation reporting categories existed, namely hospital-provided care and health plan sponsored care (Damberg *et al.*, 2014:6). As a testament to the growing importance of healthcare quality among policymakers, the Agency for Health Research and Quality has, since 2003, produced the National Healthcare Quality Report and the National Healthcare Disparities Report to track progress made against the National Quality Strategy (Agency for Healthcare Research and Quality, 2015).

The pursuit of healthcare quality in the UK has been attained by default through a deliberate universal access healthcare system managed through the National Health Service (NHS). In 1998, the UK Department of Health, through a national policy position paper, repositioned the NHS mandate to ensure access to high quality care through establishment of national standards, a national institute of excellence, statutory provisions for clinical governance, a new entity to monitor quality standards and a performance assessment framework (UK Department of Health, 1998). In Australia, the Australian Council for Safety and Quality in Healthcare (ACSQHC) was established in 2000 as a vehicle to facilitate safety and healthcare quality improvement in the country. Its model approach to quality measurement centres around ensuring that all stakeholders in the healthcare system are represented from Australian governments (at both state and national level), physicians, consumers, and academics to managers (National Health Performance Committee, 2001:11). The work of ACSHQ is complemented by the National Institute of Clinical Studies (NICS) and the National Health Priorities Action Council (NHPAC) through partnerships on priority areas to bridge the divide between health performance data, and practice and coordination of national priority areas (National Health Performance Committee, 2000).

Table 2.3 below outlines government strategies to improve healthcare quality in the USA, Australia and the UK:

Table 2.3: Strategies to improve healthcare quality in USA, Australia and UK

Source: (McLoughlin, 2001. pg 460)

Strategies	US	UK	Australia
Public reports describing quality problems and calls for improvement	President's Commission on Consumer Protection and Quality in Health Care; Institute of Medicine: Quality and Safety Reports	The New NHS – Modern and Dependable A first class service. Quality in the NHS NHS Plans An Organization with Memory	Reports of expert national committees Final Report of the Taskforce on Quality in Australian Health Care; National Expert Advisory Group Interim and Final Reports Safety and Quality Council: Safety First
Establishing national bodies/programs to improve capacity for measuring and monitoring performance	National Forum for Quality Measurement and Reporting	Development of National Service Frameworks National Clinical Assessment Authority National Patient Safety Agency National Performance Framework	National Health Performance Committee
Public reporting of performance, national and local	National Quality Report developed for 2003 by the Agency for Healthcare Research and Quality Voluntary and mandated reporting at local levels	Public reporting on some elements of performance down to local levels	Annual Performance Reports as part of the Australian Health Care Agreements; Annual Reports of the National Health Performance Committee and its predecessor
Establishing national bodies to improve capacity for safety and quality improvement	Refocusing of Agency for Healthcare Research and Quality	NICE Commission for Health Improvement National Service Frameworks in priority disease areas NHS Modernization Agency	Australian Council for Safety and Quality National Institute of Clinical Studies National Health Priority Action Council
Systemic use of incentives	State and Federal (CMS) requirements for measurement, reporting and improvement as conditions of participation in Medicare and Medicaid	Performance Agreements at Treasury level Clinical governance within agency contracts Mandated compliance with National Service Frameworks	Quality Improvement and Enhancement Funds as part of the Australian Health Care Agreements; A variety of Federal and State requirements at local and national levels eg incentive payments to General Practice for improved patient outcomes for diabetes and asthma

2.4.2 The African Experience

The quality of healthcare in Africa is still beset with structural and operational challenges that impact negatively on the continent's health outcomes on an annual basis. According to the WHO Regional Report for Africa (2014:84):

- On average, Africans live 14 years fewer than the average world citizen, and 21 years fewer than the average European.
- Maternal mortality ratio per 1000 live births stands at 510 against a South East Asian average of 190 and a European average of 17.
- While the world average for children under 5 mortality rate per 1000 live births stands at 51, the African average is 103.
- Africa has 2,3 doctors per 1000 people, which is one tenth less than that of Europe.

The causative factors contributing to these poor health statistics range from the debilitating impact of the Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS), poor primary healthcare provision among the poor and vulnerable members of society, inadequate health budgets, corruption, infrastructure challenges and the pay-as-you-go system which require the poor to pay upfront to access healthcare (KPMG, 2012). In April 2001, African heads of state met in the Nigerian capital, Abuja, where a pledge was made in the form of the Abuja Declaration to allocate a minimum of 15% of their annual budget to improve the health sector (OAU, 2001). However, according to WHO (2011), progress towards this target has been slow with only South Africa, Zambia, Togo, Rwanda, Madagascar and Botswana meeting the target and spending over US\$ 44 per capita on healthcare.

From this background, it is apparent that in a situation where 25 countries are spending less than 10% of their budgets on health, the operational strengthening of the healthcare delivery value chain system is essential to bridge the funding gap and improve health outcomes. Azevedo (2017:82) is of the view that an Afrocentric model for improvement in health system performance is essential for the reversal of declining health outcomes through:

- primary healthcare focus instead of acute diseases. Ethiopia employed this approach resulting in primary healthcare coverage for 80% of the population by 2014;
- prioritising the use of mobile units to reach people, thereby decongesting health centres through less foot traffic;

- utilising telemedicine to reach remote areas; and
- regulating and promoting the production of generic drugs and pharmaceuticals by local health entrepreneurs to reduce the high cost of medicine.

On the other hand, Kawonga, Blaauw and Fonn (2012:41) suggest that health system integration will help improve performance. Their conclusion was necessitated by an observation they had made on South Africa's vertical HIV monitoring and evaluation system which, they argued, necessitated poor health system co-ordination. They therefore, proposed an HIV monitoring and evaluation system integration with the overall national Health Information System (HIS) in order to ensure improved reporting within the health system hierarchy.

Africa's health governance system does not lack in policy propositions to advance healthcare quality, especially at primary health level. In addition to the Abuja Declaration, the African region was party to the 2012 United Nations General Assembly resolution which enjoined signatories to promote universal health coverage through primary healthcare, social protection and sustainable financing (United Nations, 2013). In order to achieve these objectives, the World Health Organization advised member states that they should invest in health systems research so as to ensure accessibility and affordability of health services to their citizens (WHO, 2012:5). WHO reasoned that health systems research will complement support research on health through:

- research on health priorities;
- health research capacity building;
- creating a framework for research norms and standards; and
- using health evidence in decision-making.

Zambia was a pioneer in the development of a national health quality improvement programme in Africa. In 1994, the Zambia Quality Assurance Programme (ZQAP) was launched to build capacity at district and health centre levels by training staff to set standards for health services, monitoring health indicators and developing skills for team-based problem solving (Bouchet, 2002:91). Through the country's Service Quality and Performance Audit Unit, Bouchet (2002:92) posited that some of ZAQA's major achievements included:

- the formulation of quality committees at Provincial and District hospital levels;
- country-wide training of 230 health staff through a team-based and problem-solving approach;

- health management information system linkages with the problem-solving processes; and
- implementation of a national accreditation programme for hospitals.

For a continent that is bereft of working knowledge on national healthcare quality system development, Zambia offers practical lessons for sub-Saharan Africa. Although challenges remain, the country has made progress in inculcating a quality assurance culture within its health system. As part of health systems strengthening, Zambia needs to facilitate the co-ordination of health standards, compliance measurement of clinical care standards and regularisation of inconsistent support systems (Mutale, 2013:8).

2.5 South Africa's Health System: An Overview

2.5.1 Macroeconomic Fundamentals

Research evidence points to the significant relationship that exists between healthcare performance and the economy (Miranda, 2014:72). This is especially true for public healthcare provision which is dependent on tax revenue for funding. It is important to understand the South African public health system within the context of the country's macroeconomic fundamentals. According to the benchmark provided by the World Bank, through its International Comparison Programme, South Africa is classified as an upper middle-income country (World Bank, 2008:131). The country's GDP per capita amounts to USD\$13,208 in terms of purchasing power parity while real GDP stands at \$314.6bn (World Bank, 2015). Since the global financial crisis of 2007-2008 in which the global financial system was constrained by a credit downturn and the resultant Great Recession, economic growth in South Africa has averaged about 1% per annum (Investopedia, 2016). In terms of the deliberate distributive economic policy pursued by the government since 1994 to address structural inequality in the economy necessitated by the apartheid legacy, the consistently low growth rates have limited the government's ability to expand its social transfer programmes in the form of child and old age grants, among others (McIntyre, 2007). With an estimated population of 56,52 million (StatsSA, 2017), an issue of concern in South Africa is the high unemployment rate of 27.1% (Business Tech, 2016). The trend is considered to be the biggest single threat to socio-economic stability (Malakwane, 2012:11).

2.5.2 Healthcare Financing

South Africa's dual healthcare system is such that a well-off minority, through private health insurance, accesses the private health sector for their health needs while the rest of the population makes use of government-run public healthcare facilities. Jobson (2015:8) argues that the division

of the healthcare delivery system is a consequence of the apartheid system's disproportionate spend on urban areas to meet the healthcare needs of the white population at the expense of the black population. The consequences of this approach continue to affect the health outcomes of the black population in South Africa. After the 1994 transition from Apartheid to a democratic dispensation, the new government adopted a White Paper in 1997 calling for health system transformation – an undertaking which heralded the first major policy initiative to transform and develop an enabling policy and legal framework to overhaul the healthcare system, and to establish a deracialised and integrated public health system (DPME, 2014:3).

Due to a disproportionate amount of poor and unemployed South Africans, healthcare remains the sole responsibility of the National Department of Health which is tasked with providing healthcare through taxpayer-funded public health facilities. Public health spending accounts for 13,1% of the national budget (National Treasury, 2016:77). While this figure misses the 15% target in the Abuja Declaration, it is higher than the 5% of GDP recommended by the World Health Organization (WHO, 2012:82). Figure 2.1 below shows a year-on-year real increase in health budgets - a scenario which has been the outcome of a deliberate government policy to improve equity through shifting budget allocations towards historically poor Provinces for the provision of primary healthcare.

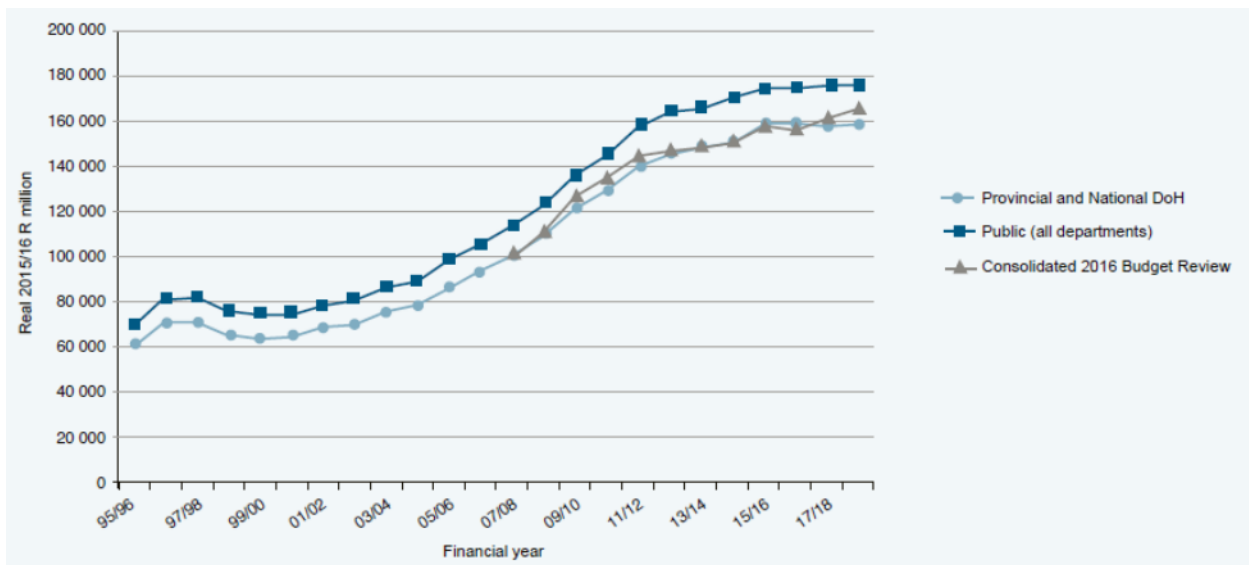


Figure 2.1 South Africa Public Healthcare Spending
 Source: (Blecher et al, 2016. page 213)

Despite these high levels of investment in the public healthcare system, Britnell (2015:76) reveals that there still remains a significant imbalance in healthcare finance, where five times more is spent on each person on medical aid than on a person using the public healthcare system. The

situation belies the fact that the wealthiest portion of the population which benefits from this skewed healthcare financing structure, bears the lowest burden of disease. In addition, users of private healthcare are spared from the service delivery shortcomings that continue to affect the public healthcare sector. Public healthcare is beset with shortcomings ranging from administrative inefficiencies and inadequate quality of care to poor infrastructure (Jobson, 2015:9). In spite of these disparities, however, both private and public healthcare users are affected by out-of-pocket spending where they are made to make cash payments to cover a shortfall in the cost of medicine or a health service that costs more than a medical aid can cover. Cleary *et al.* (2013:39), calls it the most regressive form of healthcare financing as it exacerbates the challenge of access to quality healthcare, especially for disadvantaged members of society.

2.5.2.1 National Health Insurance

In an effort to bridge the funding disparities in the health system, healthcare quality imbalances and glaring inequalities between the public and private health sectors, the government has proposed the introduction of a National Health Insurance (NHI) through a White Paper issued in 2015. The Department of Health (2015:7) states that the NHI “is a health financing system that is designed to pool funds to provide access to quality, affordable personal health services for all South Africans based on their health needs, irrespective of their socioeconomic status”.

A review of the policy by Jobson (2015:11) led the researcher to conclude that the NHI is premised on the need to strengthen the public health system by co-opting the private system through a universal insurance system designed to promote access for all based on equity, affordability and social solidarity. Concerned health policy researchers have, however, questioned the utopian values of the NHI and its affordability given South Africa’s limited fiscal position. Gray and Vadwa (2016:5) argue that universal health coverage is a complex process and the NHI White Paper in its current form fails to provide details on how the proposed financing options will be funded by Treasury. The Centre for Development and Enterprise (Bernstein & CDE, 2011:26), on the other hand, raises issue with a ‘free at the point of use’ scheme that intends to be funded by a system where only 5,9 million people are registered taxpayers.

While the contestation of ideas continues between the need to balance affordability and social justice in healthcare provision, the thought process behind initiating a concept such as NHI reveals the government’s realisation of the growing importance of an efficient and quality health service, especially in primary healthcare. The ongoing debate on NHI can help re-energise efforts meant to transform the public health sector and improve the quality of care given to its underserved users.

2.5.3 Burden of Disease

In his 2016 budget vote speech on Health in Parliament, the Minister of Health, Mr Aaron Motsoaledi, indicated that the burden of disease in South Africa is characterised by four colliding epidemics which are commonly referred to as the quadruple burden of disease (Department of Health, 2016). They include:

- HIV and AIDS and TB;
- maternal and child mortality;
- the increasing burden of Non-Communicable Diseases (NCDs); and
- injury, violence and trauma, especially on the roads.

According to the Statistics SA report (2014:18) on causes of death in South Africa, the major causes of death in 2013 came from:

- infectious diseases (HIV, TB, viral infections, intestinal infectious diseases and protozoa): 23%;
- circulatory system (heart diseases, cerebrovascular diseases and hypertensive diseases): 17%;
- accidents and external causes (medical and surgical complications, assault, transport accidents, accidental injury and intentional self-harm): 10%;
- respiratory system (chronic lower respiratory diseases, influenza and pneumonia): 10%;
- cancers/neoplasms (breast, lymph, male genital, digestive organs, respiratory and female genital): 8%; and
- metabolic disorders (malnutrition and diabetes mellitus): 6%.

The fact that most people use the public healthcare system as compared to the private health sector means that healthcare quality outcomes in the former will continue to be depressed as a result of shouldering the greatest burden of disease with limited operating resources.

Despite the country's middle-income status, South Africa has consistently ranked lower on major health indicators. Data from the Medical Research Council's Rapid Mortality Surveillance System reveals that life expectancy for males at birth stands at 57,2 while females can expect to live until 62,8, with the mortality rate averaging 42 per 1000 live births (Dorrington, 2012:i). This contrasts

markedly with middle-income averages for a country such as India that has a life expectancy for males of 64, with females living up to 68 years (WHO, 2014:42). As part of its quality of care improvement policy approach, the government has taken steps to decrease morbidity and mortality by adopting a National Health Strategic Framework that seeks to improve quality of care provided, improve communication and enhance the mobilisation and management of human resources (Department of Health, 2012:17).

Of all the diseases that the government is addressing through its health intervention programmes, none has received more attention than HIV and AIDS. This is primarily because of the concentrated negative impact it is having on South African society when compared with other countries. Blecher *et al.* (2016:36) posits that South Africa has the highest number of people with HIV, including those on anti-retroviral treatment (ART) in the world. As of December 2015, the Department of Health points out that there were between 6,4 – 6,8 million people who were HIV infected while 3,26 million were on ART treatment (Department of Health, 2015:6). The immediate impact of the burden of this disease has been the pressure it has exerted on the public healthcare budget. Despite the donor support that South Africa has been receiving from international donors such as the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), the government still has had to redirect 61% of the HIV/AIDS budget towards the ART programme for the 2015/16 financial year (National Treasury, 2015:12). The financial cost, notwithstanding the need for healthcare workers, increased significantly as a result of the HIV epidemic where community healthcare workers were needed to provide home-based care, voluntary counselling and testing (Jobson, 2015:5). Although the trend has changed markedly since the roll-out of a national anti-retroviral programme, it has been established through research that, at its peak, the epidemic was the single largest contributor to a decline in the country's life expectancy at birth (Bor, 2013:962).

