

# **Alignment between chronic disease policy and practice: case study at a primary care facility**

by

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# TABLE OF CONTENTS

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1. Declaration.....	2
2. Part A: Protocol.....	3
3. Part B: Literature review.....	14
4. Part C: Journal article manuscript.....	34
5. Part D: Appendices.....	104

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# DECLARATION

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I, *Claire Anne Draper*, hereby declare that the work on which this dissertation/thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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# PART A: Protocol

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## **Alignment between chronic disease policy and practice: case study at a primary care facility**

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### **Introduction and Rationale**

In 2010, the World Health Organisation (WHO) reported that chronic (non-communicable) diseases were by far the leading cause of death.[1] The total number of deaths from chronic diseases was reported to be double that of all infectious diseases (including HIV/AIDS, tuberculosis and malaria), maternal / perinatal conditions, and nutritional deficiencies combined.[2] Contrary to common perception, 80% of chronic disease deaths occur in low and middle income countries (LMICs).[1,3,4]

Risk factors associated with acquiring a chronic disease have been well established. A small number of modifiable risk factors are associated with most chronic diseases, namely unhealthy diet, physical inactivity and tobacco use.[2,5] Traditionally, chronic diseases were seen to be a problem of ageing, affluent communities who had indulged in unhealthy lifestyles. However, this is inaccurate. It is an even larger problem in low-income countries amongst people who lack the resources to make healthy choices.[4] Globally, developed countries such as Australia, Canada, the United States and Denmark have established policies to appropriately manage and prevent chronic diseases.[6-12] Similar policies have also been developed in LMICs; however, more policies and plans exist in LMICs in Latin America and Asia than in Africa.

South Africa, a LMIC, faces a quadruple burden of infectious, chronic, perinatal and maternal, and injury-related diseases.[13] This burden of disease is present in both rural and urban areas.[13] The WHO estimates that the burden from chronic diseases in South Africa is two to three times higher than in developed countries, disproportionately affecting the poor living in urban and peri-urban settings.[13] Quoting the recent Brazzaville Declaration on Non-Communicable Diseases Prevention and Control in the WHO African Region,[14] the South African Health Minister, Dr Aaron Motsoaledi, acknowledged the "ever increasing double burden of communicable and non-communicable diseases in the WHO African region"[15] and committed to dealing with chronic diseases while still up-scaling efforts to fight communicable diseases.

The primary health care approach has been proposed as a strategy for improving health in South Africa[16], and can be applied to the reduction of morbidity and mortality associated with chronic diseases. According to the Declaration of Alma-Ata, primary health care should provide promotive, preventive, curative and rehabilitative services to address the main health problems in the community.[17] The importance of this approach has been highlighted again in recent years. [18-21] There has also been strong evidence of the benefits of primary care-oriented health systems. [22,23] Primary care is most effective when aligned with the principles of the primary health care approach. [24] By intervening at the primary care level with strategies to reduce modifiable risk factors in communities and ensure early detection and treatment, the burden of chronic diseases on the health care system could be reduced.[25] It is possible that this could impact positively on families and communities, creating opportunities to emphasize family and community-oriented care.

The South African Department of Health has developed national guidelines for the management of various chronic diseases at primary care level, including diabetes,[26] hypertension[27] and asthma.[28] In the Western Cape province of South Africa, the management of chronic diseases is one of the key interdivisional service priorities. In 2009, the Provincial Government of the Western Cape (PGWC) developed the Adult Chronic Disease Management Policy (see figure 1 on page 74

and addition file 1 on page 82 for a summary of the policy) which provides a framework for managing chronic diseases at a primary care level as well as assessing community-based services.[29] It seeks to treat current disease processes but also prevent further complications and promote health by addressing risk factors present in lifestyle. It also proposes regular clinical audits to assess the quality of care delivered and the attainment of treatment goals - the Integrated Audit Tool for Chronic Disease Management has been developed for this purpose.[29] While this tool has gathered valuable data, it only provides part of the picture as far as alignment with this policy framework is concerned, and more in-depth methods are required to complete the picture as other local audits conducted over the past few years in the Cape Town area show that chronic disease care remains suboptimal.[30-33]

Should chronic disease policies be well implemented, they have the potential to make a significant difference to the health of the population served.[3] No studies were found that had examined the implementation of the PGWC policy. Therefore, in light of the gap in the research the aim of this study was to assess the alignment of current primary care practices with the PGWC Adult Chronic Disease Management policy, using a case study approach. Study objectives included examining existing audit data and identifying factors influencing the implementation of the policy and primary health care approach at the case facility selected.

## **Research purpose and aim**

Current literature supports the need to make the prevention and management of chronic diseases an international health priority. In South Africa, our Health Minister has committed the government to tackling the burden of chronic diseases alongside communicable diseases. The Western Cape has developed an excellent policy and framework to guide and improve the prevention and management of chronic diseases at a primary care level, however limited literature exists around the alignment of the policy with current practice and around any challenges to its implementation. Should the policy be well implemented, it has the potential to make

a significant difference to the health of the population served. For this reason, the overall purpose of this study is to improve the care and management of patients with chronic diseases within primary health care facilities.

The aim of this study is to assess the alignment of current primary care practices with the PGWC Adult Chronic Disease Management policy (which includes an audit tool), using one primary health care facility in the Cape Town metropolis as a case study.

The objectives of this study will be to:

1. Examine existing audit data (2009-2011) to assess the extent to which processes are being implemented as intended
- 2a. Identify aspects of the audit data that require more in-depth examination or follow-up, e.g. details of lifestyle counselling, interface between facility- and community-based services, Chronic Care Team, lifestyle groups, support groups, and health education
- 2b. Examine these areas and identify factors influencing the successful implementation of these practices or principles
- 3a. Comment on the extent to which guiding principles of the primary health care approach and family medicine are being implemented in reality, e.g. patient-centred care, continuity of care, multi-disciplinary teams, goal setting with patients, empowering patients to lead healthy lifestyles, providing a supportive environment for patients' behaviour change, inter-sectoral collaboration, emphasis on prevention and promotion, and commitment to quality of care
- 3b. Identify factors influencing the implementation of these principles (both upstream and downstream factors)

Based on these findings, recommendations will then be made to aim at improving current practices. This study will provide formative data for a broader study entitled



“Putting Prevention into Practice”, which falls under the Chronic Disease in Africa Initiative, based in the Department of Medicine at the University of Cape Town. The aim of this broader study is to develop and test strategies and resources for health care providers and community health workers to enable them to offer brief, best practice, behavioural change counselling in a variety of settings, on the following topics: smoking; drug and alcohol abuse; poor diet, obesity and being overweight; and lack of physical activity.

## **Methods**

### **Design**

This is a case study design, and will use mixed methods to collect the data: semi-structured interviews and focus groups, document review, and participant observation.

Document review will be used to address Objective 1, and the other objectives will be addressed with participant observation, interviews, and focus groups.

### **Participants**

The particular primary care facility to be used as a case study has been selected as since the principle investigator (a Family Medicine registrar) has a 6-month placement at this facility, and is therefore in an ideal position to conduct the case study. Participants in this study will include staff employed at the facility (clinical managers, doctors, nurses, clinical nurse practitioners and allied health professionals) as well as those employed at a provincial level who support the facility.

### **Procedure and research tools**

The Integrated Audit Tool for Chronic Disease Management has been used since 2009 to collect data from RCHC (and other facilities). The data collected from the audits conducted at the primary care facility thus far will be collated in order to assess the extent to which processes are being implemented as intended. Particular attention will be paid to items of the audit where limited information is provided, and more in-depth investigation is deemed necessary. Examples of these items are details

of lifestyle counselling, interface between facility- and community-based services, Chronic Care Team, lifestyle groups, support groups, and health education.

These items will then form the basis of the guide questions to be used in focus groups with facility staff. All staff will be asked to participate in a focus group, and two focus groups (maximum 8 participants per group, n=16) will be conducted at the facility at a time convenient for the participants. These focus groups will reflect the range of staff involved directly with chronic disease management, and may take place as part of an existing meeting in order to encourage participation. Refreshments will be provided for participants. Based on the outcomes of the focus groups, other staff members will be purposively selected for follow-up interviews (n=10) in order to further explore pertinent issues. Interviews will be conducted at a time and place (most likely at the facility) convenient for staff. The aim of the focus groups and interviews will be to address Objectives 2 and 3. Focus groups and interviews will be conducted by the principle investigator (PI). While the PI will be a new member of staff at the facility, it is not believed that she will significantly bias the responses of participants. However, any potential bias will be accounted for and documented in the final report. All interviews and focus groups will be audio recorded and transcribed verbatim by a third party.