2.6. Healthcare Quality Improvement in South Africa: Key Interventions

Developing a culture of quality improvement within the healthcare system has been a priority of the national government since the adoption of a White Paper in 1997 calling for health system transformation. The policy gained further impetus through the National Development Plan (NDP), a multi-year plan designed to guide government in achieving socio-economic growth until the year 2030. One of its key priorities is achieving “quality healthcare for all” (National Planning Commission, 2012:52). To this end, the recently promulgated White Paper for a National Health Insurance financial system envisions universal health coverage and comprehensive quality healthcare services for all (Department of Health, 2015:16). The centrality of the quality factor can

be seen in a three-phased approach to NHI implementation which is staggered through a fourteen-year approach which includes:

- Phase 1 - focused on strengthening the public health sector, through capacitating key enablers such as the Office of Health Standards Compliance (OHSC);
- Phase 2 - focused on population registration and purchase of non-specialist primary healthcare services from both public and private service providers; and
- Phase 3 - fully operationalising the NHI fund and making it a single payer of all comprehensive health services (Gray and Vadwa, 2016:62).

2.6.1 Ideal Clinic Programme

In 2013, the National Department of Health launched the Ideal Clinic Programme (ICP) as a policy intervention to spearhead the improvement of PHC facilities and the quality of care rendered by them. An ideal clinic, according to the working definition provided by the Health Systems Trust (HST) – the NDoH partner organisation for the ICP, is a facility that uses applicable clinical policies, has adequate staff, medicine, functional administrative processes, adequate infrastructure and operational bulk supplies (Steinhobel, Massyn & Peer, 2015:9). During a briefing to the Parliamentary Portfolio Committee on Health to give a progress report on the Ideal Clinic Initiative, the Committee Chairperson, Ms Dunjwa, stated that the initiative was as a result of a realisation by the NDoH, through its assessment of facilities between 2009 and 2011, that clinics were not primed to deliver on the goals of the NHI because of poor management, lack of facilities and equipment, poor staffing and poor location (SAMED, 2016). The Western Cape Province was not included in this three-year progress report, including the HST report on the Ideal Clinic Programme because it only became part of it in 2016. This research will, therefore, provide a micro view of the quality of healthcare in the Western Cape through the Du Noon and Table View Clinics, from the point of view of the Province's Healthcare 2030 vision document. The research's auditory assessment of the vision document on healthcare quality in the Province is further made relevant by the directive given by the National Health Council on 24 April 2015 in which it asked all Primary Healthcare Centres (PHC) to be Ideal Clinic compliant by 2018 (Department of Health, 2015:18).

The Ideal Clinic Initiative, as depicted in Figure 2.2 below, uses a 10-component assessment framework which, when applied to a health facility, its performance is determined:

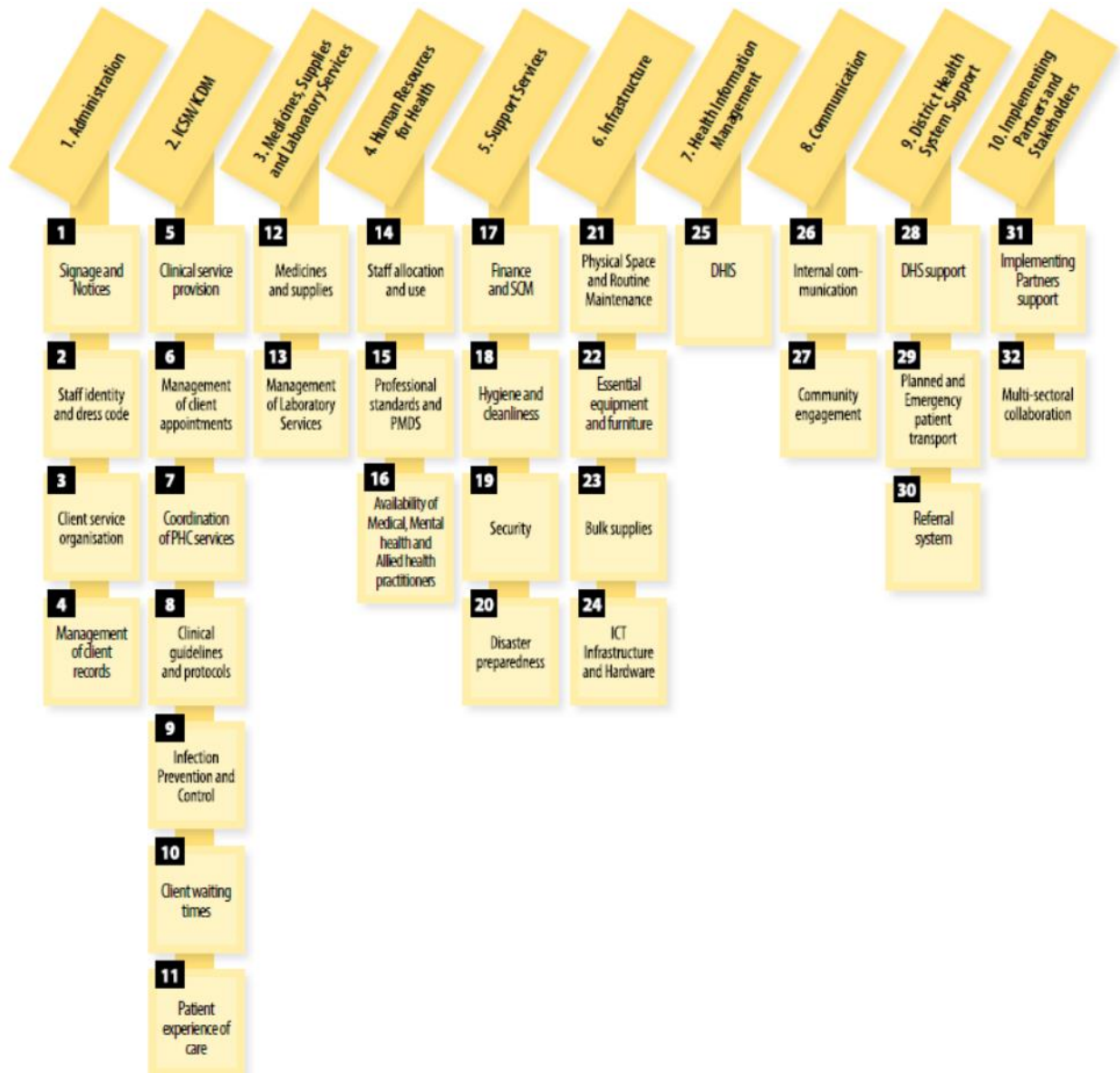


Fig 2.2 Ideal Clinic realisation and maintenance components and sub-components.
Source: National Department of Health, (2016:page 3)

Healthcare quality improvement is only made possible if policy interventions are developed from reliable evidence or data derived from the health behaviours of any given population. South Africa took a concrete step in this regard by developing a District Health Information System (DHIS) to manage health data. The DHIS is a product of the National Health Act (Act 61 of 2003) designed to collate data from various sources using routine or survey data collection methods, and convert this information into quality data to measure service delivery (Department of Health 2012:11). In

2011, a DHIS Policy was released by the Department of Health in which it was reasoned that the information management instrument will improve the availability health data for efficient and effective planning, leading to the betterment of health outcomes (Department of Health, 2011:8). The DHMIS has seven priority areas which include information coordination, data management, indicators, data security, data analysis, data dissemination and health information systems.

As an audit of the quality measurement methods used by the Western Cape Department of Health (WCDoH) to improve healthcare quality in the Province, this research will ascertain the extent to which the WCDoH (cognisant of the need to optimise the performance of the DHMIS in the Province) has developed healthcare measurement indices that are reflective of the need to address challenges currently being faced by DHMIS as identified by the Department of Health (2011:14), namely:

- poor alignment between health sector objectives, performance indicators and information systems;
- limited involvement and collaborative efforts between programme managers at district, provincial and national levels on data validation, analysis and use;
- failure to standardise the DHIS leading to ad hoc implementation of indicators;
- shortage of personnel with experience in information management, mostly as a result of poor career development pathways - this has negatively impacted processes aimed at developing an accurate assessment of health sector performance;
- underdeveloped information and communication technology (ICT) infrastructure has impeded progress towards the regular use of web-based systems and remote data storage - poor Internet connectivity and the use of personal emails are some of the challenges faced by health information management personnel;
- unavailability of paper-based data collection tools and limited attention given to the efficacy of data collection tools often present structural difficulties in the health system performance value chain;
- poor internal controls on basic software such as Windows and anti-virus software often create challenges in formal training, on-the-job support and skills transfer among staff; and
- emergence of vertical data collation systems due to donor-driven programmes.

2.6.2 National Standards for Healthcare Quality

From the foregone sections in this chapter, a case has been made on the centrality of the National Department of Health in setting standards for healthcare provision in the country, with Provinces and local governments as implementing partners. The NDoH has maintained a similar kind of approach to improving healthcare quality. In 1995, it approved the registration of the not-for-profit Council for Healthcare Service Accreditation for Southern Africa (Whittaker, 1996) to facilitate quality development and accreditation of South African hospitals. The Council for Health Service Accreditation of Southern Africa (COHSASA) accreditation programme, on both private and public healthcare facilities has, according to Whittaker (2011), produced evidence to show that quality improvement interventions improve patient safety, quality of care and help identify areas for improvement.

The National Core Standards (NCS), developed by the Office of Standards Compliance in the National Department of Health, are one of the benchmarks that will be used to audit the Western Cape Province's healthcare quality measures on their efficacy in generating evidence to improve health outcomes. A core function of the NCS is to set the benchmark in public health establishment's standards, in what it terms as 'an expected level of performance' (Department of Health, 2007). Table 2.4 below outlines the seven domains which form the structure of the NCS to reflect a health systems approach:

Table 2.4 Seven domains of the National Core Standards

Source: National Department of Health. 2011: page 10)

Domain	Sub-domain
<p>Domain 1: Patient Rights</p> <p>The domain of Patient Rights sets out what a hospital or clinic must do to make sure that patients are respected and their rights upheld, including getting access to needed care and to respectful, informed and dignified attention in an acceptable and hygienic environment, seen from the point of view of the patient, in accordance with Batho Pele principles and the Patient Rights Charter.</p>	<p>Respect and dignity information to patients Physical access Continuity of care Reducing delays in care Emergency care Access to package of services Complaints management</p>
<p>Domain 2: Patient Safety, Clinical Governance and Care</p> <p>The Patient Safety, Clinical Governance and Clinical Care domain covers how to ensure quality nursing and clinical care and ethical practice; reduce unintended harm to healthcare users or patients in identified cases of greater clinical risk; prevent or manage problems or adverse events, including health care-associated infections; and support any affected patients or staff.</p>	<p>Patient care Clinical management for improved health outcomes Clinical leadership Clinical risk Adverse events Infection prevention and control</p>
<p>Domain 3: Clinical Support Services</p> <p>The Clinical Support Services domain covers specific services essential in the provision of clinical care and includes the timely availability of medicines and efficient provision of diagnostic, therapeutic and other clinical support services and necessary medical technology, as well as systems to monitor the efficiency of the care provided to patients.</p>	<p>Pharmaceutical services Diagnostic services Therapeutic and support services Health technology services Sterilisation services Mortuary services Efficiency management</p>
<p>Domain 4: Public Health</p> <p>The Public Health domain covers how health facilities should work with NGOs and other healthcare providers along with local communities and relevant sectors, to promote health, prevent illness and reduce further complications; and ensure that integrated and quality care is provided for their whole community, including during disasters.</p>	<p>Population-based service planning and delivery Health promotion and disease prevention Disaster preparedness Environment control</p>
<p>Domain 5: Leadership and Corporate Governance</p> <p>The Leadership and Corporate Governance domain covers the strategic direction provided by senior management, through proactive leadership, planning and risk management, supported by the hospital board, clinic committee as well the relevant supervisory support structures and includes the strategic functions of communication and quality improvement.</p>	<p>Oversight and accountability Strategic management Risk management Quality management Effective leadership Communications and public relations</p>
<p>Domain 6: Operational Management</p> <p>The Operational Management domain covers the day-to-day responsibilities involved in supporting and ensuring delivery of safe and effective patient care, including management of human resources, finances, assets and consumables, and of information and records.</p>	<p>Human resource management and development Employee wellness Financial resource management Supply chain management Transport and fleet management Information management Medical records</p>
<p>Domain 7: Facilities and Infrastructure</p> <p>The Facilities and infrastructure domain covers the requirements for clean, safe and secure physical infrastructure (buildings, plant and machinery, equipment) and functional, well managed hotel services; and effective waste disposal.</p>	<p>Buildings and grounds Machinery and utilities Safety and security Hygiene and cleanliness Linen and laundry Food services</p>

Enforcement of the NCS was made possible through the National Health Amendment Act of 2013, which led to the establishment of the Office of Health Standards Compliance to expedite complaints from healthcare users through investigations, and ensuring that health facilities and healthcare providers comply with norms and standards of the national health system (National Health Amendment Act, 2013:6).

Of particular significance to this research were the findings made by the Facilities Baseline Audit led by the Health Systems Trust (Visser, Bhana & Monticelli, 2013:18) during 2011 and 2012 where it was established that:

- some Provinces have quality deficits in a number of Provinces. The audit suggested a need for more intensive quality improvement interventions; and
- the majority of clinics across the country were barely able to meet 50% of the NCS requirements.

2.7 Healthcare 2030 and the Provincial Approach to Healthcare Quality

The literature reviewed thus far revealed that South Africa has a comprehensive framework for healthcare quality standards to guide policymakers and practitioners in improving the quality of care within the health system. This framework provides explicit criteria against which healthcare quality measurement methods used by the Western Cape Department of Health, in fulfilment of Healthcare 2030, will be audited to ascertain their relevance in gathering health data or evidence to address the health needs of the population. In this regard, it is essential to critically review the policy document on its approach to healthcare quality improvement.

Healthcare 2030 is a multi-year strategic document that was released in 2014 which will guide the Provincial Department of Health in achieving optimal health outcomes until the year 2030. One of the principles underpinning the vision document is the provision of person-centred quality of care. The document identifies three core areas to achieve this objective, namely (Western Cape Department of Health, 2014:14):

- patient-centred experience;
- caring for the carer; and
- improving technical quality.

On the basis of these core areas, the auditory research will assess the effectiveness of the methods used to generate evidence to attain improved quality of care outcomes in the Province. It is this research's submission therefore, that healthcare quality is only as good as the nature of evidence used to improve it. The healthcare quality improvement methods that are identified in Healthcare 2030 are:

- annual patient satisfaction campaigns;
- health complaints management;
- complying with national core standards, entrenching clinical governance and infection control, and rationalising processes to facilitate continuity of care;

- engaged, empowered, effective and efficient employees; and
- building a culture of continuous improvement.

The seminal work of Burger *et al.* (2016:37) on current methods used in the South African health system to measure client satisfaction and clinical quality, will provide the intellectual base from which the audit of the patient-centred approach of Healthcare 2030 will be interrogated. While they acknowledge the imperative to strengthen healthcare quality in South Africa, they argue that while national core standards used by the OHSC and quality indicators used for the Ideal Clinic Initiative are necessary, they remain structurally deficient on the measurement of clinical quality of health services rendered. They recommend that client satisfaction surveys should be complemented with new methods on patient satisfaction measurement like anchoring vignettes while enhancing clinical quality measurement through standardised or simulated client approaches, clinical knowledge tests, direct observation and including questions on clinical dimensions of client-provider interaction. The extent to which the Western Cape Department of Health has gone to improving the efficacy of its healthcare measurement tools, as suggested by Burger *et al.* (2016:23), will be one of the dimensions that will form the basis of this audit research.

2.8 Chapter Summary

The attainment of equitable health outcomes is a function that rests on the optimal functionality of general healthcare provision and the quality of care defining the health services being rendered. This chapter provided insight on the literature informing the significance of healthcare quality measurement and how it impacted health system performance. It was established that a health system should be measured on dimensions relating to effectiveness, efficiency, accessibility, acceptability, equitability and safety. Practical examples of healthcare performance measurement for quality improvement were drawn from the OECD and African experiences. This approach helped locate the context of South Africa's healthcare system and how it impacted the quality of health services provided. At the policy level, the centrality of quality healthcare in government policy was reflected in the National Health Insurance (NHI) and the National Development Plan (NDP). South Africa was shown to have a comprehensive healthcare quality improvement framework that is guided by instruments such as the Ideal Clinic Programme, District Health Information System and National Core Standards. It is this framework that will guide the audit of the efficacy of healthcare measurement methods suggested in Healthcare 2030 as they guide the process of achieving healthcare quality in the Province. The audit will be on the three core areas identified for quality improvement by the vision document, namely patient-centred experience, caring for the carer and improving technical quality.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The adopted research methodology used to achieve the purpose and objectives of this research study is presented in this chapter. The purpose of this exploratory and descriptive study was to explore the efficacy of in-programme healthcare quality assessment methodology utilised by the Western Cape Department of Health (WCDoH) to generate health evidence needed to improve healthcare quality in the Province's primary healthcare facilities as envisioned in the vision document Healthcare 2030. The chapter explains the rationale for the utilisation of the qualitative research methodology, key features of the study's locus, the sampling procedure for primary data collection, the secondary data mapping procedure, the data analysis techniques, the ethical statement, delineation of the research, limitations of the study and its contribution to the field of quality healthcare improvement in South Africa. The chapter concludes by giving a summary of the methodology that guided the research.