### **Data analysis**

Audit data will be analysed for frequencies, and compared across the three years for which data has been collected. Interview and focus group texts will be analysed (manually) using a content analytic approach. Themes that are identified from the interview and focus group texts will ultimately be collated for the final report.

## **Ethical considerations**

This study conforms to the World Medical Association Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects. Permission from the PGWC (Department of Health) will be obtained before proceeding with this study.

All participants will give written consent, and the consent form will contain information about the purpose of the study and how the results will be used. All participants will be assured (in the consent form and reiterated verbally) that their responses will not affect their employment or jeopardize their professional career in any way. The voluntary nature of the research will be mentioned in the consent forms, along with the fact that participants may withdraw from the study at any time. Permission for the recording of the interview / focus group is also requested.

The identity of the participants will be protected. Although the names of the interviewees and focus group participants will be known to the interviewer / focus group facilitator, the names of the participants will not be included in the transcripts. Identifying information will not be included in the report, unless by permission of the participant. Audio recordings will be stored by the principal investigator, and will be destroyed after a period of five years.

## **Benefits of the study**

Chronic disease is a very real and significant problem in South Africa, and the evidence supports that the burden of chronic disease can be decreased by addressing modifiable risk factors. There is also strong evidence supporting the importance of intervening at primary care level to reduce chronic diseases.

Apart from usual academic dissemination (i.e. MMed dissertation and publication in a peer-reviewed, academic journal), the findings of this study will be disseminated to the PGWC and other relevant stakeholders in the management and care of chronic diseases in the Western Cape. These findings will provide valuable insight into the management and care of chronic diseases at a primary care facility, and this would be helpful for the PGWC in light of their prioritization of the management of chronic diseases. Recommendations from this study may also help to improve the management and care of chronic diseases at the facility studied.

## **Time line**

Ethical clearance

March – May 2011

Preparation of research tools	May – June 2011
Data collection	July – December 2011
Data analysis	January – April 2012
Write-up	May – August 2012

## Budget

Refreshments for focus groups	2 x R250	R500
Transcription of interviews	15 x R400	R6000
Transcription of focus groups	2 x R500	R1000
Total		R7500

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# PART B: Literature Review

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## Objectives of the Literature Review

The objectives of this literature review were to establish what work had already been done to investigate the alignment of the PGWC Chronic Disease Management Policy with current practices in primary care facilities in the Western Cape province (South Africa) by establishing what was already known as well as looking for gaps in current knowledge so that appropriate investigation could be undertaken. For the purpose of comparison, literature on chronic disease policy implementation in other African and developing countries was also searched for in addition to looking at developed world policy and global strategies.

## Search Strategy

An online search was conducted to look for relevant literature, using both PubMed and Google search engines. Search terms (in various combinations) included: 'chronic disease', 'non-communicable disease', 'policy', 'alignment', 'implementation', 'practice', 'Western Cape', 'South Africa', 'Africa', 'Asia', 'Latin America', 'low and middle income countries', 'developing countries', 'developed countries', 'global' and 'World Health Organisation'. Reference lists from key articles were also reviewed and relevant articles searched for in this way. Since there has not been a lot of work done involving chronic disease policy implementation in the Western Cape or South Africa, the search was systematically broadened to include other African and developing countries. This literature was then also compared to other articles found discussing chronic disease policy implementation in developed countries as well as global strategies, such as those proposed by the World Health organization (WHO). In addition, literature was searched for on the implementation of other health policies, not involving chronic diseases, in both the Western Cape and South Africa.



## **Quality Criteria**

Articles used in this literature review came from peer-reviewed journals. Official health agency documents (such as those produced by the WHO) or written policy documents available in the public domain were also included.

## **Summary of Literature**

### **The Burden of Chronic Disease**

In data published in 2010, the WHO reported that chronic (non-communicable) diseases were by far the leading cause of death worldwide and that their impact is steadily increasing.[1] Chronic diseases refer to conditions such as cardiovascular diseases (mainly heart disease and stroke), diabetes, chronic respiratory diseases and cancer. The total number of deaths from chronic diseases was reported to be double that of all infectious diseases (including HIV/AIDS, tuberculosis and malaria), maternal / perinatal conditions, and nutritional deficiencies combined.[2] Contrary to common perception, 80% of chronic disease deaths occur in low and middle income countries.[1,3,4]

Risk factors for acquiring a chronic disease have been well established. A small number of modifiable risk factors are responsible for most chronic diseases, namely unhealthy diet, physical inactivity and tobacco use.[2,5] Harmful alcohol use is also considered to be a modifiable risk factor, adding to the global burden of disease, but its relationship to chronic disease is more complex.[2] Traditionally, chronic diseases were seen to be a problem of ageing, affluent communities who had indulged in these risk factors, however this is inaccurate: it is a larger problem in low income-countries amongst people who don't have the resources to make healthy choices.[4,6]

The WHO stated that "chronic diseases will take the lives of over 35 million people in 2005, including many young people and those in middle age",[3,4] with the greatest increase in mortality occurring in Africa.[7] Chronic diseases create huge cost and economic burdens on individuals, their families, health services and societies.[3] Sub Saharan Africa is now reported to have the highest rate of age specific mortality due to chronic diseases in the world, for both men and women.[8]

South Africa currently faces a quadruple burden of infectious, chronic, perinatal and maternal, and injury-related diseases, and these affect both rural and urban populations.[9] The WHO estimates that the burden from chronic diseases in South Africa is two to three times higher than in developed countries, disproportionately affecting the poor living in urban settings.[9] The South African adult population have high levels of the most significant risk factors mentioned previously (namely tobacco use, physical inactivity and unhealthy diet) and the national burden of disease is in part attributable to these modifiable risk factors.[9,10] A recent study demonstrated that chronic diseases (such as hypertension and diabetes) are the most common reasons for presentation to ambulatory primary care services throughout South Africa.[11]

In Cape Town (Western Cape province, South Africa), the overall chronic disease mortality was lower in 2000 than the estimated provincial and national averages. Mortality rates for ischemic heart disease and stroke were lower, while those for diabetes and lung cancer were higher than national rates. Death rates due to ischemic heart disease and stroke declined between 2001 and 2004, while death rates due to diabetes and hypertensive disease increased, which could reflect specific trends in the major risk factors – a possible reduction in smoking but worsening diet and physical inactivity.[12]

### **WHO Global Strategies for Chronic Diseases**

In an effort to reduce risk factors for chronic diseases, the WHO produced a Global Strategy on Diet, Physical Activity and Health in 2004.[13] The strategy aims to reduce risk factors for chronic disease (namely poor diet and physical inactivity) by increasing public awareness, encouraging implementation of effective, sustainable policies and supporting research around these risk factors.[13]

In 2005, in their report entitled “Preventing Chronic Disease: a Vital Investment”[3], the WHO identified a number of effective interventions to reduce risk factors and manage chronic diseases.[3] Interventions should target risk factors causally associated with chronic disease, should be proven to lead to favourable behaviour

change, should be cost effective and should be fiscally feasible to up-scale (if effective) in resource-constrained environments.[14]

The next challenge is to put these cost-effective interventions into practice. The WHO suggests that this is done by providing a unifying framework, through government policy, and incorporating diverse sectors into these frameworks to maximise available resources (e.g. private sector, civil society and international organisations).[3] The WHO report concludes that the global goal of saving 36 million lives by 2015 can be achieved through urgent, co-ordinated policy development and implementation.[3] This would have major economic benefits, including extension of productive life and reduction of the need for expensive care, as roughly half of the lives saved would be people under the age of 70 years.[15]

In the 2008-2013 Action Plan for the Global Strategy for the Prevention and Control of Non-communicable Diseases, the WHO proposed six objectives:[16]

1. To raise the priority of chronic diseases at global and national levels
  2. To create and strengthen national policies and plans to prevent and control of chronic diseases
  3. To promote interventions to reduce established modifiable risk factors (tobacco use, unhealthy diets, physical inactivity and harmful use of alcohol)
  4. To promote research around the prevention and control of chronic disease
  5. To promote partnerships in preventing and controlling chronic diseases
  6. To monitor and evaluate progress at the national, regional and global levels
- [16]

Global responses are needed to make a difference to health outcomes at a global level as well as to strengthen responses at a national level.[17] Lessons can be learnt from the successes of other global strategies, for example the WHO Framework Convention on Tobacco Control, which has had a significant impact on tobacco use worldwide.[18] In September 2011, the United Nations high-level meeting, on non-communicable disease prevention and control, took place in New York and set an international agenda for action.[19-22]

### **Other Global Chronic Disease Policies**

The primary health care approach has been proposed as a strategy for improving health, and can be applied to the reduction of morbidity and mortality associated with chronic diseases.[23] Starfield[24] noted that countries that had healthcare systems orientated around primary health care principles showed better overall health levels among their population, greater patient satisfaction rates with healthcare services and overall lower costs associated with these services.[24] According to the Declaration of Alma-Ata, “primary health care addresses the main health problems in the community, providing promotive, preventive, curative and rehabilitative services accordingly”[25] which includes “education concerning the prevailing health problems and the methods of preventing and controlling them”.[25] The importance of this approach has been highlighted again in recent years.[26-29] There has also been strong evidence of the benefits of primary care-oriented health systems.[24,30] Primary care is most effective when aligned with the principles of the primary health care approach.[31] Therefore, by intervening at a primary care level with strategies to reduce modifiable risk factors in communities and ensure early detection and treatment, we may be able to reduce the burden of chronic diseases on the health care system while simultaneously strengthening primary care services.[6]

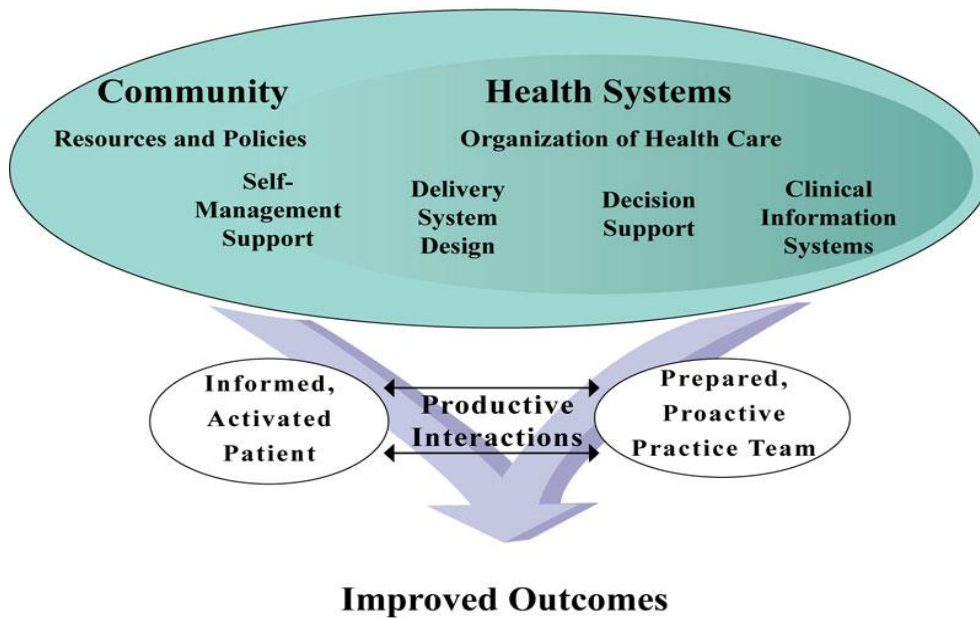
The Australian government developed the National Chronic Disease Strategy in response to the increasing burden of chronic disease in its country.[32] This policy provides a broad framework and set of principles specifying how management of chronic diseases should be organised and delivered, focusing on providing evidence-based care, coordinating care across a range of settings (involving multidisciplinary teams), promoting self-management and utilizing clinical information systems (including auditing processes).[33]

In Canada, the provision of health care is a provincial and territorial responsibility, meaning that health policies vary considerably across the country. One of its provinces, Quebec, is struggling to deal with the burden of chronic disease, particularly managing patients with multiple chronic diseases (50% of the patients seen at primary care level have more than four different chronic diseases). To meet this challenge, the provincial government has implemented a number of strategic

changes to provide patient-centred care. These include plans to strengthening primary care, implementing a shared information system, and aiming to improve collaboration between primary and secondary care.[34] In another province, Ontario, a study was done to evaluate chronic care outcomes after this province had undergone considerable primary care reform. Its results show that high-quality chronic care delivery was more likely to occur in facilities that utilized services of nurse-practitioners and those that were able to sustain smaller patient-physician ratios. Better care was also demonstrated in centers that combined clinical services with referral to a range of integrated community programmes.[35]

The Chronic Care Model[36] (developed in the USA – see diagram below) describes how health care should be reorganised and developed to more effectively and efficiently care for those with chronic diseases, and suggests the basic elements required for improving chronic care in health systems at a community, organizational, practice and patient level. The model is based on the principle of patients taking an active role in their own health care, supported by primary care practitioners, who work together with specialists, in a supportive community environment. This helps to facilitate self-management.[37]

## The Chronic Care Model



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### The Chronic Care Model[36]

The Danish National Board of Health developed a health policy for their country based on the Chronic Care Model. The Danish policy to care for people living with chronic diseases aims to improve quality of care in a cost effective manner. Ongoing monitoring and evaluation of policy implementation is recommended.[38]

In the United States, health care systems and legislation are currently under serious review. Research has emphasized that access to high-quality primary care allows for timely and cost-effective management of health issues. However, currently more than half of all Americans seeking health care delay presenting to health facilities due to cost.[39] This contributes to the failure of arguably the world's most expensive yet inefficient health care system. The current system lacks strong and accessible primary care infrastructure, and for this reason people often enter this system disadvantaged by already established chronic diseases or present to expensive services, such as emergency rooms.[39] The Institute for Clinical Systems Improvement recently produced a guideline emphasizing the importance of chronic disease prevention at a population level.[40] The document outlines the existing evidence for effective strategies and programmes to help adults make important changes to achieve healthier lifestyles and how these initiatives might be integrated

into health care systems (which have previously focused on early disease detection and treatment of risk factors, rather than preventing the onset of risk factors).[40]

### **Chronic Disease Policies for other Low / Middle Income Countries**

There is limited availability of specific chronic disease policies from African countries. However, of those African countries with available national health policies, chronic diseases are mentioned within policy documents. De-Graft Aikins et al.[8] identified two major gaps in the evidence needed to develop and implement chronic disease policies in Africa: the need for multidisciplinary research to guide intervention design as well as the need for improved understanding of the process and political economies of policy development in African countries.[8] Alwan et al.[41] suggest that monitoring and surveillance are also essential components to direct policy development. Further, strengthening national health systems to manage chronic diseases more effectively will have the added benefit of improving many other population health needs,[42]. These are discussed as part of the Ouagadougou Declaration on primary health care and health systems in Africa.[43]

Cameroon is one of the few African countries that has developed chronic disease policies around diabetes and hypertension. Diabetes clinics exist around the country and a monitoring system for chronic diseases has been set up.[44] The cost of drugs and disease management has been reduced through public-private partnerships. Prevention messages are mainly provided by health care centers and faith-based organizations. Mass media plays almost no role and fitness centers / gyms are expensive and elitist. No significant community-based support / advocacy groups exist.[44,45]

Ghana has no plan or policy for chronic disease prevention, despite the establishment of a non-communicable disease control programme in 1992. Local experts believe that chronic diseases are generally neglected in Ghana, receiving low policy priority and little interest from development partners.[45] Health care facilities are poorly equipped to deal with chronic diseases and staff are inadequately trained. Prevention campaigns are mainly through mass media and information disseminated through faith-based groups and fitness clubs.[45]

In a paper reporting on the prevention and control of chronic diseases in Pacific Rim cities, eight out of the nine countries that were reviewed had specific policies and programmes in place to manage and prevent chronic diseases.[46] These countries were: Japan, China, Hong Kong, Singapore, Vietnam, Indonesia, South Korea and the USA. Malaysia was the only country without a comprehensive chronic disease policy, however specific policies for the management for diabetes, cardiovascular disease and cancers do exist.[46]

In Latin America and the Caribbean , “chronic diseases are now the leading cause of premature mortality and disability in the vast majority of countries”.[47] The Pan-American Health Organisation has developed a regional strategy and plan of action for the integrated prevention and control of chronic diseases and risk factors to be implemented between 2006 and 2013.[47] The key aspects of this plan include policy development, risk factor surveillance, health promotion and integrated chronic disease management.[47]

### **Chronic Disease Policy in South Africa and the Western Cape**

An evolution in health care systems, away from the focus on acute care, towards a co-ordinated, comprehensive model of ongoing care is required in the prevention and management of chronic disease. When patients with chronic diseases receive effective treatment within a system that is integrated, provides regular follow-up and self-management support, these patients show improved health outcomes.[48]