3.2 Research Design

This study made use of the phenomenology research design to generate and integrate research data relevant to the research problem. A research design is a strategic framework of action composed of a set of instructions designed to address the research problem and answer the research questions (Mouton, 1996:164; McMillan & Schumacher, 2001:83).

3.2.1 Rationale for the Phenomenology Research Design

The experiences and knowledge gained by the officials at the WCDoH headquarters in Cape Town and healthcare professionals (at Bothasig CHC and Dunoon CHC), on health data generation and use, were essential in determining whether appropriate health evidence was being acquired to improve healthcare quality in line with the objectives of Healthcare 2030. The phenomenology research design facilitated the explanation of the phenomenon of healthcare data generation in the Western Cape to improve healthcare quality.

The aim of adopting of this approach was to collate the experience and knowledge of people involved with the topic (Maypole & Davies, 2001:56). The objective was to collect information using qualitative methods and to present this data from the perspectives of research participants. This was achieved through the collation of participant perceptions derived from discussions, interviews and observations, and presenting the data gathered from the perspective of research

participants (Lester, 1999). The above approach helped the researcher gain an informed perspective from the subject practitioners from a descriptive point of view.

3.3 Research Methodology

The descriptive focus of the study meant that qualitative methodology was used to achieve the research objectives. Qualitative methodology places much emphasis on discovery and description, with its primary objective focused on extracting and interpreting the meaning of experience (Denzin & Lincoln, 2003:103). Qualitative methods seek to better understand the situation at hand through detailed exploration and development of interpretations to existing situations (Eysenck, 2004:523). Qualitative research enables a researcher to navigate the complexities of experiences in the socio-cultural world and develop a holistic understanding rather than a reductionist perspective (Schram, 2006:23). For descriptive studies, the research information acquired through the qualitative approach is often not expressed in numerical terms as emphasis is on the stated experiences of participants and the meaning attached to their operating environment.

3.3.1 Rationale for Qualitative Research Methodology

In order to produce the data necessary to understand the process flow of health evidence generation to improve healthcare quality, it was essential that the research method chosen reflects the essence of the research objective. Qualitative research methodology's intensive description and analysis of a phenomenon made it suitable for this study because of its core characteristics which include:

- studying of real-world situations, commonly known as the naturalistic approach;
- the flexible pursuit of paths of discovery as they emerge; and
- affinity with purposive sampling in order to gather insight about the research problem (Patton, 2002:19).

The qualitative approach helped the researcher develop insightful knowledge on the WCDoh's health evidence generation and use, the significance of healthcare quality in the healthcare value chain, the role of professionals and non-professionals in improving quality of care and the impact that these competing interests have on the attainment of Healthcare 2030 healthcare quality objectives.

3.4 Locus of the Study

The WCDoH is divided into nine Directorates (at its headquarters in the Cape Town central business district) and health facility-based staff (at the Province's various health facilities across the Province). The office-based staff contingent comprised Chief Directors who oversee the 9 Directorates. Health facility-based staff are made up of clinic administrators and healthcare professionals.

The office-based staff at the WCDoH headquarters in central Cape Town are responsible for ensuring that health systems are implemented and operate optimally across the Province's health facilities. In turn, health facility-based staff at Bothasig Community Day Centre (CDC) and the Du Noon Community Health Centre [CHC], are tasked with providing a quality health service and generating health data in real-time on patient outcomes. The two healthcare facilities are primary healthcare facilities and they were chosen because they cater, mostly, for the poor who are unable to afford private healthcare. If the NDP and Healthcare 2030 are to achieve healthcare quality objectives outlined in their respective visions, it is envisioned that the healthcare quality for the poor who use primary healthcare facilities must improve incrementally until 2030.

3.4.1 WCDoH Office-Based Staff

The role of the WCDoH office-based staff is to ensure that primary, secondary, tertiary, specialised and emergency healthcare are delivered optimally to all residents in the Province. The Department is managed through eight Chief Directorates, namely the Strategy and Health Support, Metro District Health Services, General Specialist and Emergency, Financial Management, Human Resources, Rural District Health Services and Health Programmes.

These Chief Directorates, in turn, are responsible for the co-ordination and management of various sub-directorates which fall under them.

Due to the limited scope of this research, the survey focused on the Chief Directors who are responsible for the eight Directorates mentioned above. The research chose to focus on the heads of these directorates to gather insight on how they collect and aggregate health evidence to improve healthcare quality in the Province.

The role of each Directorate is depicted in Table 3.1 below:

Table 3.1: Functions of Directorates in the Western Cape Department of Health

Chief Directorate	Role
Financial Management	provide a financial administrative service
Metro District Health Services	management of the district health service for the metro district
Rural District Health Services	management of the health service in the Province's rural hinterland
Health Programmes	ensure, facilitate and control comprehensive public health programmes
Strategy and Health Support	co-ordinate, integrate and provide health information and administrative support to the Department.
Infrastructure and Technical Management	ensure the implementation of the Hospital Revitalisation Programme
Human Resources	develop and maintain effective human resource development, training and capacity building for personnel and communities.
General Specialist and Emergency Services	ensure the optimal functioning of the specialist and emergency health services in the Province.

3.4.2 WCDoh Health Facility-Based Staff

Du Noon CHC and Bothasig CHC form part of the Western Cape's primary healthcare network. Primary healthcare facilities are the foundation of the public health system as they are at the coalface of attending to people in need of healthcare services. Their services are offered free of charge.

South Africa's primary healthcare system is such that every clinic has a referral path to a Community Health Centre (CHC) and a district hospital, in that order. Should a medical case require further sophisticated treatment, Tertiary and Academic hospitals are there to offer advanced diagnostic procedures and treatment. This final tier of the health system also serves as training institutions for healthcare professionals.

The size of Community Health Centres (CHC), which form part of the primary healthcare system, and were the focus of this study, is often determined by the number of clinics to which it is linked. In the Cape Town metro district, the population that each CHC serves ranges from an average of between 30 000 to 120 000 (Chikotie, 2010:53).

3.4.2.1 Du Noon Community Health Centre

The Du Noon CHC, operational since December 2014, replaced a clinic previously run by the City of Cape Town until 2012, but was constrained by infrastructural challenges. A temporary facility was used as part of the transition process to capacitate the staff's ability to offer services of a full Community Health Centre (CDC).

The Du Noon CHC provides a diversified Primary Healthcare Service Package which encompasses chronic disease treatment and care, emergency services, child health, women's health and digital radiography services. It mostly serves the community of Du Noon including clients who reside within the drainage areas of Table View, Joe Slovo, Milnerton, Sanddrift, Albow Gardens, Parklands and Marconi Beam. In addition, people working at the various industrial and commercial sites in Killarney and Montague Gardens also have direct access to health services offered at the facility.

Du Noon CHC forms part of the Southern Western substructure of the Metro District Health Services (MDHS). Due to considerable growth in the northern corridor, the Du Noon CHC caters for an estimated population of ninety thousand. On an average day, 750 patients visit the facility of which 180 are patients collecting chronic medication.

According to the Clinic Manager, the current staff composition at Du Noon CHC is shown in Table 3.2 below:

Table 3.2: Composition of staff at Du Noon CHC

Source: Questionnaire response from the Du Noon CHC Clinic Manager

Designation	Filled posts	Vacant posts
Emergency Certified Medical Officers	2	0
Emergency Certified Practice Nurse Specialty	4	2
Outpatient Department Medical Officer	5	0
Outpatient Department Certified Nurse Practitioner	5	0
Child Health Certified Nurse Practitioner	2	0
Child Health Medical Officer	1	0
Midwife Obstetric Unit Midwives	6	4

3.4.2.2 Bothasig Community Health Centre

The Bothasig Community Day Centre (CDC), formerly run as a day clinic by the City of Cape Town since 2008, was taken over by the WCDoH in late 2016. This takeover by the Province was necessitated by complaints from community members who indicated that they had to travel long distances for chronic medication and other medical care.

Located along Swellengrebel Avenue, the Bothasig CDC now offers primary health services which include chronic disease management like hypertension, diabetes and asthma as well as offers services like mental health, wound care, eye care, a pharmacy and a full time medical officer. However, patients who require X-rays and oral health services are still being referred to the Goodwood CDC.

Approximately 3000 adults who had been using the Goodwood CDC, now have direct access to the services they need at the Bothasig CDC. Services that were offered previously have been expanded in scale and these include ante-natal care, curative services, preventative services for children, reproductive health and HIV care.

According to the Clinic Manager, the current staff composition at Bothasig CDC is shown in Table 3.3 below:

Table 3.3: Composition of staff at Bothasig CDC

Source: Questionnaire response from the Bothasig CDC Clinic Manager

Post	Total number of Professionals
Medical Officer	1
Clinical Nurse Practitioners	5
Professional Nurse General	1
Enrolled Nurses	3
Enrolled Nursing Assistants	3
Pharmacists	2
Post Basic Pharmacists	2

3.5 Population

This study did not interview patients as the WCDoH already conducts annual patient satisfaction surveys that seek to gauge the quality of health services rendered from the patient's viewpoint. Instead, the research evaluated whether the questions asked are reconciled with the healthcare quality objectives of Healthcare 2030 on a patient-centred healthcare system. In addition, an attempt was made to determine how the information generated from these surveys is utilised to facilitate health system improvement and improved patient experience.

The study population was composed of office-based health administrators from the WCDoH and health facility-based staff from Bothasig CDC and Du Noon CHC. The office-based staff contingent is composed of Chief Directors of the 8 identified Chief Directorates. Health facility-based staff, on the other hand, is made up of clinic administrators and healthcare professionals.

3.5.1 Office-Based Health Administrators

An electronic open-ended questionnaire was distributed to the eight Chief Directorates based at the WCDoH headquarters in order to gather insight on how they collect and aggregate health evidence to improve healthcare quality in the Province.

3.5.2 Health Facility-Based Staff

Bothasig CHC and Du Noon CHC were central to the attainment of the main objective of this study as they shed light on whether quality healthcare, as envisioned in Healthcare 2030, was being attained at health facility level. The vision document proposes to improve quality at health facilities through patient-centred experience, caring for the carer and improving technical quality.

The health facility staff at Bothasig CHC and Du Noon CHC who were interviewed for this research on the processes in place to generate and use health evidence to improve healthcare quality include a sample of healthcare professionals currently employed at the two facilities. The hospital managers at the two facilities responded to an open-ended questionnaire, while the rest of the healthcare professionals responded to a closed-ended questionnaire.

3.6 The Research Sample

Purposive sampling was used to select 36 individuals for this research from the WCDoH's office and health facility-based staff. Purposive sampling is a qualitative research technique that identifies and selects information-rich cases from either groups or individuals knowledgeable about a phenomenon of interest (Cresswell & Plano Clark, 2011:28).

The attainment of healthcare quality outcomes is an integrated approach which requires cross-departmental cooperation. As such, the 36 individuals selected for this study represented a cross section of the health delivery system for the WCDH (as depicted in Table 3 below). They were either involved in health evidence generation or health evidence use to improve health outcomes. Table 3.4 below represents a cross-section of the respondents selected for this study:

Table 3.4: Cross section of health administrators selected for study

WCDoH Chief Directorates [8]			
<ul style="list-style-type: none"> - Chief Director: Metro District Health Services - Chief Director: Rural District Health Services - Chief Director: Health programmes - Chief Director: Financial Management - Chief Director: Strategy and Health Support - Chief Director: Infrastructure and Technical Management - Chief Director: Human Resources - Chief Director: General Specialist and Emergency 			
Health Facility Based Staff: Bothasig CDC [12] and Du Noon CDC [16]			
Bothasig CDC		Du Noon CDC	
Clinic Manager	1	Clinic Manager	1
Medical Officer	1	Emergency Certified Medical officers	1
Clinical Nurse Practitioners	3	Emergency Certified Practice Nurse Specialty	2
Professional Nurse General	1	Outpatient Department Medical Officer	3
Enrolled Nurses	2	Outpatient Department Certified Nurse Practitioner	3
Enrolled Nursing Assistants	2	Child Health Certified Nurse Practitioner	1
Pharmacists	1	Child Health Medical Officer	1
Post Basic Pharmacists	1	Midwife Obstetric Unit - Midwives	4

3.7 Questionnaire Design

The primary data-gathering instruments for the selected population was done through self-administered key informant open-ended and closed-ended questionnaires. Open-ended questionnaires were administered to office-based health administrators and clinic managers while data from health facility-based staff was gathered through closed-ended questionnaires.

Both sets of data-gathering instruments were distributed electronically to the respective groups.

Open-ended questionnaires were used for the office based staff and hospital managers at both Bothasig CDC and Du Noon CDC because it gave the respondents the freedom to freely answer questions as and when they found time within their schedule. It also removed the added pressure from respondents to respond immediately, without first thinking through an answer, which often comes with face-to-face interviews. Most importantly, open-ended questionnaire interviews are relatively unobstructive, easily administered, easily managed and allows respondents to formulate answers in their own words (Groves *et al.*, 2004:46).

Furthermore, the questionnaire for the office-based staff and hospital managers at both Bothasig CDC and Du Noon CDC, did not only give an overview of the current state of the health system in the Province but also highlighted how the various directorates were integrating their efforts to enable the use of health evidence to achieve healthcare quality objectives set out in Healthcare 2030.

Closed-ended questionnaires were administered to health facility based staff at Bothasig CDC and Du Noon CDC as part of an attitudinal assessment to determine the level of awareness on health evidence generation and use among health workers at these facilities. The successful use of health evidence to meet the healthcare quality objectives of Healthcare 2030 will partly depend on the attitude health personnel have on health evidence generation and use, to achieve quality outcomes on evidence-based practice.

In addition, the closed-ended questionnaire for health facility-based staff helped to generate information on how health evidence is generated and used to improve patient/user experience, enhance staff morale and optimise health facility performance.

This research's five research questions formed the basis upon which the questionnaires to the different segments of the research population were designed. The first step in the design of questionnaires is the development of questionnaire items that are aligned to concepts identified in the research question (Greenfield, 2002:89). Data requirement areas that were covered by the questionnaires include information generation mechanisms at primary healthcare facilities, health information management by the WCDoH, patient involvement in health evidence generation, attitudinal approach to health evidence use and generation by health staff, use of health evidence for healthcare quality outcomes and the progress made to meet the healthcare quality objectives set in Healthcare 2030.

3.8 Data Collection

This study made use of primary and secondary data to gain insight into the effectiveness of in-programme healthcare assessment methods used by the WCDoH to generate health evidence needed to improve healthcare quality in the Province as envisioned in the Healthcare 2030 vision document.

3.8.1 Primary Data

Primary data was gathered from open and closed-ended questionnaires that were administered on the selected participants. Office-based health administrators provided a general overview of how their respective directorates were positioned to use health evidence to improve healthcare quality. The health facility-based staff provided specific information on how health evidence is being generated and used to improve health quality, and whether these processes are succeeding in meeting the healthcare quality objectives outlined in Healthcare 2030.

The primary data collected was organised in terms of the following themes:

- how the various directorates collect and aggregate health evidence to improve healthcare quality in the Province;
- the WCDOH's strategic direction, especially as it relates to how its programmes are impacting health service quality;
- integration and provision of health information in the WCDOH;
- the methodological framework for health evidence generation to improve quality; and
- how health-impact assessments are facilitating the co-ordination and monitoring of health programmes to ensure quality of healthcare.

3.9 Secondary Data

The multi-year policy document, Healthcare 2030, acted as a guide in mapping out secondary data sources that were consulted and evaluated for this study. The policy document maps out the objectives that the Province hopes to achieve on its quest for a quality healthcare system. As such, periodic performance documents detailing progress being made to eventually meet quality healthcare targets by 2030, and the methods and processes being used to achieve this, were consulted.

As such, secondary sources reviewed and focused on the Western Cape Province, include:

- strategic plans;
- annual reports;
- annual performance plans;
- healthcare quality assessment studies by civil society organisations; and
- reports by the National Department of Health.

Most importantly, the research performed a detailed analysis of the instruments used by the WCDoH on their patient satisfaction surveys. The analysis evaluated data that they have gathered through these instruments and the nature of the questions asked. The objective was to determine whether the approach used is aligned with the wider healthcare quality objective of Healthcare 2030, which is to ensure a patient-centred approach to healthcare.

3.10 Data Analysis Techniques

As explained in Chapter One, this research made use of data analysis techniques that are primed to evaluate data on research studies with a strong qualitative bias. To this end, the selected data analysis techniques were chosen based on the extent to which they were aligned to the data value chain analysis framework. Open Data Watch (2018) describes data value chain as the evolution from data generation, dissemination to impact on decision-making. The data value chain analysis framework helped to establish whether a symbiotic relationship existed between health evidence generation, application and healthcare quality outcomes in the Western Cape.

The data analysis techniques that were used for this study include analytic induction, document analysis, descriptive and evaluative coding, thematic analysis and descriptive statistics.

3.10.1 Analytic Induction

Analytic Induction is primarily concerned with data collection, analysis and presentation of research findings (Smelser & Bates, 2001:402). This technique was instrumental in helping the researcher to establish trends, relationships and any data anomalies from primary and secondary sources used for this study. It informed the approach in organising research findings in a manner that ensured that the primary research question was adequately addressed.

3.10.2 Document Analysis

The inherent characteristic of document analysis is to aggregate interview data in order to produce trends on what is being told (Yanow, 2007:67). This is critical to help determine whether the WCDoH's operational approach is fulfilling its healthcare quality objectives through health evidence generation and use. Documents analysed include (from 2014 onwards) the WCHoH's strategic plans, annual reports, annual performance plans, healthcare quality assessment studies by civil society organisations and reports by the National Department of Health.

3.10.3 Descriptive and Evaluative Coding

The patient survey reports that were evaluated, as part of document analysis, are numerically rich and as such needed to be reviewed using descriptive statistics. The use of descriptive statistics enabled the researcher to describe the basic features of the patient survey reports. Through the use of simple graphics analysis, they provided simple summaries about the samples and measures used to compile the patient survey reports.

The use of descriptive coding of studies was necessary because of its inherent ability to summarise in a word or short phrase a theme in a passage of data. It also leads primarily to a categorised inventory of the data's content (Saldanha, 2009:48).

3.10.4 Thematic Analysis

The qualitative data gathered for this study needed to be interpreted, explained and developed into a succinct structure. To achieve this, thematic analysis was used to identify themes that relate to data gathered (Boyatzis, 1998:101). Thematic analysis of the data gathered was guided by the five research objectives identified for this study as there was need to answer the research questions and appropriately address the research problem.

3.11 Ethical Considerations

A researcher is ethically bound to ensure the protection of all participants in a research study (Marshall & Rossman, 2006:73). Participants must participate voluntarily and they should be made aware of the study's purpose. The first step in protecting participants and their well-being, with regards to the information that they share, was to ensure that appropriate safeguards were put in place to prevent any potential ethical threats.

The researcher undertook to "honestly report data, results, methods, procedures and not fabricate, falsify, or misrepresent data" (Resnik, 2015). Although consent to conduct the study had already been granted by the WCDoH, the researcher made sure that written consent was received from each participant confirming their voluntary participation. The researcher further made a commitment to keep the names and any significant characteristics of the participants confidential. Research records and data were secured to ensure that no one, other than the researcher, has access to it.

3.12 Delineation of the Research

The research explored the efficacy of in-programme healthcare quality assessment methods used by the WCDoH to generate health evidence needed to improve healthcare quality in the Province's primary healthcare facilities as envisioned in the vision document Healthcare 2030 since 2014. Primary data was gathered from the WCDoH's office-based staff (WCDoH headquarters) and health facility-based staff (Du Noon CHC and Bothasig CHC). Secondary data was acquired from the WCDoH's strategic plans, annual reports, annual performance plans, healthcare quality assessment studies by civil society organisations and reports by the National Department of Health. The researcher did not interview patients, as these were covered by Du Noon CHC and Bothasig CDC in their annual patient surveys. The review of patient satisfaction

surveys was to determine if the approach used in their conduct is aligned with the wider healthcare objective of Healthcare 2030 which is to ensure a patient-centred approach to healthcare.

3.13 Limitations of the Study

A limiting feature of this research study relates the common criticism often levelled against qualitative research methodologies, especially the research design used. The use of in-depth qualitative interviews would have been the most appropriate primary data collection tool for this study, but an open-ended questionnaire survey, administered through email, was chosen instead.

The use of the latter was informed by the potential difficulty that the researcher would have faced in securing one-on-one interview slots with health administrators and practitioners in the WCDoH. These research participants are saddled with a disproportionate amount of work necessitated by a shortage of staff in the health sector, which often means they struggle to find time to do anything else. As such, the researcher reasoned that an emailed open-ended questionnaire survey gave them the freedom to answer questions as and when they got time during their busy schedules, without the added pressure of an interpersonal interview.

Recognising the limitation often associated with emailed questionnaires, that of inhibiting follow-up questions, the researcher took an active approach to mitigate this risk. Participants were notified that, should there be need for further clarification on the questions asked, a once-off follow-up email would be sent to the participant.

3.14 Contribution of the Study

An evaluation conducted by the National Department of Health on the District Health Management System in 2011, concluded that the quality of information collected to improve healthcare was affected by minimal attention given to the efficacy of data collection tools needed for information generation. In 2012, the Facilities Baseline Audit carried out by the Health Systems Trust concluded that no Province was at the required level to meet the National Core Standards (NCS) and that clinics were struggling to meet 50% of the NCS requirements. These shortcomings are occurring after a 2007 National Policy on quality healthcare which tasks Provincial Health departments to commit to quality assurance and continuous quality improvement. From this background, this study sought to ascertain the effectiveness of in-programme healthcare assessment methods used by the Western Cape Department of Health to generate health evidence needed to improve healthcare quality in the Province as envisioned in the Healthcare 2030 vision document. The research inquiry exposed any impediments that might be hindering the optimal generation and use of health evidence in the Province to improve healthcare quality.

3.15 Chapter Summary

This chapter was a detailed outline of the research methodology that was used to meet the objectives of this study. Qualitative research methodology was used to help give insight into the efficacy of in-programme healthcare quality assessment methods used by the WCDoH to generate health evidence needed to improve healthcare quality in the Province's primary healthcare facilities as envisioned in the vision document Healthcare 2030. Using purposive sampling, a sample of thirty six (36) participants from the WCDoH's office-based and health facility-based staff were chosen to participate in the study. Data collection from this research sample was done through an emailed questionnaire survey. Secondary data sources that were used to complement primary data include the WCDoH's strategic plans, annual reports, annual performance plans, healthcare quality assessment studies by civil society organisations and reports by the National Department of Health. In view of the qualitative nature of the study, the qualitative data analysis techniques that were used include analytic induction, document analysis, descriptive and evaluative coding and thematic analysis. This research will determine the effectiveness of in-programme healthcare assessment methods used by the Western Cape Department of Health to generate health evidence needed to improve healthcare quality in the Province as envisioned in the Healthcare 2030 vision document.

CHAPTER 4

RESEARCH FINDINGS AND DATA ANALYSIS

4.1 Introduction

The following chapter presents empirical results of data that was gathered to gain insight into the efficacy of in-programme healthcare quality assessment methods used by the Western Cape Department of Health (WCDoH) to generate health evidence needed to improve healthcare quality in the Province's primary healthcare facilities as envisioned in the vision document Healthcare 2030. Thirty-six participants (8 office-based Chief Directors from the WCDoH, 16 healthcare personnel at Du Noon CHC and 12 healthcare personnel at Bothasig CDC) were recruited to answer open and closed-ended questionnaires. The participants were selected to shed light on the prevailing attitudinal disposition of healthcare personnel to evidence generation, institutional support for quality healthcare and health evidence evaluation and use.

Using content analysis, data gathered was analysed through two thematic focus areas and their associated sub-themes, namely:

Table 4.1: Thematic focus areas and Sub-themes

Themes	Sub-Themes
Health generation	- Patient centred care - Caring for the carer - Tangibles - Evidence-driven healthcare - Health system functionality
Health evidence use	- Culture of data use - Data quality - Technical functions - Healthcare quality assessments

Primary data sources that were used for this analysis include the questionnaire responses from office-based and health facility-based staff.

Secondary data, which falls under the healthcare quality outcome category, was gleaned from:

- patient satisfaction surveys conducted by the WCDoH between 2014-2017;
- WCDoH annual reports and annual performance plans;
- health performance reports from the Office of Health Standards and Compliance (OHSC);
and

- reports from Community Support Organisations (CSOs).

Healthcare quality indicators for the Western Cape Province, in the aforementioned reports, assisted in shedding light on whether a correlation exists between health evidence generation, use and associated health outcomes.

4.2. Themes from Research Data

Content analysis of the data collected from interviews and secondary data sources created a knowledge map that defined the themes and sub-themes of this analysis, as depicted in Table 4.2 below:

Table 4.2: Themes and Sub-themes for data analysis

Theme	Sub-themes	Data set derived from
Health evidence generation	<ul style="list-style-type: none"> - Patient-centred care - Tangibles - Evidence-driven healthcare - Health system functionality 	<ul style="list-style-type: none"> - Interview feedback from health facility-based staff at Bothasig CDC and Du Noon CHC - Patient satisfaction surveys - Reports from NGOs and CSOs
Health evidence use	<ul style="list-style-type: none"> - Culture of data use - Data quality - Technical functions - Healthcare quality Assessments 	<ul style="list-style-type: none"> - Interview feedback from health facility-based staff at Bothasig CDC and Du Noon CHC - Health system assessment reports at provincial and national level - Reports from NGOs and CSOs

4.3 Health Evidence Generation

This theme analysed the system of health evidence generation at facility level from the perspective of healthcare 28 professionals at both Bothasig CDC and Du Noon CDC. Clinic managers at both facilities answered an open-ended questionnaire while the rest of the health professionals responded to a closed-ended questionnaire.

The closed-ended questionnaire that was administered on health professionals (excluding the clinic managers at the two facilities), at Bothasig CDC and Du Noon CHC allowed respondents to register their answers by making a mark on four possible choices labelled as ‘Strongly Disagree’, ‘Disagree’, ‘Not sure’, ‘Agree’ and ‘Strongly Disagree’.

The questions asked in both questionnaires were grouped under six sub-themes, listed below. These sub-themes speak to the totality of the healthcare service delivery, attitudinal disposition of healthcare professionals to health evidence generation and institutional functionality. The healthcare quality function of each sub-theme is described as follows:

- Patient-centred care: positioning the patient to be the focus of the healthcare delivery process as measure to foster quality;
- Caring for the carer: giving adequate support to healthcare professionals and listening to their input to improve healthcare quality;
- Tangibles: functionality of the physical building that houses the health facility;
- Evidence-driven healthcare: attitudinal disposition of healthcare professionals to an evidence driven health system; and
- Health system functionality: efficiency of in-house routine functions in a health facility.

4.3.1 Patient-centred Care

The vision of Healthcare 2030 is to facilitate access to patient-centred quality of care. Central to the attainment of this objective are responsive and empathetic professionals who are committed to the delivery of a quality health service. In order to evaluate the prevalence of this understanding among healthcare professionals, five questions, outlined in Table 4.3, were asked.

Table 4.3: Indicator on patient centred care

Sub Theme	Question	Question Code
Patient-centred care	Healthcare Professionals	
	- Patients are receiving a satisfactory healthcare service .	PCC1
	- The continuity of a care process in place in the health facility is delivering better health outcomes in patient care.	PCC2
	- Patients follow and listen to the medical advice given by health professionals.	PCC3
	Clinic Managers	
	- What operational framework is in place to manage client waiting times, patient experience of care, client appointments, infection, prevention and control?	PCC4
- How are the annual patient survey reports used to improve healthcare quality in the clinic?	PCC5	

Despite the consistently high foot traffic which has increased service pressures and congested Primary Healthcare Facilities (WCDoh, 2016:15), healthcare professionals at both health facilities strongly hold the view that patients are receiving a satisfactory healthcare service. Figure 4.1 below shows that 25 respondents either 'Agreed' or 'Strongly Agreed' with the service being offered to patients with only 1 respondent, from Bothasig CDC, disagreeing. The Bothasig Clinic Manager outlined that patient experience is enhanced at the facility through a two-pronged approach that involves the efforts of the:

...Infection, Prevention and Control Policy Committee to fast track priority attendance of at risk patients and the use of an electronic appointment system with slots to improve efficiency...

The view held by the health professionals is in tandem with the findings of Statistics South Africa's General Household Survey which points out that only 19% of the users of the Western Cape's public healthcare facilities are inclined to be dissatisfied with their level of public healthcare (StatsSA, 2017: 23).

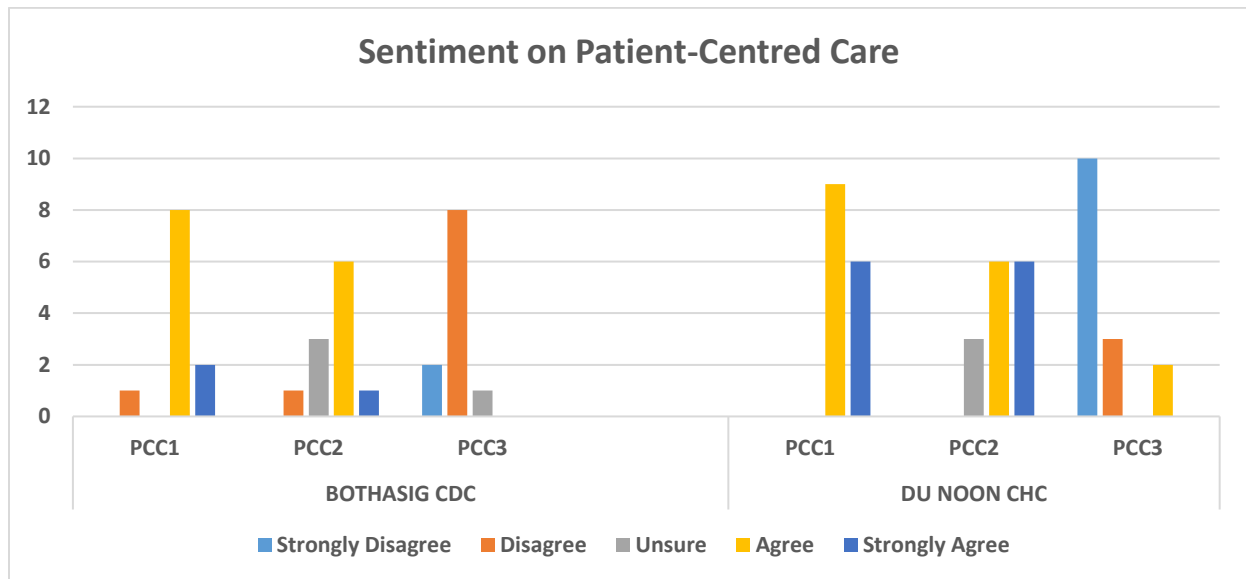


Figure 4.1: Sentiment on patient-centred care

In fact, of the 4 189 respondents surveyed at Du Noon CHC by the WCDoH, through its patient satisfaction survey between 2014 – 2017, 83% expressed a general satisfaction with the health service provided. In comparison, 89% of respondents surveyed at Bothasig CDC in 2017 for the same indicator expressed satisfaction with service delivery. The low margin of error on statistics produced by the WCDoH's patient satisfaction survey tool, when compared with characteristically similar surveys such as StatsSA's general household survey and this study's data on patient-centred care, suggests that the WCDoH could well be on course to building a patient-centred healthcare system sustained by quality data. It helps, as pointed out by the Du Noon CHC manager, that:

Heads of Departments at the facility use results from the health satisfaction surveys to decide on necessary interventions and action plans to improve service delivery.

The positive sentiment expressed by health professionals on the appropriateness of the health service being given to patients is further reinforced by the confidence they exhibited in the 'continuity of care' process. 'Continuity of care' refers to the sustained medical treatment process that patients go through until their medical condition is stabilised and treated. 70% of respondents from both health facilities stated that they either 'Agreed' or 'Strongly Agreed' that the continuity of care being provided was delivering better health outcomes in patient care. A holistic view of this indicator, however, can only be valid if measured against scientific data defining patient perspectives. In this instance, the WCDoh's patient satisfaction survey tool (Appendix A) is deficient. It fails to ask patients questions on whether they are receiving adequate aftercare support or whether their health condition is improving from the health service they are receiving.

While health professionals at both health facilities concur that patients are receiving a satisfactory healthcare service and continuity of care, they similarly hold a view about the failure of patients to follow and listen to medical advice. The concern is such that 23 respondents out of the 27 interviewed 'Strongly Disagreed' or 'Disagreed' with the notion that patients follow instructions given. Such high levels of non-compliance among patients raises concern as to whether or not the reduction of the burden of disease, identified in Healthcare 2030, can be achieved. It is essential therefore, that the WCDoh develops a measurement metric to gauge the progress of medical advice compliance over time.

4.3.2 Caring for the Carer

The success of any public healthcare system relies on its ability to maintain positive satisfaction rates among its healthcare professionals. This is often determined by how their workload is managed, availability of professional development opportunities and the value that the health system gives to their input to improve service delivery. It is for this reason that the questionnaire, using questions listed in Table 4.4, sought to elicit prevailing job satisfaction rates among health professionals at both Bothasig CDC and Du Noon CHC.

Table 4.4: Indicator on caring for the carer

Sub Theme	Question	Question Code
Caring for the carer	- I am given adequate support to do my job.	CCC 1
	- My input to improve service delivery is valued and listened to.	CCC 2
	- My workload is manageable.	CCC 3
	- I receive continuous training to improve the service I provide to patients.	CCC 4

Out of 26 respondents, only 2 were 'Unsure' and 1 'Disagreed' with the notion that they were being given adequate support to do their job. While the concept of 'job support' and the satisfaction derived from its provision are relative to the post held by a respondent, it is still worth pointing out that even for the 23 respondents who expressed satisfaction with job support, 19 'Agreed' with it with only 4 in the 'Strongly Agree' identifier. The absence of a strong affinity to the concept of 'job support', can also be found on the question of continuous training, where only 20 respondents 'Agree' that training is a key feature of their professional development, partly confirming the commitment made by the WCDoH in its 2017 Annual Report that there should be a pathway for the training of health workers (WCDoH, 2016: 63).

The passive acknowledgement by the respondents to the sentiment of adequate job support, confirms the need by the WCDoH to consider its approach in providing that support. Even if healthcare professionals agree that they are receiving adequate support, the data-gathering exercise on this sentiment must still gather adequate qualitative input on what they think should be done to improve the quality of job support being given. In this regard, the WCDoH has an opportunity because, as depicted in Figure 4.2, 87% of the respondents think that their input to improve service delivery is often valued. This open communication can be leveraged by the department to gain insight into specific areas that can be capacitated to improve job satisfaction.