Transformation efforts have been underway in the South African health sector for more than 15 years and include numerous structural, legislative and policy changes, in order to overcome segregation and improve access to health care services. There have been numerous positive improvements in the lives of South Africans, although urban / rural and public / private inequities still exist and are exacerbated by numerous health system challenges.[49]

Transformation has led to the development of a number of new health policies and plans, in an attempt to try and meet some of these challenges:



- The **National Health Act (2003)** lists, as one of its objectives, to “determine policies and measures necessary to protect, promote, improve and maintain the health and well-being of the population”.<sup>[50]</sup>
- The policy on **Quality in Health Care for South Africa** illustrates a “national commitment to measure, improve and maintain high-quality health care for all its citizens”.<sup>[51]</sup> This includes measuring the discrepancy between standards and actual practice, and working out strategies to close this gap, including the use of clinical audits as one of its methodologies.<sup>[51]</sup>
- The **National Guideline on the Primary Prevention of Chronic Diseases** states that at every stage, opportunities exist for prevention or treatment of disease, and for promoting healthy behaviour in the individual.<sup>[52]</sup>
- **Healthcare 2010** was developed by the Department of Health in the Western Cape as a strategic plan to ensure equal access to quality health care in the Western Cape, by reshaping public health services in this province to focus on primary-level, community-based, preventative health care.<sup>[53]</sup>
- The **Comprehensive Service Plan** provides the framework for the implementation of Healthcare 2010. The foundation of the plan is to improve the District Health Service to provide quality primary care, strengthened by the appointment of Family Medicine Practitioners at the larger Community Health Centres (CHCs) and district hospitals.<sup>[54]</sup> The service plan also outlines “the development of a comprehensive and integrated community based service delivery plan to cater for the needs of de-hospitalized patients and people suffering from chronic diseases.... (and to render) preventative and promotive health programmes”.<sup>[54]</sup>

On a national level, the leaders in health politics have committed themselves to significantly revising the public health sector in order to deal with the complex burden of disease that South Africa faces.<sup>[49]</sup> Expressed aims are to improve health outcomes, to enhance access to and affordability of services as well as to ensure that health systems respond to the needs of the population served.

At the First Global Ministerial Conference on Healthy Lifestyles and Non-Communicable Disease Control in April 2011, the South African Health Minister, Dr Aaron Motsoaledi committed to “strengthening national health systems as the basis of a comprehensive approach to equitable health outcomes”.[55] Quoting the recent Brazzaville Declaration on Non Communicable Diseases Prevention and Control in the WHO African Region[56] he acknowledged the “ever increasing double burden of communicable and non-communicable diseases in the WHO African region”[55] and committed to dealing with chronic diseases while still up-scaling efforts to fight communicable diseases. The Brazzaville Declaration emphasises that “Heads of State and Government should provide leadership, through the participation of the public sector in partnership with civil society organizations, the private sector and communities, in non-communicable diseases prevention and control”[56] and urges international community to collaborate with this goal and assist with financial implications of this strategy.[55,56]

Rispel et al.[49] attempted to assess various aspects of the current health system and health policy implementation. They highlighted elements of progress as well ongoing challenges within the following areas: leadership and governance; service delivery; human resources; finance; medical technology and pharmaceuticals; and access to information.

The Department of Health has developed national guidelines for the management of various chronic diseases at primary care level, including diabetes, hypertension and asthma.[57-59] In the Western Cape, the Department of Health has prioritized the management of chronic diseases as one of the key interdivisional service priorities. After a guiding conceptual framework was produced in 2006, the Provincial Government of the Western Cape (PGWC) developed the Adult Chronic Disease Management Policy in 2009.[60] This policy framework is described as “a starting point for incrementally developing a comprehensive strategy for managing chronic diseases in the province” (Prof. KC Househam, Head: Department of Health Western Cape).[60] The framework focuses on the following chronic diseases for targeted interventions:

- Cardiovascular Diseases (including ischaemic heart disease, stroke and peripheral vascular disease)
- Asthma and Chronic Obstructive Pulmonary Diseases (COPD);
- Diabetes (as a risk factor for Cardiovascular Diseases)
- Hypertension (as a risk factor for Cardiovascular Diseases)
- Epilepsy [60]

The policy framework proposes that monitoring and evaluation strategies should be put in place for each health facility and community-based service. One of the evaluation tools for quality assurance is the Integrated Audit Tool for Chronic Disease Management.[60] While this tool has gathered valuable and comprehensive data, it only provides part of the picture as far as alignment with this policy framework is concerned, and more in-depth methods are required to complete the picture.

The PGWC Adult Chronic Disease Management Policy[60] therefore draws on aspects of all the policies mentioned previously to provide a framework for managing chronic diseases at a primary care level and assessing community-based services as well. It seeks to treat current disease processes but also prevent further complications and promote health by addressing risk factors present in lifestyle behaviours. It also proposes regular clinical audits to assess quality of care delivered and attainment of treatment goals. The collection of adequate health information is essential for the recognition of the burden of chronic diseases at a local level. Inadequate or absent data collections leads to insufficient resource allocation, improper planning of control strategies and little means of monitoring the effect of health policies.[15]

Local audits conducted over the past few years in the Cape Town area show that chronic disease care is suboptimal. In a recent study looking at chronic disease management at 18 CHCs in the Cape Peninsula, only 33% of the hypertensive patients interviewed had a blood pressure readings of less than 140/90 mmHg, while only 42% of diabetic patients had non-fasting glucose levels below 11.1mmol/l.[61] These patients also had little knowledge about their chronic condition.[61]

In 2007, a survey around hypertensive practices was conducted at two CHCs in Cape Town. The most serious inadequacies in care noted were the poor assessment of target organ damage, lack of risk stratification measures and an absence of global cardiovascular risk management. Obesity was highly prevalent, however, only 56% of patients reported ever being counselled on lifestyle measures to improve hypertensive control and reduce cardiovascular risk.[62]

An audit of asthma care at primary care facilities managing adult patients with chronic asthma was conducted within all six districts of the Western Cape province.[63] The results published in 2009 showed overall poor management of this chronic disease: only 23.2% of patients had a recorded peak expiratory flow measurement and just 14% of patients had their inhaler technique checked.[63]

Chronic disease management strategies specific to provincial health administrations (other than the Western Cape) were not accessible in the public domain.

#### **Other health policies in South Africa**

Aside from chronic diseases, South Africa has a number of other health policies relating to different disease spectrums, including mental health and HIV/AIDS.

Both policy and legislation in South Africa advocate for community-based mental health care adhering to the bill of human rights. Lund et al.[64] conducted a survey of the resources within and the utilization of mental health services across the public sector during 2005. Despite progressive policy, the survey revealed significant discrepancies in provincial resources, absence of reliable data needed to correct these discrepancies, dominance of hospital rather than community-based services and significant unmet needs for mental health care provision.[64]

In 2006 it was estimated that 39.5 million people are living with HIV worldwide, with 64% of these people living in sub Saharan Africa.[65] Despite a slow initial response, in 2001 the Department of Health initiated the prevention of mother-to-child transmission of HIV (PMTCT) programme[66] and then, in 2006, the HIV &

AIDS and STI Strategic Plan 2007-2011 was developed.[65] South Africa's antiretroviral programme is governed by these defined national plans and policies. However, provincial governments take responsibility for the provision of health care, and have a certain degree of autonomy in the way these programmes are implemented. Antiretroviral programmes are therefore implemented differently in different provinces depending on leadership, resources, links between health care professionals and information systems.[67]

## **Identification of Gaps and Need for Further Research**

While a substantial policy exists around the management of chronic diseases in the Western Cape, little research has been done into the implementation of this policy. Indicators of disease control have been looked at through the audit data as well as in research around various specific diseases at specific facilities; however, no specific research was found on the implementation of the policy in its entirety at any one or at multiple facilities. An in-depth look at the reasons for difficulties in the implementation of this specific policy has also not yet been undertaken. These gaps are not unique to South Africa. Similar research is also lacking in other African countries as well as other low and middle income countries, emphasizing the need for these areas to receive more funding priority.[68]

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# PART C: Journal Article Manuscript

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## **Alignment between chronic disease policy and practice: case study at a primary care facility**

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### **Abstract**

#### **Background**

Chronic disease is by far the leading cause of death worldwide and of increasing concern in low- and middle-income countries, including South Africa, where chronic diseases disproportionately affect the poor living in urban settings. The Provincial Government of the Western Cape (PGWC) has prioritized the management of chronic diseases and has developed a policy and framework (Adult Chronic Disease Management Policy 2009) to guide and improve the prevention and management of chronic diseases at a primary care level. The aim of this study is to assess the alignment of current primary care practices with the PGWC Adult Chronic Disease Management policy.

## **Methods**

One comprehensive primary care facility in a Cape Town health district was used as a case study. Data was collected via semi-structured interviews (n=10), focus groups (n=8) and document review. Participants in this study included clinical staff involved in chronic disease management at the facility and at a provincial level. Data previously collected using the Integrated Audit Tool for Chronic Disease Management (part of the PGWC Adult Chronic Disease Management policy) formed the basis of the guide questions used in focus groups and interviews.

## **Results**

The results of this research indicate a significant gap between policy and its implementation to improve and support chronic disease management at this primary care facility. A major factor seems to be poor policy knowledge by clinicians, which contributes to an individual rather than a team approach in the management of chronic disease patients. Poor interaction between facility- and community-based services also emerged. A number of factors were identified that seemed to contribute to poor policy implementation, the majority of which were staff related and ultimately resulted in a decrease in the quality of patient care.

## **Conclusions**

Chronic disease policy implementation needs to be improved in order to support chronic disease management at this facility. It is possible that similar findings and factors are present at other primary care facilities in Cape Town. At a philosophical level, this research highlights the tension between primary health care principles and a diseased-based approach in a primary care setting.

## **Keywords**

Chronic disease

Policy

Primary care

## Background

In 2010, the World Health Organisation (WHO) reported that chronic (non-communicable) diseases were by far the leading cause of death worldwide and that their impact was steadily increasing.[1] The total number of deaths from chronic diseases was reported to be double that of all infectious diseases (including HIV/AIDS, tuberculosis and malaria), maternal / perinatal conditions, and nutritional deficiencies combined.[2] Contrary to common perception, 80% of chronic disease deaths occur in low and middle income countries (LMICs).[1,3,4]

Risk factors for acquiring a chronic disease have been well established. A small number of modifiable risk factors are responsible for most chronic diseases, namely unhealthy diet, physical inactivity and tobacco use.[2,5] Traditionally, chronic diseases were seen to be a problem of ageing, affluent communities who had indulged in unhealthy lifestyles. However, this is inaccurate. It is an even larger problem in low-income countries amongst people who lack the resources to make healthy choices.[4] Globally, developed countries such as Australia, Canada, the United States and Denmark have established policies to appropriately manage and prevent chronic diseases.[6-12] Similar policies have also been developed in LMICs; however, more policies and plans exist in LMICs in Latin America and Asia than in Africa.

South Africa, a LMIC, faces a quadruple burden of infectious, chronic, perinatal and maternal, and injury-related diseases.[13] This burden of disease is present in both rural and urban areas.[13] The WHO estimates that the burden from chronic diseases in South Africa is two to three times higher than in developed countries, disproportionately affecting the poor living in urban and peri-urban settings.[13] Quoting the recent Brazzaville Declaration on Non-Communicable Diseases Prevention and Control in the WHO African Region,[14] the South African Health Minister, Dr Aaron Motsoaledi, acknowledged the "ever increasing double burden of communicable and non-communicable diseases in the WHO African region"[15] and committed to dealing with chronic diseases while still up-scaling efforts to fight communicable diseases.

The primary health care approach[16] has been proposed as a strategy for improving health in South Africa, and can be applied to the reduction of morbidity and mortality associated with chronic diseases. According to the Declaration of Alma-Ata, primary health care should provide promotive, preventive, curative and rehabilitative services to address the main health problems in the community.[16] The importance of this approach has highlighted again in recent years. [17-20] There has also been strong evidence of the benefits of primary care-oriented health systems. [21,22] Primary care is most effective when aligned with the principles of the primary health care approach. [23] By intervening at the primary care level with strategies to reduce modifiable risk factors in communities and ensure early detection and treatment, the burden of chronic diseases on the health care system could be reduced.[24] It is possible that this could impact positively on families and communities, creating opportunities to emphasize family and community-oriented care.

The South African Department of Health has developed national guidelines for the management of various chronic diseases at primary care level, including diabetes,[25] hypertension[26] and asthma.[27] In the Western Cape province of South Africa, the management of chronic diseases is one of the key interdivisional service priorities. In 2009, the Provincial Government of the Western Cape (PGWC) developed the Adult Chronic Disease Management Policy (see figure 1 and addition file 1 for a summary of the policy) which provides a framework for managing chronic diseases at a primary care level as well as assessing community-based services.[28] It seeks to treat current disease processes but also prevent further complications and promote health by addressing risk factors present in lifestyle. It also proposes regular clinical audits to assess the quality of care delivered and the attainment of treatment goals - the Integrated Audit Tool for Chronic Disease Management has been developed for this purpose.[28] While this tool has gathered valuable data, it only provides part of the picture as far as alignment with this policy framework is concerned, and more in-depth methods are required to complete the picture as other local audits conducted over the past few years in the Cape Town area show that chronic disease care remains suboptimal.[29-32]

Current literature highlights some of the difficulties of aligning policy with practice within South African health system. Rispel et al.[33] noted elements of progress as well ongoing challenges within the following areas: leadership and governance; service delivery; human resources; finance; medical technology and pharmaceuticals; and access to information. Lund et al.[34] conducted a survey of the resources within and the utilization of mental health services across the public sector during 2005. Despite progressive policy, the survey revealed significant discrepancies in provincial resources, absence of reliable data needed to correct these discrepancies, dominance of hospital rather than community-based services and significant unmet needs for mental health care provision.[34]

Should chronic disease policies be well implemented, they have the potential to make a significant difference to the health of the population served.[3] No studies were found that had examined the implementation of the PGWC policy. Therefore, in light of the gap in the research the aim of this study was to assess the alignment of current primary care practices with the PGWC Adult Chronic Disease Management policy, using a case study approach. Study objectives included examining existing audit data and identifying factors influencing the implementation of the policy and primary health care approach at the case facility selected.

## **Methods**

An exploratory qualitative study was conducted to investigate policy alignment with practice at one specific primary care facility, drawing on mixed methods to collect the data: document review, semi-structured interviews and focus groups. The Community Health Center (CHC) used as a case study is a primary care facility serving a population of approximately 30 000 people in an under-resourced area of Cape Town, South Africa. Compared to other CHCs in Cape Town, this facility is medium in size with respect to patient visits per day and staff complement; the ratio of health care workers to patients would be considered average. PGWC records indicate that the average number of patients seen at this facility per day in 2011 was 850 patients. This particular facility was selected because the principal investigator (a Family Medicine registrar) had a six month placement at this facility, and was therefore in an ideal position to conduct the case study. Participants in this study



included staff employed at the CHC including facility and clinical managers (n=3, including one Family Physician), doctors (n=5), nursing staff (n=5, including CNPs) and other allied health professionals (n=2) as well as health professionals employed at a district or provincial level who support the CHC (n=3).

The Integrated Audit Tool for Chronic Disease Management (a component of the PGWC Chronic Disease Policy) has been used since 2009 to collect data from this and other facilities in the Western Cape. The data collected from the audits conducted at this CHC thus far was collated in order to assess the extent to which processes described in the policy were being implemented as intended. Particular attention was paid to items of the audit where limited information was provided, and more in-depth investigation was deemed necessary. Examples of these items were: details of lifestyle counselling, interface between facility- and community-based services, the Chronic Care Team, lifestyle groups, support groups, and health education.

Audit data was analysed for frequencies, and compared across the three years for which data had been collected. This data and the policy document itself formed the basis for the guide questions for the focus groups and interviews (see additional file 2 and 3 for a summary of the guide questions used). These differed slightly between participants depending on their specific roles. All clinical staff members involved with chronic disease management at the facility were invited to participate. From those who agreed, two focus groups (4 participants per group, n=8 all female) were conducted, one consisting of junior doctors (with between two and five years of experience) and the other of clinical nurse practitioners (with extensive nursing experience). All CNPs at the facility were included in one focus group. Of the eight doctors working at the facility, four were included in the focus group, one declined participating, one doctor was the principle investigator (PI) and the other two (more senior) doctors were individually interviewed. The focus group discussions helped inform the purposive selection of other staff for the interviews (n=10), to further explore pertinent issues. These individuals were identified to have special roles in terms of chronic disease management at the facility. Focus groups and interviews were conducted by the PI, who was a new member of staff at the CHC at the time,

and took place at the facility or at the location where the relevant staff member was employed (some staff members were not based at the facility). Each lasted approximately 60 – 90 minutes. All participants signed written consent which included an emphasis on voluntary participation, freedom to withdraw at any stage with no negative consequences and a guarantee of anonymity.