On the amount of work that they have to shoulder, Figure 4.2 below shows that eight respondents from Du Noon CHC and two respondents from Bothasig CDC strongly disagreed that their workload was manageable. This negative sentiment, shared with eight more respondents from both facilities in the 'Disagree' identifier, is consistent with national trends. Rising workloads are forcing public health officials to leave the sector and join the private sector or leave the health profession altogether. It is revealing that while this trend has persisted over time, a lethargic approach to filling vacant posts is remains prevalent. Du Noon CHC currently has six unfilled posts and this places undue pressure on available staff who are forced to shoulder the extra work.

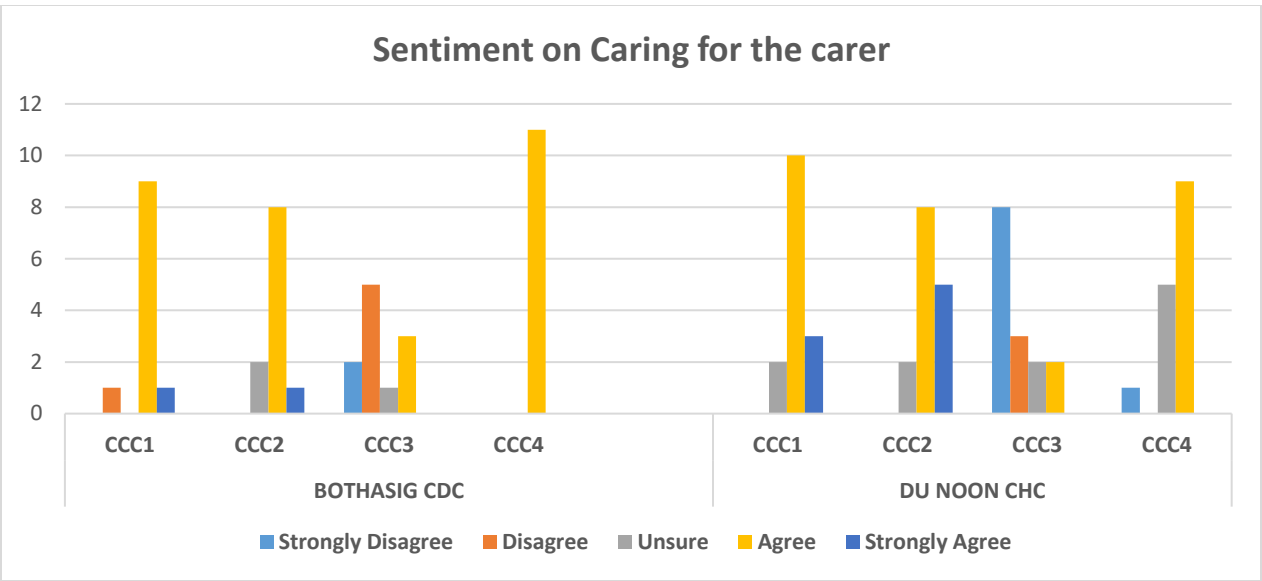


Figure 4.2: Sentiment on caring for the carer

4.3.3 Tangibles

Improvements in the quality of care, as a function of the healthcare process, is intrinsically tied to the conditions of the operational environment within which it is delivered. Inhospitable health facilities not only degrade the work conditions and performance of health officials, but also pose a risk to the healing process of patients who visit the health facility. On measuring the ‘Tangibles’ indicator at Bothasig CDC and Du Noon CHC, this study obtained operational insight into the physical state of both facilities from the perspective of health professionals. The questions asked, as highlighted in Table 4.5, proffered insight into the relationship that exists between health facility physical infrastructure and quality healthcare.

Table 4.5: Indicator on Tangibles

Sub Theme	Question	Question Code
Tangibles	- The health facility infrastructure is well maintained and always operates optimally.	T 1
	- Do you consider the clinic’s physical infrastructure (essential equipment, bulk supplies and ICT infrastructure) to be adequate to the requirements for quality healthcare? If not, what can be done to improve them?	T 2

A consistent characteristic which emerged from the data gathered was that 55% of respondents at Bothasig CDC and 39% at Du Noon CHC 'Unsure' of whether the health infrastructure of their respective health facilities was well maintained and always operated optimally. It is an admission that raises questions on the appropriateness of existing facilities to deliver a quality health service and their adequacy in supporting the population that the health facility is meant to serve. The Office of Health Standards Compliance (OHSC) report on health inspection, gave the Western Cape 69% on health facility access but pointed out that some facilities had ramps which lacked handrails, toilets were unavailable for the disabled and health establishment entrances did not have sign posts(OHSC, 2016: 114). The Du Noon CHC manager concurred with the notion of inadequate physical infrastructure by pointing out that clinical services needed were increasing and *"clearly there was need for space and medical staff..."*.

The admission of infrastructure inadequacies by respondents indicates that the WCDoH needs to rethink its approach to health facility management, away from the current focus of care and maintenance. Infrastructure development should take into cognisance the needs of professional health staff and the patients they serve. A patient-centred health system must not be restricted to clinical concerns, but should be a system-wide approach that involves patients in the development of infrastructure.

4.3.4 Evidence-driven Healthcare

Awareness of Healthcare 2030's objectives among healthcare professionals is essential in determining whether the vision of a patient-centred healthcare system can be achieved. Key to this consideration is whether the concept of health evidence is understood, and the role it plays in improving quality in healthcare. As such, questions in this category, as stated in Table 4.6, sought to test the knowledge of respondents on health evidence with the context of the Healthcare 2030 vision document.

Table 4.6: Indicator on evidence-driven healthcare

Sub Theme	Question	Question Code
Evidence-driven healthcare	- I am well versed with the contents of Healthcare 2030.	EDH 1
	- Provision of quality healthcare is improving with time in the health facility.	EDH 2
	- The Western Cape is on course to achieve to achieve a patient-centred healthcare system.	EDH 3
	- Do you think Bothasig CDC is on course to meet the healthcare quality objectives set out in Healthcare 2030? Give reasons for either a Yes or No answer.	EDH 4
	- Healthcare 2030, the multi-year health service delivery vision document for the WCDoH, identifies quality healthcare as one of the key priority areas that will be instrumental in modernising healthcare service provision in the Province. In your view, what do you consider to be quality healthcare?	EDH 5

For a policy document that is designed to guide the WCDoH in improving care towards 2030, a disconnect in implementation exists as a result of poor policy awareness among one of its key constituencies, namely healthcare professionals. Figure 4.3, below, shows that of the 11 respondents surveyed at Bothasig CDC, four ‘Disagreed’ and five were ‘Unsure’ when asked whether they were well versed with the contents of Healthcare 2030. Comparatively, at Du Noon CHC, 5 ‘Strongly Disagreed’, 3 ‘Disagreed’ and 4 were ‘Unsure’. This indicates that the WCDoH has not done enough in building policy awareness of its core strategy document among healthcare professionals who interact with patients on a daily basis.

Managers at both facilities, on the other hand, had a clear understanding of what constitutes quality healthcare. When asked about what they understood about the concept, their responses were anchored in ensuring that the patient derives maximum benefit from the service rendered. It is a position that is consistent with the ‘patient-centred’ core value of Healthcare 2030. That clinic managers are able to understand this core vision of the WCDoH, while healthcare professionals show limited appreciation of its objectives, speaks to an inconsistency that could inhibit quality of care improvement at facility level.

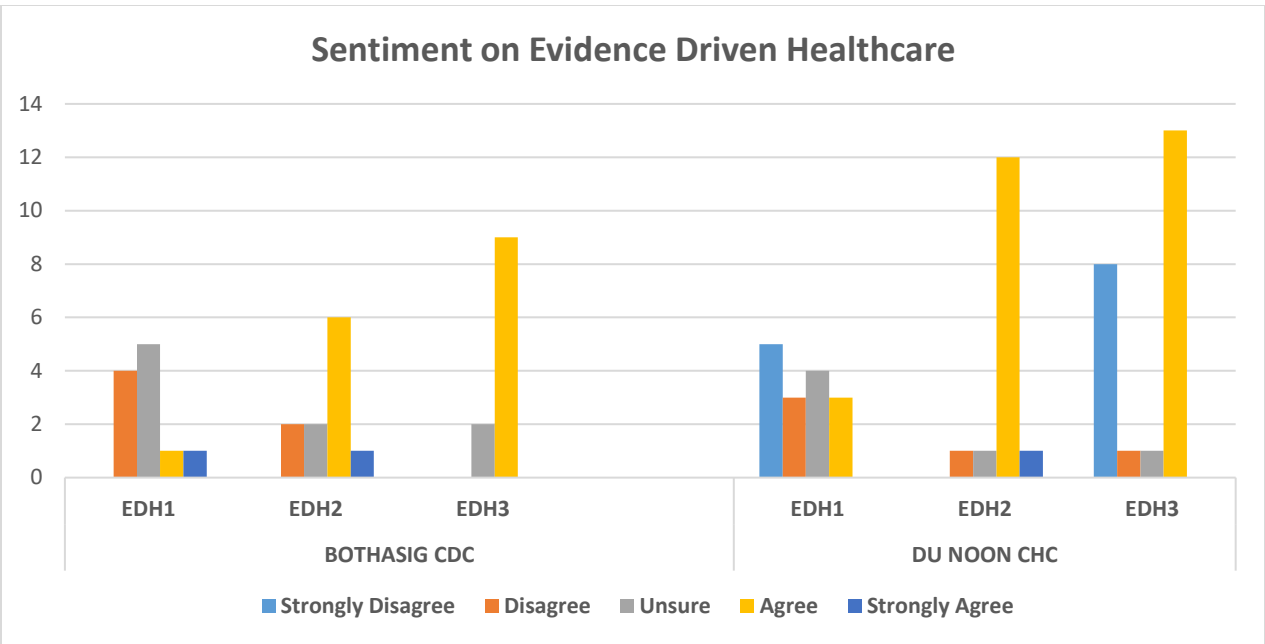


Figure 4.3: Sentiment on evidence-driven healthcare

Even as they registered a poor appreciation of the Province’s health strategy document, healthcare professionals at both facilities held a consistent view that the provision of quality healthcare was improving with time in their respective health facilities. On the ‘Agree’ and ‘Strongly Agree’ identifiers, 7 respondents from Bothasig CDC and 13 respondents from Du Noon CHC were certain about positive quality improvement. A similar positive sentiment exists on the question of whether or not the Western Cape Province is on course to achieve a patient-centred healthcare system, with 9 respondents from Bothasig CDC and 13 Du Noon CHC agreeing. Still, this positivity needs to be further investigated to establish the specific factors and areas which are informing this positive sentiment of quality improvement among health professionals.

The need for an in-depth evaluation of the factors driving this positive sentiment is made all the more necessary by a conversely negative view held by clinic managers at the two facilities on the same indicator. When asked whether Du Noon CHC was on course to meet its healthcare quality objectives, the clinic manager responded by saying:

No. Need to be realistic. We are not far off, but we are always in need of more resources.

When asked the same question, the Bothasig CDC manager stated:

Partially, we are a fairly new facility and working hard to be compliant and meet targets and standards.

The views from both clinic managers are important because, unlike their colleagues whose views may have been informed by the specific area in which they specialise, they do have a system-wide perspective that takes all factors of the healthcare process into consideration. Inadequate resources, as mentioned by the Du Noon clinic manager, may potentially lead to regression on other healthcare indicators, such as continuity of care, which had started to show signs of improvement.

4.3.5 Health System Functionality

Effective functioning of a health facility’s internal operational processes lessens clinical challenges for healthcare professionals while improving patient experience of care. The questions asked under this sub-theme, captured in Table 4.7, shed light on medicine availability, records management and institutional process integration.

Table 4.7: Indicator on health system functionality

Sub Theme	Question	Question Code
Health System Functionality	- The pharmacy/medical dispensary always has enough stock of medicine for patients.	HSH 1
	- There is a smooth integration between health professionals, the pharmacy and the information/records section.	HSH 2
	- Patient information is stored appropriately and is easy to retrieve within the shortest period of time.	HSH 3
	- How would you describe the functionality of the clinic’s information system in connecting with the District Health Information System (DHIS)?	HSH 4

Despite the stated objective by the WCDoH, through Healthcare 2030, to ensure “...essential medicine availability at all times”, in practice this has not been the case (WCDoH, 2014: 37). Fifteen respondents surveyed at Du Noon CHC either ‘Disagreed’ or were ‘Unsure’ of the notion that the pharmacy always had enough stock of medicine for patients. Comparatively, five respondents at Bothasig expressed disagreement on the same indicator. While erratic medicine availability is a common feature in South Africa’s public health system, it becomes necessary to focus on ‘essential medicine’ availability as a foundation for healthcare quality improvement. As such, the WCDoH health impact assessments should be repurposed away from focusing on general medicine availability to a specific function of “essential medicine” availability. An improvement on the “essential medicine” indicator has a corresponding positive effect on healthcare provision for low income earners, most of whom frequent facilities such as Bothasig CDC and Du Noon CHC.

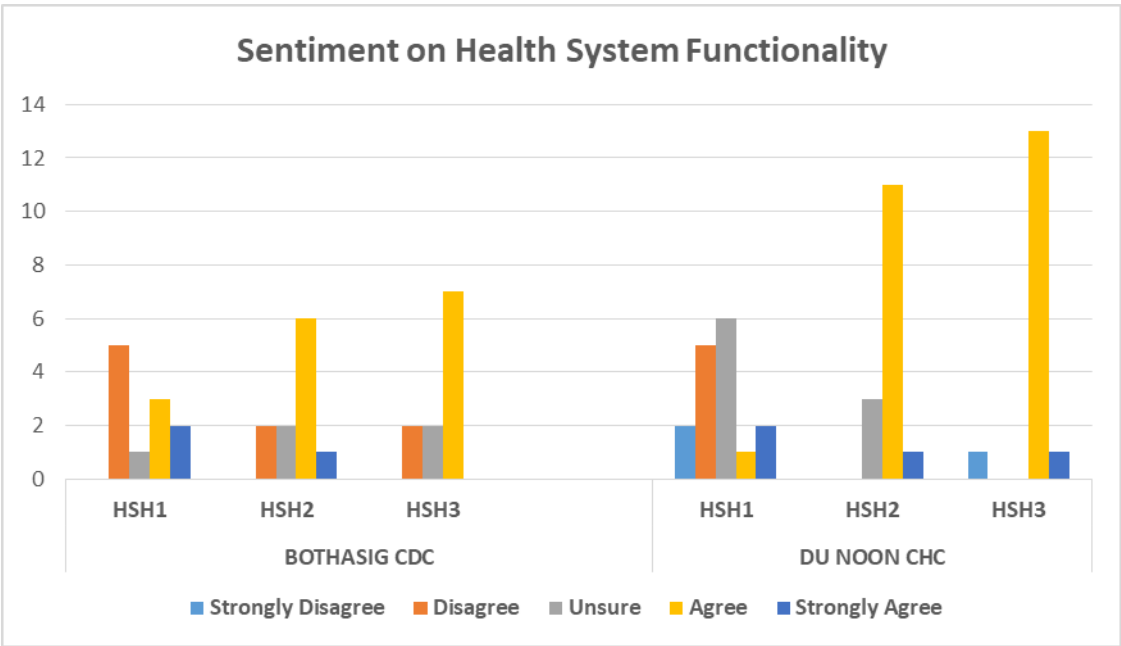


Figure 4.4: Sentiment on health system functionality

As depicted in Figure 4.4, 20 healthcare professionals at both facilities ‘Agree’ that patient information is stored appropriately and is easy to retrieve within the shortest period of time. It is an admission that lends credence to the 17 health professionals at both facilities who “Agree” that there is a smooth transition between health professionals, the pharmacy and the patient records management section. In as much as internal processes are considered to be operating effectively, views on integration with the wider WCDoh health information system are different. When asked to describe the functionality of the clinic’s information system in connecting with the District Health Information System (DHIS), the Bothasig clinic manager labelled it as ‘adequate’ while the Du Noon CHC manager argued that it was:

Poor. Not aware of ways to access more information.

The admission by the Du Noon CHC manager could be a factor that can negatively affect the use of health evidence to improve healthcare. Health facility staff must be adequately equipped to not only use the DHIS but should be adequately capacitated to understand its role in facilitating the transmission and use of health data to improve quality of care.

4.3.6 Institutional Support

Operational efficiency at facility level is a necessary requirement towards the attainment of quality healthcare but this has to be complemented with institutional support from the WCDoH. The WCDoH is enjoined to provide financial support, technical assistance and health impact evaluations to improve care. It was essential therefore, to ascertain the extent to which the Department was providing this support from the perspective of healthcare administrators and professionals at facility level. The questions asked in this regard, as indicated in Table 4.8, explore the frequency and role of health impact assessments, challenges impeding quality healthcare, working relationship between the facility and the WCDoH, and opportunities to strengthen healthcare service delivery.

Table 4.8: Indicator on Institutional support

Sub Theme	Question	Question Code
Institutional Support	- Adequate periodic health assessments are done to identify areas of lack in the health delivery system.	IS 1
	- As the clinic manager, what is your role in ensuring the delivery of quality healthcare?	IS 2
	- What challenges do you think the clinic is facing in delivering a quality health service?	IS 3
	- How do you think the relationship between the clinic and the WCDoH can be enhanced to improve the quality of services delivered?	IS 4
	- What do you think can be done to strengthen healthcare assessment to improve quality in the Western Cape?	IS 5

When asked if adequate periodic health assessments were being done to improve efficiency in the facility's health delivery system, there was an even split of respondents falling under the 'Unsure' and 'Agree' identifiers. Six respondents at Bothasig CDC agreed with the notion while 4 were unsure. Du Noon CHC exhibited similar traits with 7 respondents agreeing and 5 unsure of whether adequate assessments were being conducted to improve the facility's system. The statistics show that while health impact assessments are done regularly, the 'one size fits all' interventions to improve quality do not address the unique operational circumstances of the various units of the health facility under which respondents work in. It explains why, when asked what can be done to strengthen healthcare assessment to improve healthcare quality in the Western Cape, the Du Noon CHC manager admitted that there is need to "*provide dedicated personnel to do the assessments rather than making it an added duty to staff*".

The response by clinic managers, at both facilities, when asked about the challenges impeding the delivery of a quality health service, offers insight into some of the factors which lead some health professionals to believe that evidence gathered from health evaluations is not being acted upon to improve service delivery. The Du Noon CHC manager explained that “...*failure to provide a good experience for staff in the form of better working hours, manageable work load and favourable salary..*”, was affecting the delivery of quality healthcare. In a similar vein, the Bothasig CDC manager identified “*poor buy-in of vision by staff*” as the causative factor inhibiting the facility’s inability to deliver a quality health service. This admission raises questions about the reach of the WCDoH’s stakeholder engagement exercise to get a buy-in from medical staff at facility level on Healthcare 2030. If a limited appreciation of the objectives of the vision document persists, the WCDoH could be at risk of failing to meet its healthcare quality aspiration at facility level by 2030.

In order to improve participatory cooperation between the WCDoH and the health facility for the purposes of improving quality, the Du Noon CHC manager emphasised the need for “*improved communication*” while the Bothasig CDC manager called for “*more direct feedback mechanisms and provision of adequate support for facility management*”. The theme running through these responses is that the WCDoH should improve its communication approach at health facility level as a means of cultivating a supporting environment for health professionals. Open lines of communication make it possible for the WCDoH to obtain support in implementing crucial strategy policy programmes such as Healthcare 2030.

4.4 Health Evidence Use

Analysis of responses from the WCDoH’s 8 Chief Directors responsible for the eight health directorates gave insight into how health evidence is collected and aggregated to improve healthcare quality in the Province. The 8 respondents answered an open-ended questionnaire. Questions asked explored the integration of health evidence in decision-making and its contribution towards the attainment of Healthcare 2030’s healthcare quality strategic objective.

The questions asked in the questionnaire were grouped under 4 sub-themes which collectively define the primary theme of ‘health evidence use for healthcare quality’. The purpose of the 4 sub-themes are described as follows:

- Culture of data use – how prevalent is the use of health evidence in decision-making processes to improve healthcare quality?

- Data quality – is the evidence generated, especially at health facility level, of good quality that it can be used to inform policymakers?
- Technical functions – how efficient are the data management tools used to collate and aggregate health evidence to improve the decision-making process?
- Healthcare quality assessments – to what extent are health quality assessments driven and informed by health evidence?

4.4.1 Culture of Data Use

The culture of health evidence use among office-based staff at the WCDoH is a functional indicator that sheds light on whether or not policymakers are receptive to the challenges faced by health professionals at facility level and whether interventions to address these challenges are being addressed with evidence-based interventions. Critical questions to be asked in this regard is whether the various WCDoH Directorates, under the 8 Chief Directors, are receiving the data that they need, whether the data is of good quality and the extent to which data plays in the decision-making process. The questions, listed in Table 4.9, asked under this sub-theme, focused on establishing the level of institutional appreciation of the concept of quality healthcare, data resource management and individual Directorate contributions to healthcare quality outcomes.

Table 4.9: Indicator on culture of data use

Sub Theme	Question
Culture of Data Use	- Healthcare 2030, the multi-year health service delivery vision document for the Western Cape Department of Health, identifies quality healthcare as one of the key priority areas that will be instrumental in modernising healthcare service delivery in the Province. In your view, what do you consider to be quality healthcare?
	- Briefly describe the role of your Directorate in the attainment of healthcare quality outcomes for the WCDoH.
	- In making decisions to contribute to the improvement of healthcare quality, what information or data sources does your directorate make use of?

When asked what they understood to be quality healthcare, the respondents anchored their responses in the vision of Healthcare 2030 which advocates for a patient-centred healthcare system. Key phrases that featured in the responses given defined quality healthcare as “community-centre” and were premised on the view that the “*patient is the most important person*”. The Chief Director for General Specialist and Emergency Services (GSES) qualified this view by pointing out that quality healthcare should not only be patient-centred but it should

also be an “*equitable health delivery system*”. In this regard, the Chief Director of Infrastructure and Technical Management (ITM) views equity in healthcare as “*access to healthcare that is not only curative but also preventative*”. The clarity of understanding among the Chief Directors surveyed on what constitutes quality healthcare, testifies to a sound appreciation of the core vision of Healthcare 2030. This is in sharp contrast to a low level of appreciation of this vision document among some of the surveyed healthcare professionals. It confirms that, for the objectives of the health strategy to be achieved, the WCDoH needs to adopt a bottom-up approach to obtain vision buy-in from its internal stakeholders, especially healthcare professionals.

While the collective efforts of all Directorates contribute to the attainment of set health targets, a survey of what respondents understand to be the role and focus of their respective Directorates is necessary to determine whether their institutional objectives are aligned with the stated aims of Healthcare 2030. The responses received emphasised the need for efficiency, equity and monitoring of essential systems within the health delivery system. Critical to the attainment of a system-wide culture of health evidence use is the Chief Directorate of Strategy and Health Support (SHS) which indicated that its role is premised on the need:

to provide technical support to facilities, Directorates and Chief Directorates and to monitor the quality of service delivery through structured monitoring systems and assist with quality improvement.

This overarching role of the Department of SHS is supported through specific functions of other Directorates which range from “*health facility management, monitoring and evaluation research, financial resource management to professional staff development*”. From this background information, this research was able to establish that the WCDoH does have the requisite organisational structure to manage the implementation of Healthcare 2030. The organisational ecosystem projected by this structure is in tandem with the structural objectives of the multi-year health strategy which are primed on patient-centred care, health system efficiency and health staff professional development.

An evidence-driven healthcare system is dependent on the frequency and regularity with which scientific data is consulted and its information used to improve healthcare quality. Office-based staff at the WCDoH exhibited a well-developed culture of consulting data rich information sources to aid them in their work. These information sources are evenly distributed between in-house sources, public health system reports and civic society health evaluation reports. The most significant sources among those identified include:

- client satisfaction surveys;
- management of complaints, compliments and suggestions;
- national core standards surveys for health establishments;
- the Clinicom and Patient Health Information Systems with all patient event related data, waiting lists and waiting time data;
- the Basic Accounting System for financial data;
- the PERSAL or the Government Employee Salary System for HR data;
- Sinjani for aggregated service data; and
- Diagnosis Related Group (DRG) for DRG data.

Widespread use of knowledge sources to improve quality augurs well for one of Healthcare 2030's objectives which posits that there should be a culture of 'continuous improvement'. Office-based staff at the WCDoH have cultivated a working environment where the use of scientific data plays a central role in decision-making and implementation of departmental programmes.

4.4.2 Data Quality

The successful use of health evidence to improve healthcare quality is dependent on the quality of data generated across the health system value chain. As the core human resource component of office-based staff at WCDoH, healthcare managers are averse to the use of poor data quality in making decisions. Poor data quality is often a consequence of healthcare professionals who, as primary health data collectors, feel that data collection is an unnecessary burden that distracts from their core responsibilities and drives them to treat it as a 'tick box' exercise. In this context, as shown in Table 4.10, it was important to gather insight from WCDoH's Chief Directors on whether they consider the data sources they use of adequate quality and whether any improvements can be made to improve their quality.

Table 4.10: Indicator on data quality

Sub Theme	Question
Data Quality	- Do you consider information or data sources used in your Directorate for decision-making to be adequate?
	- What can be done to improve these information or data sources to ensure that they help improve the standard of decisions on healthcare quality made by your Directorate?

All the respondents surveyed for this study agreed that the data sources used in their respective Directorates for decision-making are adequate to their needs. Even so, the Directorate of Human Resource Management (DHRM) indicated that their unit “*required more business intelligence*”. The essence of business intelligence information is that it strives to ensure that information is synthesised to meet the specific needs of its users. It therefore, figures that that the DHRM is concerned that it is not receiving relevant information that is specific to its needs. In trying to ensure that the frequency and intensity of data use becomes engendered in the Department, the WCDoH should take active steps to ensure that only relevant information filters to officials and directorates who have use for it.

When asked what could be done to improve the quality of data generated, the respondents were very animated in their responses, confirming the value that they attach to the importance of quality health evidence. At the basic level, respondents identified “*better analysis of data*” and “*integration of systems*” as the primary building blocks needed for creating usable data. The Chief Director of ITM was more specific and admitted that:

...information is available but not located in a central repository. The information is obtainable only by knowing who to contact and one requires tacit knowledge of these processes in order to know who to contact otherwise you will not obtain the information. Sometimes the user groups are limited and, therefore may be limited leading to not fully informed decisions being made...

This view is shared by the Chief Director of GSES who points out that “*..we need more granular data to perform data analysis...systems are not integrated or efficient at capturing information...standardised routine reports need to be generated*”. These revelations show that the WCDoH needs to streamline its health data generation and use value chain to ensure that it meets users at the point of need. A centralised data warehouse that has a simplified user interface to extract specific information according to the needs of a user could limit the time wasted by policymakers searching for data.

4.4.3 Technical Functions

Even as Directorates at the WCDoH’s headquarters grapple with the quality of the data that they use to make policy decisions, their internal performance also plays a definitive role in determining the success, or lack thereof, of strategic policies such as Healthcare 2030. Performance measurement at Directorate level gives insight into whether health evidence is being used optimally to inform management decisions and policy implementation. Under the ‘Technical

Functions' sub-theme, an attempt was made to understand the efficacy of tools used by the various Directorates to measure performance and use of health evidence in decision-making.

Table 4.11: Indicator on technical functions

Sub Theme	Question
Technical Functions	- What instruments or tools does your Directorate use to assess its performance, especially as it relates to its contribution to healthcare quality in the Province?
	- How can these instruments or tools be improved to ensure optimal performance measurement within your Directorate?

Performance assessment, for most respondents, meant the ability to meet healthcare quality objectives set out in Provincial performance plans and national health programmes. For example, the Directorates of RDHS and SHS indicated that their performance was determined by how well they performed when measured against instruments such as the Ideal Clinic Programme, the National Core Standards and the Provincial Health Annual Performance Plan. In hindsight however, it is clear that the identified instruments affect performance assessments across all the Directorates that manage healthcare delivery in the Western Cape Province. What was significant was to obtain answers of whether or not health evidence was being used to drive performance assessments.

Some respondents did identify specific health data instruments that guide their Directorates in assessing performance for healthcare quality improvement. The ITM Directorate admitted that it uses the Project Monitoring Information System (PMIS) to track the physical functionality of all health centres across the Province. Similarly, the GSES Directorate conceded that it used *“geomapping of information to better understand population outcomes and adjust health services provision accordingly”*. In spite of the previously identified weakness of a top-down approach to programme implementation in the WCDoH, the use of data generation instruments to inform decision-making is an established practice that can be leveraged to increase the participation, beyond the current level, of health facility-based staff.

When asked about how performance assessment tools can be improved to ensure optimal health outcomes, respondents identified customisation and ease of access as core requirements. The Directorate of Health Programmes (HP) was concerned that:

“...staff need to be empowered to be able to work around user interfaces which are often complex, for database based monitoring and evaluation tools....”

To overcome this challenge, the PM Directorate suggested that an attempt be made to introduce custom-built information systems that are able to cater for the specific needs of the Department's diverse users. The GSES Directorate qualifies this view by pointing out that there is need for data-driven performance assessment tools that are designed to measure the value that health interventions add to the health system.

4.4.4 Healthcare Quality Assessments

The use of healthcare quality assessments to generate health evidence needed to improve health service delivery, is only effective when policymakers have a sound understanding of why these assessments are being conducted and how their findings should be applied. In this instance, the questions that were directed at the respondents, as outlined in Table 4.12, sought to establish the extent to which their approach to healthcare quality assessments was creating the appropriate focus needed to achieve the overall objectives of Healthcare 2030.

Table 4.12: Indicator on healthcare quality assessments

Sub Theme	Question
Healthcare Quality Assessments	- What do you think can be done to strengthen healthcare assessment to improve quality in the Western Cape?
	- What do you consider to be the main challenges impeding your Directorate's ability to adequately contribute to the full attainment of healthcare quality in the Province?

Respondents shared a common view that the procedural approach to healthcare quality assessments can be improved to enhance institutional efficiency and service delivery. The Directorate of Metro District Health Services (MDHS), was particularly interested in the use of customised data analysis techniques that derived extensive meaning from a concentrated number of data sets. The Directorate's Chief Director posited that there is an essential need to:

...select a few data elements as key measures and measure them comprehensively and accurately. There is relatively sufficient processing and interpretive abilities, but substantive data is required to inform these analysis...

In addition to customised data analysis techniques, the Directorate of ITM was of the view that health quality assessments can be improved through an increased and sustained use of clinical data. The Directorate's view was that *"improved planning that takes more clinical input into account from the correct user groups and clinical staff"* must be streamlined into the fabric healthcare quality assessments. This could be achieved through *"...awareness building, proper integrated Business Intelligence Systems..."*, as stated by the Directorate of PM. The respondents

did not raise any material objections to the process of healthcare quality assessments itself, but believed that it could be made more effective through modifications that took into account the use of customised data quality techniques, increased use of clinical data and integrated information systems to simplify analysis.

As each Directorate is tasked with contributing to the overall objective of improving healthcare quality in the Province, it was important to expose the challenges that each Directorate was facing in accomplishing this task. The Directorate of GSES raised a concern about institutional weakness as a key impediment affecting improving attainment of healthcare quality goals, stating that:

[The] silo approach to Departmental activities, often [leads to] duplication of efforts and poor synergy....which often slows down service delivery and affect the quality of care..."

Taking into account this revelation and the admission made by the Directorate of SHS that "budget and resource constraints" were negatively impacting the attainment of quality care, it raises the question of whether resources are optimally being put to good use. The picture created is that of a Department whose internal processes are not streamlined enough to enable all units to speak in 'one voice'. This observation is validated by the Directorate of RDHS which argues that:

...the concept of quality of care is interpreted differently. Not all role players take ownership. The National Standards are not widely used as a management tool. Skills of staff [are]not adequately developed..."

In Healthcare 2030, the Department posits that "over the next few years, focus is going to centre on the development of administrative...leadership and management capacity at institutional level directly responsible for service delivery and quality of care" However, as highlighted by the answers given by the respondents on the impediments they are facing in achieving the attainment of a quality health service, if a system-wide evaluation is not done to streamline processes and ensure the efficient use of resources, the Department may miss its target of endangering efficiency within its operational processes by 2030.

4.5 Context of research findings within available literature

While the research did find the existence of the requisite health information management infrastructure within the WCDoH to generate health evidence, its effectiveness is being hindered by poor integration of health systems and processes. This is consistent with the conclusion reached by Begg *et.al* (2018 p.77) to the effect that "lack of a sound action plan for implementation of quality-improvement strategies has led to limited impact on health services". An implementation framework for healthcare quality improvement can equip stakeholders, especially health

information practitioners, to formulate goals, assign responsibilities, efficiently allocate resources and establish checks to ensure accountability. Generating the appropriate health evidence to improve quality is therefore a change process that relies on a foundation of quality planning and quality control (Juran and Godfrey, 1999). At the outcome level, an appropriately devised implementation framework, creates opportunities for measuring and monitoring the impact of healthcare quality improvement strategies, in this case, Western Cape's Healthcare 2030.

The study's findings on the importance measurement to improve health system functionality at facility level, falls within the wider debate on the use of structural indicators to measure healthcare quality. Emphasising monitoring and evaluation systems at facility level helps to identify primary healthcare facilities that need support to improve service delivery (Burger et.al, 2016). Health policymakers in South Africa have come to realise the importance of structural indicators in improving the quality of care hence the introduction of programmes such as the Ideal Clinic Initiative which aims to provide benchmarks on how clinics should function.

4.6 Chapter Summary

Primary evidence gathered from questionnaires administered on eight office-based staff at the WCDoH and 28 health facility-based staff, at Du Noon CHC and Bothasig CDC, were analysed through two thematic focus areas, namely health evidence generation and health evidence use.

Through a combination of open-ended questionnaires for clinic managers at both health facilities and closed-ended questionnaires for the rest of healthcare professionals, first-hand knowledge was obtained to give insight into the adequacy and appropriateness of health evidence generated to facilitate patient-centred care, evidence-driven healthcare, health system functionality and usability of the health facility's physical structure. While respondents agreed that patients were receiving a quality health service, they still exhibited limited awareness of the core objectives of the Healthcare 2030. It highlighted that the WCDoH has not done enough to build policy awareness of its core strategy document among healthcare professionals. Data analysis further confirmed the need for a measurement metric to gauge the progress of medical instruction compliance over time, a stakeholder-focused health facility management programme and a tailored institutional support framework.