All interviews and focus groups were audio recorded and transcribed verbatim by a third party. Interview and focus group texts were coded using the content analytic approach[35] by the PI with input from a co-author using Atlas.ti Qualitative Data Analysis Software (Scientific Software Development GmbH, Berlin, Germany). Themes were identified from the interviews and focus groups by repeatedly reading through the transcripts and then grouping and summarizing content to develop a coding framework. The structure of the policy document itself also helped in the development of the coding framework. All transcripts were then analysed and the data collated.

Approval for this study was obtained from the PGWC (Department of Health) as well as the UCT Human Research Ethics Committee (REC REF 109/2011).

## **Results**

### ***Perceptions of Chronic Disease Policy***

#### *Perceptions of Chronic Disease Management*

There was a wide range of opinions as to how this CHC was coping with chronic disease management (CDM). Some felt that it was coping well and had improved, while others felt service delivery was only adequate or deteriorating. Some felt unsure as to how CDM was functioning at present. Comments to support these various views related to both patients (e.g. improvements in knowledge and attitudes, lack of compliance with treatment, insufficient education provided) and staff (e.g. taking initiative, not working as a team or following policy guidelines, managing some chronic diseases better than others).

Considering the Western Cape in general, some respondents felt CDM was poor (due to poor policy awareness and utilisation of preventative measures, compounded by

staffing and time constraints) while others were more positive. Respondents felt that various international trends and practices (e.g. lack of prioritization of CDM and poor levels of disease control even in well-resourced settings) made chronic diseases difficult to manage at a local level.

#### *Perceptions of Policy Components*

Different respondents mentioned both positive and negative perceptions of the policy, which are summarized in table 1.

*(Insert table 1 here)*

#### *Knowledge of the Policy*

On the whole, knowledge of the policy was acknowledged to be poor, due to unfamiliarity with the policy document or inadequate communication about policy details from management. Many of the clinical staff reported that they had either never heard of the policy or weren't sure what it was about. Many reported having had no training on the policy. Those who reported some knowledge said they thought the policy was about implementing guidelines for chronic disease management or patient education. Some (but not all) senior or management staff reported that they had read the policy / knew the principles of the policy well.

#### *Perceived Role in the Policy / Chronic Disease Management*

Respondents described many diverse functions in terms of the roles they play within the policy specifically and in chronic disease management in general (summarized in additional file 4). Some respondents felt uncertain about their role and felt that the policy expected them to manage patients that were outside of their scope of practice and expertise.

*“I'm supposed to... guide the implementation of the policy here. I regard it still as very much the staffs' job to... basically follow the policy, the kind of coal-face... stuff. But I'm certainly supposed to create awareness around it... that it is in fact happening and being implemented and sure that the clinical governance of the actual implementation - so basically that means looking at audits, it means looking*

*critically at what's actually happening in the clubs...so what education are we giving our patients...that type of thing.” (Clinical manager 1)*

### **Perceptions of Chronic Disease Management Practices: Facility-based Systems**

The crux of the PGWC Chronic Disease Management Policy is facility-based stabilisation of chronic disease patients interacting seamlessly with community-based maintenance of these patients. Respondents were asked specifically about each aspect of service delivery mentioned in the policy and how these related to this specific CHC. Their views included their perceptions of the current practices as well as their perceptions of the factors influencing these practices. These perceptions will be described below.

As per the policy outline, the services that will be discussed include:

- Facility-based systems
  - Service delivery platform (including chronic disease clubs, equipment and resources)
  - CDM Health Care Teams (coordinated by a champion)
  - Clinical governance (including patient satisfaction surveys)
  - Education (club-based and therapeutic groups)
  - Provision of medication
  - Referral
  - Outreach and support
  - Training
  - Information management and research
- Community-based systems
  - NGO partnership with Department of Health (including prevention, promotion and continuation of therapeutic education)
  - Adherence support
  - Community input planning and review of quality healthcare

### *Service Delivery Platform*

#### **Chronic Disease Club**

The “club system” exists at this CHC which means that patients with chronic diseases can be seen separately from the rest of the patients with scheduled appointments. Those with a club appointment go directly to the club room (different chronic diseases on different days) where they are triaged separately by a dedicated club nurse and then wait there for their consultation with the doctor or CNP. Hourly appointments (about 20 patients per hour) mean that patients are processed in groups.

Respondents highlighted both positive and negative aspects of having chronic disease clubs, which are summarized in table 2.

*(Insert table 2 here)*

*“...patients know they can come to this room whenever they need. Sometimes they don’t have a booking or they have a sore on their foot - and they feel they can come here because I will make a way that they see a doctor... So they feel like there’s a place that they can go if things is not going too well for them... because the connection between the staff and the client, it’s almost like a bond... they feel that they won’t be like rejected.” (Nurse 1)*

*“I would say we’ve come a long way because the club used to be very deurmekaar [disorganized] before and now it’s much more structured in the sense that people used to come any hour... now there’s time allocated for those people, so only those people for that timeslot come at that time and will be seen to... they also now get more health education where they get taught about their diabetes, their hypertension, feet care and all that. And the new club... is the asthma club and that is functioning very nicely actually now.” (Clinical manager 2)*

#### **Equipment / resources**

Most respondents felt that financial constraints were leading to difficulties in managing chronic diseases and reported that the reasons for these constraints included: chronic diseases not featuring in international Millennium Development

Goals and therefore limiting funding allocated by the Department of Health (not given priority status); chronic diseases not being given priority at a facility budget level (management sees all facility needs as equal and believes that adequate funds are available).

Most respondents felt that the available equipment / resources were inadequate for CDM, citing reasons such as procurement difficulties and staff not taking responsibility for equipment. They highlighted a number of areas that still needed improvement: tape measures for waist circumference, height measures for body mass index (BMI), electrocardiograms (ECG), special investigations indicated in national policies, absent or inaccessible blood results, inhaler technique, provision of flu vaccines, lack of patient information leaflets, and eye examinations. Some felt more positive, saying that there were fewer shortages, specifically in that there were more obesity BP cuffs and BMI wheels. Furthermore, the increase in wall-mounted equipment meant that such equipment went missing less frequently.

*“...there should be a computer here where you can tik-tik-tik - there’s the folder number, there’s the results... And I’ve been here for almost two years now and it’s been promised and promised and promised and it just doesn’t happen... even if it’s one computer in the whole place they can connect to the lab and get the results... I can’t understand how it just can’t get done... it would make the load on the injection room much less, so people will get their bloods done easier and quicker. It will make our job much easier; it will make everyone’s job much easier.” (Doctor 2)*

#### *Chronic Disease Management Health Care Teams*

Most respondents felt that there wasn’t a dedicated chronic care team or that previous teams had fallen away. One respondent mentioned that following the HIV model (which utilizes a team of dedicated, trained staff) could ensure better care for chronic disease patients. Some reasons given for the current absence of a chronic care team were: a lack of practical guidance within the policy; no incentives; no dedicated posts; no accountability; no multidisciplinary team / multidisciplinary approach; and a staff allocation system that hadn’t worked.

*“Just one thing about the actual policy is no information of the policy is given on how the chronic team is going to be recruited, trained and established - it just says you must have one. And you know that with all our challenges and our staff constraints, it means it’s not going to happen unless some practical advice into the policy is added... it’s all about incentives - so somehow a chronic team must be incentivized... you can make a chronic team but if they’re busy working in all the other clinics, they’re not going to have the focus.” (Provincial employee 1)*

As per the policy, a champion needs to be nominated to head up this team. There were varying opinions amongst the respondents as to who the champion at this facility was. There were also various interpretations of how the champion’s role should be implemented and utilized. These different opinions on the champion’s role are summarized in additional file 5. Some said that the role of the champion was misunderstood and that there was no belief amongst staff in their ability to change things; others felt the having one dedicated person as a champion was essential and that having a dedicated post for this person would be important, but unfortunately management would not be interested in creating such a post.

*“I think that the concept of champion is kind of misunderstood, and that’s where a lot of work, and I think [doctor’s name] frustration also is... [P]eople think that champion is the doer, you know, instead of champion being the person of having the knowledge required and knowledge and then start spreading and educating. And I think that part is not there yet. I wouldn’t want to see [doctor’s name] as a champion, but I’m sure he will be - he can head that area of where we increase awareness, increase education from staff to making sure that the chronic disease policy is 100% implemented.” (Clinical manager 3)*

### ***Patient Satisfaction***

According to the policy, measuring patient satisfaction is an important aspect of clinical governance. Most respondents felt that a formal patient satisfaction survey had not been conducted recently or ever; however, some respondents felt that they informally assessed satisfaction by asking patients directly how they felt. Some felt

that patients were satisfied with the club, while others felt patients were dissatisfied with staff shortages or with waiting times for missing folders or for medication.