Health evidence use was analysed through the perspectives of eight Chief Directors at WCDoH whose input shed light on data use, the level of data quality, efficacy of data management tools and the effectiveness of healthcare quality assessments. Feedback from respondents showed that, while there is a well-developed culture of evidence use in decision-making, there is still a

need to adopt a bottom-up approach in policy implementation, tailored information structured to the needs of respective Directorates and use of custom-built information systems for every Directorate. Most importantly, a common view was shared on the need to streamline departmental processes to improve operational efficiency.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the conclusions reached from the findings of the research study on the efficacy of in-programme healthcare quality assessment methods used by the Western Cape Department of Health (WCDoH) to generate health evidence needed to improve healthcare quality in the Province's primary healthcare facilities as envisioned in the vision document. The conclusions reached from the research findings were conducted from the standpoint of determining the extent to which they addressed the research problem, research question and research sub-questions. In addition, the discussion of the research findings offered insight into conclusions reached on core research themes of the study, namely patient-centred care, caring for the carer, evidence-driven healthcare, culture of data use and the culture of data use. The chapter further presents an overview of the limitations of the study, including recommendations that can offer pathways for further study in the field of health evidence generation and use for healthcare quality improvement.

5.2 Review of the Research Problem, Question, Sub-questions and Objectives

The relevancy of the research conclusions drawn from the data analysis depend on the extent to which they provide answers to the research questions and objectives. To this end, Table 5.1 provides an outline of the research question, sub-questions and objectives of this research study, as a basis for understanding the conclusions drawn and recommendations made:

Table 5.1: Research questions and objectives

Research Question	How effective are the in-programme healthcare assessment methods used by the Western Cape Department of Health to generate health evidence needed to improve healthcare quality in the Province as envisioned in the Healthcare 2030 vision document?	
Sub Questions	Data Sources	Objectives
Are information generation mechanisms in place at the Province's primary healthcare facilities aligned with the healthcare quality data objectives of Healthcare 2030?	<ul style="list-style-type: none"> - Interviews with Clinic Managers at both Du Noon CHC and Bothasig CDC - Patient satisfaction surveys - Departmental reports 	Establish whether the information generation mechanisms in place at the Province's primary healthcare facilities aligned with the healthcare quality data objectives of Healthcare 2030
How does the Western Cape Department of Health collate information at health facility level to improve healthcare quality?	<ul style="list-style-type: none"> - Interviews with the heads of WCDoH's 8 Directorates - Departmental reports - District Health Information System 	Evaluate the process by which the Western Cape Department of Health collates information at health facility level to improve healthcare quality
What is the extent of patient involvement in generating data for quality healthcare outcomes?	<ul style="list-style-type: none"> - Interviews with Clinic Managers at both Du Noon CHC and Bothasig - Interviews with the heads of WCDoH's 8 Directorates - Departmental reports 	Establish the extent of patient involvement in generating data for quality healthcare outcomes
To what extent is data generated by healthcare facilities collated by the Western Cape Department of Health to inform healthcare quality reviews?	<ul style="list-style-type: none"> - Interviews with the heads of WCDoH's 8 Directorates - Healthcare quality assessment reports - Departmental information value chain 	Assess the extent to which data generated by healthcare facilities and collated by the Western Cape Department of Health informs healthcare quality reviews
What changes need to be made to the Western Cape's health data generation system in order to achieve healthcare quality by 2030?	<ul style="list-style-type: none"> - Interviews with Clinic Managers at both Du Noon CHC and Bothasig - Interviews with the heads of WCDoH's eight Directorates - Reports from non-governmental organisations 	Ascertain the nature of changes that need to be made to the Western Cape's health data generation system in order to achieve healthcare quality by 2030

5.2.1 Research Problem

The National Department of Health expressed concern that the inadequate attention given to the usefulness of tools used to collect information used for the improvement of healthcare quality was impeding progress in achieving healthcare equity. In this context, the research problem for this study was “An absence of operating knowledge to ascertain the efficacy of healthcare quality measurement methods used by the Western Cape Department of Health to generate health evidence needed to meet the Province’s healthcare quality objectives espoused in the vision document Healthcare 2030’.

The research established that the WCDoH has a structured health evidence generation system that makes use of patient satisfaction surveys, facility assessment surveys and human resource information systems to inform decision making. The major shortcoming of this system is that it places undue burden on health professionals at facility level to take on the added responsibility to gather and collate information, on top of their regular duties of attending to patients. These added responsibilities were identified by interviewed healthcare professionals as factors that were adding to their workload and leading to negative job satisfaction outcomes. If the WCDoH does not make data collection a separate function, independent from clinical functions which are attended to by dedicated data managers, it runs the risk of making data collation a ‘tick box’ exercise, which could affect its accuracy as it is aggregated for use at Provincial level.

5.2.2 Research Question

The effectiveness of healthcare quality assessment tools used by the WCDoH could be enhanced if focus is shifted from measuring general access to healthcare and put more emphasis on the continuity of care. For example, the questions asked in the patient satisfaction survey tool used by the WCDoH, in addition to the fact that they have remained the same since 2014, put most of their focus on elementary healthcare measures such as facility cleanliness, the distance travelled to the facility, treatment given by health professionals and privacy of patients. While these measures are important, it is essential that the focus be expanded to include measures that track patient improvement over time. The survey tool can be broadened to determine if a patient’s condition is improving or regressing. Such an approach will help identify and remove factors that may be impeding the attainment of an effective continuity of care regime within the health system.

Chief Directors from the WCDoH, who formed the core component of office based respondents, stated that the quality of health assessment tools can be improved through customised data analysis, increased and sustained use of clinical data and integrated information systems to

simplify analysis. In addition, respondents emphasised the importance of streamlining operational processes to ensure the efficient use of resources. The Department needs a seamless user interface that allows users from different Directorates ease of access to information without the added burden of administrative hoops often associated with lengthy bureaucratic processes.

5.2.2.1 Research Sub-question 1

The alignment of data collection mechanisms at facility level with the objectives of Healthcare 2030 depends, in part, on the familiarity that healthcare professionals have with the strategic purpose of this multi-year strategy document. The majority of respondents at both health facilities identified with the 'Disagreed' and 'Unsure' bands when asked if they were appraised with the contents of the strategy document. As primary generators of health evidence, the low levels of health strategy awareness among health professionals could hinder the Department's attempt to have a system wide focus in data generation and use, especially at facility level. The WCDoH is therefore, faced with an obligation to ensure that appropriate measures are put in place to build strategy awareness for healthcare professionals at health facility level.

In attempting to build strategy awareness, the WCDoH can leverage on existing positive sentiment on what healthcare is and its significance to improved patient outcomes. Managers of both facilities concurred that a quality healthcare system is one in which a patient derived maximum benefit from the services rendered. It is a position that is firmly aligned with the strategy document's vision of patient-centred care. As such, healthcare professionals need to be adequately informed of what their specific roles are, other than their clinical duties, in contributing towards a patient-centric healthcare system. Results from data collection mechanisms such as patient-centred surveys, staff satisfaction surveys, facility appraisal assessments and general system evaluations should not be reserved only for the use of office-based staff at WCDoH headquarters. Rather, a mechanism should be put in place that allows health professionals at facility level to use feedback from these quality assurance assessments to help them decide on how best they can improve health service delivery.

5.2.2.2 Research Sub-question 2

The WCDoH makes use of a variety of its own in-house data generation instruments to collate information at facility level that is needed to improve healthcare quality. The widespread use of these instruments point to a well-developed institutional culture that prioritises the use of scientific data for 'continuous improvement', as required by the strategy document. The data generation instruments identified by respondents in the office-based staff group include:

- client satisfaction surveys;
- management of complaints, compliments and suggestions;
- the Clinicom and Patient Health Information Systems with all patient event related data, waiting list and waiting time data;
- the Basic Accounting System for financial data;
- the PERSAL or the Government Employee Salary System for HR data;
- Sinjani for aggregated service data; and
- Diagnosis Related Group (DRG) for DRG data.

5.2.2.3 Research Sub-question 3

The annual patient survey conducted at every primary healthcare facility across the Province by the WCDoH, is the primary tool through which data is collected to measure perceptions of care from the viewpoint of patients. Patients rate their experience through indicators such as access, assurance, empathy, general satisfaction, reliability, responsiveness and tangibles.

While the WCDoH patient satisfaction questionnaire is responsive to most indicators measuring a patient-centred experience, its questions are silent on the efficacy of appointments in improving service delivery. The WCDoH recently piloted the use of appointments in selected public health facilities and it is essential to measure the perception of patients on how this new innovation has impacted on their overall experience.

The questionnaire asks patients about the amount of time that they have to wait to get medicine but falls short of asking follow-up questions on medicine availability. The availability of scientific data on medicine unavailability at facility level, from the perspective of patients, is essential for improving outcomes on the medicine provision indicator.

Further improvement in involving patients in the care process can be achieved through harnessing the immense opportunities offered by high cellphone penetration levels among low income earners, most of whom patronise Du Noon CHC and Bothasig CDC. The manual patient satisfaction survey can be migrated to a mobile application where more questions can be asked, further expanding the pool of scientific data available to measure patient experience. Furthermore, a mobile-based survey can increase the accuracy of the data gathered as respondents will not feel pressured to only give positive answers to questions asked by a data collector within the health facility.

5.2.2.4 Research Sub-question 4

Chief Directors from the eight Directorates interviewed for this study revealed an established culture of data use, which plays a central role in their decision-making processes for healthcare quality improvement. They made reference to structured monitoring systems that provide them with essential operating knowledge to prioritise resource allocation and use. For example, quarterly facility assessment reviews by the Directorate of Infrastructure and Technical Management (ITM) or disease specific continuity of care impact assessments by the Directorate of Strategy and Health Support, all serve the purpose of guiding decision makers in the equitable use of scarce resources in achieving optimal health outcomes.

In addition to structured monitoring tools, Chief Directors also made use of custom data sources that were aligned with the specific objectives of their respective Directorates, such as the use of the PERSAL or Government Employee Salary System for Human Resource data by the Directorate of People Management. While data generation and use has become routine for office-based staff in the WCDoh, this has not been the case with healthcare professionals at facility level who still think that data gathering distracts them from their core responsibilities of treating patients. It is therefore, important that the WCDoh adopts a bottom-up approach where healthcare professionals are sensitised to the value of health evidence in improving their work processes and patient outcomes.

The use of data to inform healthcare quality reviews by WCDoh office-based staff is further reinforced by the shared view among respondents, which converged on the need to make data from health quality assessments easily accessible without the current bureaucracy that often impedes the free flow of information across departments. Respondents decried the 'silo approach' to information use, and instead advocated for customised data analysis to obtain needs-based information, increased and sustained use of clinical data, including integrated information systems to simplify analysis. In summary, the use of data can be made effective if internal information systems are streamlined to provide seamless access for all Directorates.

5.2.2.5 Research Sub-question 5

This research was able to establish that while the WCDoh has a functional health evidence generation framework that is anchored within the operational structures of its health facilities, administrative and policy levels, its accuracy can be enhanced through an introduction of specificity on health indicators that it tracks. Besides the failure to generate scientific data necessary to track a patient's change in condition over time, patient perceptions of care measures

are also unable to offer data specificity on utility items such as medicine. Tracing the availability of medicine from the perspective of patients, while necessary, should equally be complemented by the assessment of availability for essential medicine. The availability, or lack thereof, of essential medicine is a precise indicator of whether or not health facilities are meeting the requirements for basic healthcare provision in primary healthcare facilities such as Bothasig CDC and Du Noon CHC.

Office-based staff, represented by the eight Chief Directors interviewed, confirmed that health evidence can be improved through system integration and ensuring that relevant information filters to those who need it. The WCDoH can make use of a centralised data warehouse that could act as a clearing house to disseminate query specific data that is delivered at the point of need to policymakers within the Department. It is important that, as part of its programme reviews, the WCDoH urgently considers streamlining processes on information storage and sharing to ensure seamless access for its office bearers.

5.3 Health Information Use in the WCDoH

This section will provide a summary overview of health evidence use by WCDoH to improve healthcare quality outcomes across the Province's primary healthcare facilities, using Du Noon CHC and Bothasig CDC as baseline case studies. The primary question to be answered is how health administrators use health evidence to facilitate patient-centred care, enable a better working environment for healthcare professionals, promote an evidence-driven healthcare system and engender a culture of data use and ensure health system functionality.

5.3.1 Patient centred Care

When Healthcare 2030 was launched in the 2014-2015 financial year, the objective to attain a patient-centred healthcare system was being impeded by patient concerns of longer waiting times, cleanliness of the toilets and the cost to get to health facilities. The WCDoH used this health evidence to institute a variety of interventions that not only sought to reduce pressure on the public healthcare system, but improve patient experience of care. In 2015, through the Provincial Service Delivery Plan, the WCDoH implemented the appointment system to reduce patient waiting times. The Department further built on this intervention in the 2016-2017 financial year by introducing an integrated information system for e-referrals, e-patient records and e-prescribing. Realising the importance of the quality of care measure, the WCDoH piloted the Standardised Electronic Continuity of Care Record (eCCR) for discharging and referring patients from hospitals. These incremental interventions to improve quality of care using available health evidence is testament

to a prevailing culture of evidence-informed health interventions. While the necessity of these interventions cannot be overstated, it still remains essential for the WCDoH to make an effort to understand the unique needs and profile of its clientele at the various public health facilities. Challenges faced by patients vary across facilities and implementing a 'one size fits all' approach might fail to address the unique difficulties that patient face in accessing healthcare. It explains why the Directorate of General Specialist and Emergency Services (GSES) called for geo-mapping information to better understand population outcomes and adjust health service provision accordingly.

5.3.2 Caring for the Carer

Healthcare professionals at both Bothasig CDC and Du Noon CHC indicated that inadequate job support, rising workloads due to slow rates of vacancy replacements and minimal professional development opportunities were negatively affecting job satisfaction levels. These views could be the reason why resignations among clinical health professionals rose from 868 to 1234 between 2014 and 2017 across Western Cape public health facilities. When faced with this operating knowledge, the WCDoH has implemented an employee health and wellness programme that seeks to foster psycho-social wellbeing among employees. This was in addition to the staff satisfaction survey that was pioneered in 2015. Psycho-social and physical wellbeing of healthcare professionals are important, but if it not matched with corresponding measures to reduce the workload, the impact on staff satisfaction will be negligible.

A key focus area that could achieve immediate results in reducing the workload on overburdened clinical staff is reducing the amount of time it takes to fill vacant posts. Currently, as is the norm across the rest of the public sector, it takes an inordinate amount of time to fill vacant funded posts. The health sector is a critical function area and it is therefore, essential that bureaucratic processes on staff hiring be kept to a minimum and positions filled within the shortest possible time. The WCDoH will only be able to achieve its objective of 'caring for the carer' by 2030 if there is a clear balance between psycho-social wellbeing and a rationalised workload on its clinical staff.

5.3.3 Evidence-driven Healthcare

The acknowledgement by office based staff, at the WCDoH, that an absence of a standardisation framework to integrate multiple information systems complicates the use of data, points to the need for a system wide data harmonisation intervention. The Department has an opportunity, through its information and communication component in Healthcare 2030, to increase the use of

ICT tools that will ensure the integration of information at patient, clinical and management levels to inform decision-making. With the increasing use of mobile health technologies, the Department can migrate its patient management functions on this platform to create a single reference database for patient records management. This has the added advantage of enabling decision-makers to suggest interventions to improve care based on real time information that tracks patient treatment over time.

Health evidence use could be further enhanced through a collaborative cross-directorate health information management committee. Such a development can assist with the development of policies and standard operating procedures facilitate seamless data use at both clinical and administrative levels. In addition, a collaborative effort across the eight Directorates will make it easy to institute training programmes to equip policymakers and health professionals on the data value chain process of information generation, storage and use. It is only when all the stakeholders within the WCDoH are appraised on the functional value of health evidence, that the requisite environmental ecosystem is created to develop an evidence-driven healthcare system.

5.3.4 Culture of Data Use

The reference made by the interviewed Chief Directors to specific operational databases and their use in achieving set operational objectives, confirms a relatively well developed culture of data use within the WCDoH. However, the respondents still called for efficiency in the monitoring of essential systems within the health delivery system as a way of improving the veracity of data and information used for reporting. In order to achieve this, the WCDoH must place increased focus in capacitating the data centre which it undertook to establish in the 2014/2015 financial year. Conceptualised for the primary purpose of consolidating and harmonising all departmental data, the data centre has the potential to integrate all the operational databases from the various Directorates into one data warehouse. Health data can be stored and retrieved in real time to facilitate continuity of care, pharmacy and medicine dispensary management, operational reporting and financial data. More importantly, a fully functional data centre will reduce the likelihood of duplication of operational activities and ensure an optimal allocation of resources to derive maximum benefit from available data.

5.3.5 Health System Functionality

An area of concern regarding health system functionality, that was raised by healthcare professionals and administrators, was the inconsistent availability of medicine at the respective dispensaries of the health facilities under study. In order to overcome this challenge, it has

become important for the WCDoH to implement a priority acquisition approach to medicine procurement. Primary focus should be put on acquiring essential medicines that address the primary healthcare needs of patients. Healthcare assessments should, in turn, move away from measuring general medicine availability, to focus more on reviewing essential medicine availability in primary healthcare facilities over time. When Healthcare 2030 is due for review by the year 2030, it will be essential to understand how essential medicine availability has impacted overall patient satisfaction on health services rendered.