One respondent mentioned that a survey was currently being developed. Other respondents indicated that the health committee (citizens elected by the community to represent them) conducted surveys and patients were able to voice their grievances in this way. Other respondents mentioned that patients were free to lodge complaints with management if they were unsatisfied and that management was striving to get a survey going in the future.

*“...I can't remember when our last patient satisfaction survey was done, but a lot of the issues around dissatisfaction have got to do with the way patients are being treated, how long they wait...rather than the true understanding of whether they're getting decent medical care.” (Clinical manager 1)*

Most respondents felt that some effort was being made to assist patients with special needs (elderly / ill / disabled patients and children are prioritized / fast-tracked in the queue both to be seen by a clinician and at pharmacy) and to involve patients in a management plan. However, some mentioned that both these issues could be difficult to implement practically.

*“That's a difficult one... When you're saying management plan, it's very broad - it's like they're involved or they are invited to become involved with like exercise, diet, when they need to go onto insulin, lifestyles and stuff like that. They are invited to partake in that, and it's on the sheet here, so every time we'll chat to them: “Are you smoking?” “Ja” “Well, what do you think about smoking?” I'm not going to go through the five-step programme or that.” (Doctor 1)*

## *Education*

### Club-based Education

Most respondents agreed that the majority of facility-based group education happens in the clubs while patients are waiting to be seen, since therapeutic groups (structured programme of group education sessions given at diagnosis of the chronic disease)



don't exist at this CHC at present. Other areas where it was felt that education was given (mostly one-on-one) were at the pharmacy, during consultations and in the stroke rehabilitation group (Strohab) affiliated with the CHC. Club education is done by the club sister in English or Afrikaans (commonly spoken in the community) across all the different clubs in group format. There is a guideline on what education should be done, but she only follows this loosely, rather assessing patient knowledge and/or needs to guide the content of her talks. Group education is brief and simple around different aspects of chronic diseases as well as social problems, but she also tries to talk to patients one-on-one when she is able to. Respondents' views on club education are summarized in additional file 6.

The LIFE (Lifestyle Intervention for Empowerment Programme) flipchart, a behaviour modification flipchart to promote healthy lifestyles, was generally seen as a powerful resource in patient education. Respondents made the following observations: it helped to open up discussions about deeper problems, mindsets and attitudes; it empowered patients to make lifestyle changes; it was adaptable enough to use in different communities; and specific training is not necessary.

*“You see, the whole thing I took [from using the LIFE flipchart in a therapeutic group] was we need to empower you, you need to be responsible, not in a dictative way but in an empowering way - you know what I mean - not telling them to do things but telling them how to do things.” (Provincial employee 1)*

Many felt that adequate lifestyle counseling (around changing unhealthy behaviours such as poor diet, lack of exercise, smoking and alcohol) was not being done and they gave various reasons for this, summarized in additional file 7. A few respondents felt more positive, saying that patient counseling around lifestyle issues was being done, or that they tried to talk to their patients about lifestyle issues but perhaps forgot to document this. Others highlighted the importance of continually reinforcing education given so that this information is better absorbed by patients and behaviour change is continually encouraged.

*“I think the thing is there’s no time spent on motivational interviewing ... it sort of runs on a curative thing. The doctors insist just on a cure... but there’s no health promotion, very little - and I think if a doctor does, they kind of skimp on the information. They might say things like you need to improve your diet. A patient doesn’t know what that means.” (Provincial employee 1)*

*“Well, I know, for example, I’ll only tick the one if I’ve said something about it - so if I’ve said to an asthmatic, ‘Are you still smoking?’ and they say, ‘Yes’, I’ll say you should try and stop - you know, you give them very like quick, say you need to stop smoking - and then I’ll tick it. And if I don’t say anything about smoking then I won’t tick it.” (Doctor 2)*

### Therapeutic Groups

At another facility where the implementation of therapeutic groups is currently being researched, the respondent felt that the structure and function of the groups should include the aspects listed in additional file 8.

*“... I just felt that a once-off consult is an absolute waste of time. If you look at the amount of patients we see once-off you start to realise my job is very ineffective - which is when I get these patients that can come to this group, I get more opportunities to get more knowledge and stimulate them and get motivation - you just see them change a lot more, they’re kind of all responsible and that’s what I want to see as a dietician is that kind of impact.” (Provincial employee 1)*

Most respondents indicated that these groups didn’t exist at the facility; however, some mentioned that it had been attempted in the past. Reasons why these groups were not still running related to both staff (personality conflicts, allocation problems, belief that lifestyle modification can’t occur in groups) and patients (stopped coming, only younger patients interested). One respondent mentioned that the groups had initially gone well. Some respondents indicated their willingness to be involved if the groups were re-initiated.

A few respondents mentioned the many advantages as well as the disadvantages of therapeutic groups (summarized in additional file 9).

#### *Provision of medication*

Most respondents agreed that the chronic disease medication central pre-packaging service (CDU) has made a significant difference to patients. It has reduced waiting times for patients (by creating specific appointment times for patients to collect their medication) and reduced the workload for pharmacy (medication is already pre-packaged and labeled for the patient), with the majority of chronic disease patients now accessing this service. However, some disadvantages included that there are strict rules as to how prescriptions need to be written, there are sometimes errors in the pre-packaging that need to be corrected by pharmacists, and that medication is sent back to CDU if it is not collected within 5 days.

Respondents disagreed as to whether it was possible with the current CDU service to have medication delivered to alternate sites in the community. Some felt that this was not possible at that time (not part of the initial service agreement), but would hopefully change in the near future. Others mentioned that it was possible to have medication delivered directly to support groups / old-age homes or redistributed to other clinics in the facility's drainage area (as part of the CDU system), or using the private courier system in place for club patients (medication delivered to their home for a fee).

Respondents agreed that there was no dedicated pharmacist for dispensing chronic disease medication. Some felt this would really help; others felt it was an unrealistic expectation, or that it was not necessary to separate chronic disease patients and that waiting times were already shorter than for other patients.

Other aspects raised related to medication provision for chronic diseases. This included the availability and adequacy of medication stock, little or no adherence support, no system to trace defaulters and medication waiting times.

In terms of staff's approach to care around medication-related issues, respondents felt that it was important to explain to patients that medication was lifelong. Furthermore, staff members were just giving more medication rather than managing the basics well (e.g. inhaler technique; counseling). Staff should listen to the reasons why patients are not taking their medication.

*"I think it's a whole attitude around medication. It's like we're going to chuck medication at the patient; and we don't go back to basics when we see that they're not being controlled - it takes too much time to go back to basics and address those issues." (Clinical manager 1)*

One suggestion made relating to medication and chronic disease management was the institution of pill counts (counting the medication that the patient has leftover at the end of each month), although it was acknowledged that there might be some resistance to using this method. Respondents commented that pill counts could be used to check compliance, allow for reinforcement of education around medication, better explain changes or substitutions in medication, make patients more responsible, ensure patients didn't throw used medication away, and prevent medication sharing with other patients in the community.

#### *Referral*

One of the most important aspects of the policy is the referral of chronic disease patients, stabilized within the facility, to community-based support groups (CBSG) for ongoing education and monitoring. Most respondents felt that while some staff members were referring patients to the CBSG, many were not. Reasons given for this were: patients could only be referred once they were stable and most patients were not stable; no feedback was given to clinicians as to whether these groups were running; and there was poor knowledge of how the referral system worked. One respondent mentioned that patients were referred but then the rest was up to them; another stated that staff didn't try hard enough to ensure that patients got to support groups.

### *Outreach and support*

Most respondents agreed that there was little or no support being offered by this CHC to the CBSG and other community-based services in its drainage area. Some mentioned that the facility and community were working separately, without adequate links, but mentioned that these two services were better integrated in other areas, like rural districts. The major reasons given for this divide were lack of time or disinclination on the part of the facility staff.

### *Training*

Most respondents felt that staff lacked clinical competence and insight into certain aspects of chronic disease management (summarized in additional file 10). Some respondents felt they needed input from specialized health care workers to ensure competence and questioned their own competence when a patient's chronic disease process was consistently poorly controlled.

*"I don't know whether it's because we're not doing our job properly or they're not doing their job properly, as in the patients, but it's just I don't think we're getting there at the moment at all." (Doctor 2)*

A few respondents mentioned that if they did not feel competent to manage a patient's chronic disease, they were able to ask for assistance from a senior colleague. Most respondents felt that support for staff was also lacking, particularly for staff who were trying to implement changes and make improvements to the system, as well as for more junior staff members. Some also felt that there was little or no support from allied services such as dietetics or health promotion. One respondent felt that if good relationships existed, staff were able to support each other well.