While healthcare professionals, at both Bothasig CDC and Du Noon CHC, were in agreement that internal patient information management processes were operating optimally, they expressed concern on the poor information integration between health facilities and the Provincial health information infrastructure. It is an anomaly that pervades the whole system, where databases from various directorates and departments operate in 'silos', disengaged from the WCDoH's information ecosystem. System integration should be the core focus of the health impact assessment department which is charged with overseeing information processes within the WCDoH. The creation of a central digital information clearing warehouse, that is accessible to health professionals and administrators across the Province, will promote health evidence sharing and help improve the decision-making processes on healthcare quality improvement.

5.4 Scope and Limitations of the Study

In testing whether the information value chain system in place in the WCDoH was generating relevant health evidence to improve healthcare quality in the Province in line with its multi-year healthcare strategy, the study was centred around understanding health data management from the viewpoint of patients, health professionals, clinic managers and health administrators. This approach, while providing research insight on the WCDoH's information value chain, had limitations which include:

- the use of a closed-ended questionnaire on health professionals at both Bothasig CDC and Du Noon CHC, which placed restrictions on obtaining information rich responses on the dynamics informing health evidence generation at facility level. The decision not to use an open-ended questionnaire was influenced by the realisation that health professionals at both facilities operate under pressure, and as such it would have taken them an inordinate amount of time to complete the questionnaires.
- the limited critical analysis that the researcher could generate from the general overview of available health databases in the WCDoH given by the Directorates interviewed for this

study. This denied the researcher an opportunity to proffer an informed view on what can be done to improve system integration and collaborative health data use for better decision- making.

- reliance on the WCDoH's annual patient satisfaction surveys to get insight on patient's perception of care, while central to avoiding duplication of effort had the researcher decided to conduct a similar study, removed the initiative to ask further follow-up questions to get clarity on the answers provided.
- limited knowledge of Healthcare 2030 by some of the professionals interviewed such that when they were answering the questionnaire, their responses became general views on health data influence on healthcare quality and not the contextual role of health evidence on the multi-year health strategy.
- the approval process to get the research started, which involved getting clearance from CPUT's Health and Wellness Research Committee and the WCDoH's Research Committee, took a very long time and it slowed the research down.

5.5 Recommendations for Further Research

With growing interest in the influence of evidence on policy development, opportunities that exist for further research on the role of health evidence on health quality improvement include:

- an urgent need for health information systems analysis at Provincial level that would explore system integration models that can be adopted to enable information sharing within the health service ecosystem;
- researching measures that can be taken to improve the quality of health evidence generated at health facility level to improve its usefulness to policymakers tasked with improving healthcare quality;
- examining ways that complex organisations such as the Western Cape Department of Health can be transformed into a learning and knowledge sharing culture that places more emphasis on the use of health evidence in decision-making;
- assessing the potential use of mobile health technologies in empowering patients to be active participants in the health information generation ecosystem - instead of being passive participants, ways need to be explored on how they can be empowered to actively

contribute to improve health service delivery through instruments such as mobile applications; and

- undertaking explorative studies on international best practice that detail how middle-income countries that are at the same level of development as South Africa have developed their health information systems as part of efforts improve healthcare quality.

5.6 Chapter Summary

This chapter provided insights on the conclusions reached from the analysis of primary data gathered for this study. The efficacy of the conclusions reached was centred on the extent to which they provided answers to the research questions and objectives. The research reached a conclusion that undue burden to generate health evidence should be removed from health professionals at facility level, instead, the clinical function must be made separate from data management. In addition, policymakers should take active steps to ensure that their patient satisfaction measurement instruments track patient improvement over time, ensure system integration to facilitate information sharing, improve policy awareness across the Department, foster interdepartmental knowledge sharing and develop a centralised clearing house for information storage and use. Due to limited time and resources, the researcher was neither able to administer an open-ended questionnaire on health facility-based staff nor conduct a detailed analysis of health databases currently in use by the WCDoH to ascertain how systems can be integrated to enable information sharing. Nonetheless, opportunities for further research on health evidence generation and use still exist on health information system modelling and integration, improvements on the quality of health data generated, transformation of the WCDoH into a learning organisation and explorative studies on international best practice on health evidence use for quality improvement.

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APPENDIX A

Research approval: Health and Wellness Sciences Research Ethics Committee (HW-REC)



HEALTH AND WELLNESS SCIENCES RESEARCH ETHICS COMMITTEE (HW-REC)
Registration Number NHREC: REC- 230408-014

P.O. Box 1906 • Bellville 7535 South Africa
Symphony Road Bellville 7535
Tel: +27 21 959 6917
Email: sethn@cput.ac.za

29 June 2017
REC Approval Reference No:
CPUT/HW-REC 2016/H16

Dear Mr Enocent Nemuramba

Re: APPLICATION TO THE HW-REC FOR ETHICS CLEARANCE

Approval was granted by the Health and Wellness Sciences-REC on 15 June 2017 to Mr Nemuramba ethical clearance. This approval is for research activities related to research for Mr Nemuramba at the Cape Peninsula University of Technology – Business Faculty.

TITLE: Public Health Management: An audit on the efficacy of healthcare quality measurement methods for “Western Cape Health 2030”

Supervisor: Prof R Hendrickse

Comment:

Approval will not extend beyond 30 June 2018. An extension should be applied for 6 weeks before this expiry date should data collection and use/analysis of data, information and/or samples for this study continue beyond this date.

The investigator(s) should understand the ethical conditions under which they are authorized to carry out this study and they should be compliant to these conditions. It is required that the investigator(s) complete an **annual progress report** that should be submitted to the HWS-REC in December of that particular year, for the HWS-REC to be kept informed of the progress and of any problems you may have encountered.

Kind Regards

A handwritten signature in black ink, appearing to read "N. Naidoo".

Mr. Navindhra Naidoo
Chairperson – Research Ethics Committee
Faculty of Health and Wellness Sciences

APPENDIX B

Ethics Clearance: Faculty of Business and Management Sciences



P.O. Box 1906 • Bellville 7535 South Africa • Tel: +27 21 4603534 • Email: majamanin@cput.ac.za
Symphony Road Bellville 7535

Office of the Chairperson Research Ethics Committee	Faculty: BUSINESS AND MANAGEMENT SCIENCES
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At a meeting of the Research Ethics Committee on 02 May 2017, Ethics Approval


was granted to Enocent Nemuramba (216156777) for research activities

Related to the MTech/DTech: Mtech Public Administration at the Cape Peninsula University of
Technology

Title of dissertation/thesis/project:	PUBLIC HEALTH MANAGEMENT: AN AUDIT ON THE EFFICACY OF HEALTHCARE QUALITY MEASUREMENT METHODS FOR 'WESTERN CAPE HEALTH 2030' Lead Researcher/Supervisor: Prof R Hendrickse
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Comments:

Decision: **APPROVED**

 Signed: Chairperson: Research Ethics Committee	02 May 2017 Date
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Clearance Certificate No | 2017FBREC436

APPENDIX C

Research Approval: Western Cape Department of Health (Health Impact Assessment)



**Western Cape
Government**

Health

STRATEGY & HEALTH SUPPORT

Health.Research@westerncape.gov.za

tel: +27 21 483 6857; fax: +27 21 483 9895

5th Floor, Norton Rose House, 8 Riebeeck Street, Cape Town, 8001

www.capegateway.gov.za

REFERENCE: WC_2017RP36_901

ENQUIRIES: Ms Charlene Roderick

Cape Peninsula University of Technology

Department of Public Administration and Governance

Cape Town Campus

PO Box 652

Cape Town

8000

For attention: Mr Enocent Nemuramba

Re: Public Health Management: An Audit On The Efficacy Of Healthcare Quality Measurement Methods For 'Western Cape Health 2030'.

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

Health Impact Assessment

Ms Anne-Marie Van den Berg

021 483 3833

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).

3. In the event where the research project goes beyond the *estimated completion date* which was submitted, researchers are expected to complete and submit a progress report (**Annexure 8**) to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
4. The reference number above should be quoted in all future correspondence.

Yours sincerely



Dr Hawkrige

DR A HAWKRIDGE

DIRECTOR: HEALTH IMPACT ASSESSMENT

DATE: 31/08/2017

APPENDIX D

Questionnaire for Health Facility Staff

INVITATION TO PARTICIPATE IN RESEARCH STUDY

Dear Participant/Respondent

enocentn@hotmail.com

You are invited to participate in a closed questionnaire for a Master's degree research project titled "Public Health management: An audit on the efficacy of healthcare quality measurement methods for Western Cape's 'Health 2030' strategy.

The study proposes an evaluation of the efficacy of in-programme healthcare quality assessment methods used by the Western Cape Department of Health (South Africa) to generate health evidence needed to improve healthcare quality in the Province's Primary HealthCare facilities as envisioned in the 'Health 2030' vision document.

This study is being conducted by Enocent Nemuramba under the supervision of Professor Harry Ballard. Prof Ballard is Head of the Department of Public Administration in the Faculty of Business and Management Sciences, at the Cape Peninsula University of Technology (CPUT):

Enocent Nemuramba

Prof Harry Ballard

MPA Research Student

Research Supervisor

Faculty of Business and Management Sciences

Head of Department: Public Management

Cape Peninsula University of Technology

Cape Peninsula University of Technology

enocentn@hotmail.com

ballardh@cput.ac.za

0710951806

021 460 3739

Informed Consent

Your participation in the questionnaire will help health policy makers in the Western Cape Provincial Department of Health determine how best they can leverage health evidence to improve healthcare quality in the Province. We estimate that it will assume 20 minutes of your time to complete the questionnaire. You are free to contact the research student/investigator at the above email address or cell number to discuss the questionnaire.

There are no risks and costs involved for participating.

Email addresses will be kept during the data collection phase for tracking purposes only. Information gathered will be stripped from the final data set.

Reasonable measures have been taken to protect your identity and responses. The questions in this survey do not ask you to reveal any personal information. Your participation in this questionnaire is voluntary. You may decline to answer any question and you have the right to withdraw from participation without penalty. If you wish to withdraw from the study or have any questions, contact the investigators.

This study has received ethics clearance from the CPUT Faculty of Business and Management Sciences, Faculty of Health and Wellness Sciences and the Western Cape Provincial Department of Health.

HEALTH FACILITY BASED STAFF

		Strongly disagree	Disagree	Not sure	Agree	Strongly agree
1	I am well versed with the contents of "Health 2030"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Provision of quality healthcare is improving with time in the health facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I am given adequate support to do my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	My input to improve service delivery is valued and listened to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Patients are receiving a satisfactory healthcare service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	My workload is manageable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I receive continuous training to improve the service I provide to patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Adequate periodic health assessments are done to identify areas of lack in the health delivery system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	The continuity of care process in place in the health facility is delivering better health outcomes in patient care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Patients follow and listen to the medical advice given by health professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	The pharmacy/medical dispensary always has enough stock of medicine for patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	There is a smooth integration between health professionals, the pharmacy and the information/records section	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Patient information is stored appropriately and is easy to retrieve within the shortest period of time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	The health facility infrastructure is well maintained and always operates optimally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	The Western Cape is on course to achieve to achieve a patient centered healthcare system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for taking part in this questionnaire.

APPENDIX E

Questionnaire for Office based staff

INVITATION TO PARTICIPATE IN RESEARCH SURVEY

Dear Participant/Respondent

enocentn@hotmail.com

You are invited to participate in an open-ended questionnaire for a Master's degree research project titled "Public Health management: An audit on the efficacy of healthcare quality measurement methods for Western Cape's 'Health 2030' strategy.

The study proposes an evaluation of the efficacy of in-programme healthcare quality assessment methods used by the Western Cape Department of Health (South Africa) to generate health evidence needed to improve healthcare quality in the Province's Primary HealthCare facilities as envisioned in the 'Health 2030' vision document.

This study is being conducted by Enocent Nemuramba under the supervision of Professor Harry Ballard. Prof Ballard is the Head of the Department of Public Administration in the Faculty of Business and Management Sciences, at the Cape Peninsula University of Technology (CPUT):

Enocent Nemuramba

Prof Harry Ballard

MPA Research Student

Research Supervisor

Faculty of Business and Management Sciences

Head of Department: Public Management

Cape Peninsula University of Technology

Cape Peninsula University of Technology

enocentn@hotmail.com

ballardh@cput.ac.za

0710951806

021 460 3739

Informed Consent

Your participation in the questionnaire will help health policy makers in the Western Cape Provincial Department of Health determine how best they can leverage health evidence to improve healthcare quality in the Province. We estimate that it will assume 45 minutes of your time to complete the questionnaire. You are free to contact the research student/investigator at the above email address or cell number to discuss the questionnaire.

There are no risks and costs involved for participating.

Email addresses will be kept during the data collection phase for tracking purposes only. Information gathered will be stripped from the final data set.

Reasonable measures have been taken to protect your identity and responses. The questions in this survey do not ask you to reveal any personal information. Your participation in this questionnaire is voluntary. You may decline to answer any question and you have the right to withdraw from participation without penalty. If you wish to withdraw from the study or have any questions, contact the investigators.

This study has received ethics clearance from the CPUT, Faculty of Business and Management Sciences, Faculty of Health and Wellness Sciences and the Western Cape Department of Health.

1. Healthcare 2030, the multi-year health service delivery vision document for the Western Cape Department of Health, identifies quality healthcare as one of the key priority areas that will be instrumental in modernising healthcare service delivery in the Province. In your view, what do you consider to be quality healthcare?

Answer:

2. Briefly describe the role of your Directorate in the attainment of healthcare quality outcomes for the Western Cape Department of Health.

Answer:

3. In making decisions to contribute in the improvement of healthcare quality, what information or data sources does your directorate make use of?

Answer:

4. Do you consider these information or data sources for better decision-making to be adequate?

N Y

5. What can be done to improve these information or data sources to ensure that they help improve the standard of decisions on healthcare quality made by your Directorate?

Answer:

6. What do you consider to be the main challenges impeding your Directorate's ability to adequately contribute to the full attainment of healthcare quality in the Province?

Answer:

7. What is your Directorate doing to overcome these challenges?

Answer:

8. What instruments or tools does your Directorate use to assess its performance, especially as it relates to its contribution to healthcare quality in the Province?

Answer:

9. How can these instruments or tools be improved to ensure optimal performance measurement within your Directorate?

Answer:

10. What do you think can be done to strengthen healthcare assessment to improve quality in the Western Cape?

Answer:

Thank you for taking part in this questionnaire.

APPENDIX F
Questionnaire for Clinic Managers

INVITATION TO PARTICIPATE IN RESEARCH STUDY

Dear Participant/Respondent

enocentn@hotmail.com

You are invited to participate in an open-ended questionnaire for a Master's degree research project titled "Public Health management: An audit on the efficacy of healthcare quality measurement methods for Western Cape's 'Health 2030' strategy.

The study proposes an evaluation of the efficacy of in-programme healthcare quality assessment methods used by the Western Cape Department of Health (South Africa) to generate health evidence needed to improve healthcare quality in the Province's Primary HealthCare facilities as envisioned in the 'Health 2030' vision document.

This study is being conducted by Enocent Nemuramba under the supervision of Professor Harry Ballard. Prof Ballard is Head of the Department of Public Administration in the Faculty of Business and Management Sciences, at the Cape Peninsula University of Technology (CPUT):

Enocent Nemuramba

Prof Harry Ballard

MPA Research Student

Research Supervisor

Faculty of Business and Management Sciences

Head of Department: Public Management

Cape Peninsula University of Technology

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enocentn@hotmail.com

ballardh@cput.ac.za

0710951806

021 460 3739

Informed Consent

Your participation in the questionnaire will help health policy makers in the Western Cape Provincial Department of Health determine how best they can leverage health evidence to improve healthcare quality in the Province. We estimate that it will assume one hour of your time to complete the questionnaire. You are free to contact the research student/investigator at the above email address or cell number to discuss the questionnaire.

There are no risks and costs involved for participating.

Email addresses will be kept during the data collection phase for tracking purposes only. Information gathered will be stripped from the final data set.

Reasonable measures have been taken to protect your identity and responses. The questions in this survey do not ask you to reveal any personal information. Your participation in this questionnaire is voluntary. You may decline to answer any question and you have the right to withdraw from participation without penalty. If you wish to withdraw from the study or have any questions, contact the investigators.

This study has received ethics clearance from the CPUT Faculty of Business and Management Sciences, Faculty of Health and Wellness Sciences and the Western Cape Provincial Department of Health.

A. CLINIC MANAGER

1. 'Health 2030', the multi-year health service delivery vision document for the Western Cape Department of Health, identifies quality healthcare as one of the key priority areas that will be instrumental in modernising healthcare service provision in the Province. In your view, what do you consider to be quality healthcare?

Answer:

2. As the clinic manager, what is your role in ensuring the delivery of quality healthcare?

Answer:

3. What challenges do you think the clinic is facing in delivering a quality health service?

Answer:

4. What operational framework is in place to manage client waiting times, patient experience of care, client appointments, infection, prevention and control?

Answer:

5. How are the annual patient survey reports used to improve healthcare quality in the clinic?

Answer:

6. Do you consider the clinic's physical infrastructure (essential equipment, bulk supplies and ICT infrastructure) to be adequate to the requirements for quality healthcare? If not, what can be done to improve them?

Answer:

7. How would you describe the functionality of the clinic's information system in connecting with the District Health Information System (DHIS)?

Answer:

8. How do you think the relationship between the clinic and the Western Cape Provincial Department of Health can be enhanced to improve the quality of services delivered?

Answer:

9. What do you think can be done to strengthen healthcare assessment to improve quality in the Western Cape?

Answer:

10. Do you think Bothasig CDC is on course to meet the healthcare quality objectives set out in 'Western Cape Health 2030'? Give reasons for either a Yes or No answer.

Answer:

Thank you for taking part in this questionnaire.