Training was felt to be inadequate by most respondents due to a lack of policy guidance, selection (only available to certain staff members), closure of training institutes, time pressures on clinical work, training that was inappropriate to the level of staff being trained, lack of awareness of training opportunities available, and once-off opportunities not being repeated. However, some felt that training was adequate

in amount, but various problems with the training were identified. Material was felt to be out of date (although attempts have been made to partner with outside organisations to provide current training) and the content wasn't applicable in current, difficult working circumstances. Further, staff were regularly rotated through different clinic areas, rather than being allocated to a specific area of the facility where they enjoyed working and trained appropriately. Training was also usually provided for management and senior staff but relied on these staff members in turn to train the rest of their staff at a local level. However, barriers were identified to this practice in that senior staff were too busy to conduct training and staff members were not interested in the facility-based training offered, preferring specialist training.

#### *Information management and research*

Respondents were asked to comment about the aspects of chronic disease management that were reported to be both good and poor, according to the Integrated Audit Tool for Chronic Disease Management. Many felt that there had been some overall improvements, and felt specifically that patients were always weighed, blood tests were being done more regularly and chronic disease stationary was more available. Some felt that the audit set good, realistic targets for staff and that going through the audit process itself could be very helpful to facilities. However, others felt that the picture it painted was inaccurate as the sample size was too small or that gold-standards in management were unrealistic. They therefore wondered if looking at audit results was really making an impact on staff and practices. No specific outcome targets had been set overall for the province, although facilities were free to set their own individual and realistic targets according to their results. Respondents reported that no specific targets had been set at this particular facility, but rather that the aim was for overall improvement.

Respondents described interventions to improve chronic disease management at both provincial and district levels, and some mentioned that the quality of audit data was less important than the fact that the audits were being conducted. Respondents felt that most of the interventions should be occurring at facilities and be conducted by the staff members themselves. This could occur through discussion of audit results

at monthly morbidity and mortality meetings, with experts being brought in to up-skill staff in certain areas, champions looking at results and using these to plan interventions to improve services, and staff presenting special cases to promote learning. Some respondents felt that they weren't informed of audit results. Others thought that staff were jaded and therefore had no confidence in their ability to change conditions.

*“So... if they can identify a champion who can coordinate and who can look at the service and start planning - because what each facility is already doing is the integrated chronic disease audit... If they could then take those results and then start with improvement plans at their facility, then at least that would be a start for them to address the gaps.” (Provincial employee 3)*

Most respondents agreed that this CHC wasn't using a chronic disease management register at present, but some reported that the register was used in the past. Many felt the register (not electronic) was time-consuming and not useful, and that the purpose for it was unclear. Others felt that it could be useful but that the current register was full and no additional registers had been provided. However, it was mentioned that an electronic version was currently being developed.

Most respondents said that they were not aware of routine monthly reports being completed, and if they were being done, it was only in a limited capacity, involving monthly statistics of numbers of chronic disease patients seen either for internal use or for submission to the provincial administration. Those who said this wasn't being done felt it could be useful for assessing current practices, policy implementation and planning improvements.

Most respondent had both positive and negative opinions about the chronic disease record sheet, also known as the 'pink form' (summarized in table 3).

*(Insert table 3 here)*

*“So they help a lot but they aren’t filled in well - from prep-room side, meaning like often they just say they don’t have time to check the urine, so they don’t. Often the weights aren’t filled in because they just don’t want to ... Often the HGTs aren’t done because they don’t have time. And then they just get sent through to you and then you have to send them back, which wastes a whole bunch of time as well. And then also from our side, we don’t always fill in the blood pressure on the thing as we should do.” (Doctor 2)*

Respondents agreed that patient folders were generally disorganized and record keeping was often poor. This was reported to be time consuming to sort out; it affected the quality of patient care by impairing continuity of care and it was felt that the ordering of folders was work that should be done by administrative staff.

### ***Perceptions of Chronic Disease Management Practices: Community-based Systems***

#### ***Role of Non-profit Organisations and Adherence Support***

There was uncertainty amongst most of the respondents as to how the community-based support groups (CBSG) were running and who was running them. Those who worked directly with community-based services (CBS) were able to explain the infrastructure far more clearly: CBSG are run by non-profit organisations (NPOs) who are contracted by the provincial government. These meet weekly or monthly and deliver a very specific package of care which is closely monitored by the province. Within the facility’s catchment area there are four NPO’s – three of which are faith-based – who employ facilitators (who have been through a four-year training programme) to run the support groups.

Respondents differed in their knowledge around CBSGs. Some knew a lot about the groups. Others knew they existed but mentioned that they were only for stable patients or felt unsure as to whether they were functioning or not. Another respondent mentioned that these groups didn’t exist at all.

Some respondents were unsure about the function of the CBSG. Others mentioned various aspects that they felt were the function of a support group (listed in



additional file 11). One respondent mentioned that groups should have a maximum of 20 patients, but some were as big as 60. Regarding the facilitators, respondents mentioned positive aspects (e.g. facilitators were excellent and follow up with patients if they don't attend, reporting defaulters to the CHC) as well as negative ones (e.g. they don't always phone and invite patients who have been referred to them so some patients are therefore not accessing support groups). Some respondents expressed positive perceptions about CBSG while others had incorrect or negative perceptions (e.g. patients would benefit from going to support groups earlier, not only once medically stabilized and that evening support groups were needed).

*“The emphasis on medication adherence is just part of what they [facilitators of CBSG] do. ... they cover quite a variety of topics as far as health education is concerned. And each time they meet there needs to be that. So there's a social element, and then there's an educational element covering one of the aspects of healthy lifestyle, whether it's diet or whether it's foot care or whether it's adherence and the exercise... they do do exercises every time...” (Provincial employee 2)*

Respondents talked about facility-community integration being dependent on the referral of patients from the facility to community-based support groups. While many were hopeful or determined that it could, should and must work, most were unsure if it was actually functioning at present. Some reported that they had had positive feedback that this integration was working and that the patients enjoyed going to support groups. Others were less sure, saying that it looked good on paper but wondered if it was working. Alternatively, they said its functioning still needed to be investigated. Others felt that it was not functioning and that facility-based services were entirely separate from community-based ones, not interacting at all.

*“We must make it function. I really like the idea of community-based care...that's where you're getting the adherence support, that's where you're going to be picking up people who are getting out of the system - that's small groups, you know, they'll go chase each other up, 'Why aren't you coming?', that kind of thing.” (Clinical manager 1)*

### *Community input and review of quality healthcare*

Respondents commented about various aspects around the impact of the surrounding community on this facility. Some felt that the community played an active and positive role: patients doing well on treatment could be involved in educating other patients and health committees had been set up to represent community interests to the facility. Others felt that the role of the community could be negative or still needed improvement, saying that the community was a negative environment and the mindset that existed limited or discouraged healthy behavior, and there was a need for positive role models within communities to encourage others. In addition, respondents felt that patient access to their records (e.g. hand-held records) would pose a medico-legal risk within the community, and improvement was needed in the links between the facility and community in terms of health issues and promotion.

*“Because sometimes when you’re surrounded by negative people and you want to change, you want to be more positive, it is difficult, especially out in the community there.” (Nurse 5)*

Looking to the future, some respondents commented on the importance of taking health messages to the surrounding community.

### *Palliative care*

Most respondents agreed that little to no palliative care service existed for end-stage chronic disease patients at this CHC or was provided for at a provincial level. Some reported that once patients reached this stage they were up-referred to a secondary hospital or could be referred to a secondary level facility in the sub-district to access their palliative care programme. Others felt that Hospice was for cancer patients, that chronic disease care was about secondary prevention and not palliative care, and that the facility only provided medication prescribed by a palliative care service elsewhere. There was disagreement between respondents as to who was providing palliative care to patients. Facility-based staff felt that this service was being provided by CBS and CBS felt the service should be provided at facilities.

### **Staff-Related Challenges to Chronic Disease Management**

Staff-related challenges were among the major problems raised by respondents in terms of chronic disease management, especially considering that chronic disease patients, many with multi-morbidity, made up a significant number of the total number of patients seen at the CHC on a daily basis (documented to be at least 200 patients per day according to PGWC data).

*“...you’ve got to have sufficient staff to run a clinic regularly. And they’ve got to be trained and they’ve got to be motivated. It’s no good putting people into a clinic or into a service where they don’t want to be there - because you’re just going to get resistance... At one stage they would change them [nursing staff] around every six months because they had the sort of concept that everybody must have a turn to go through there... I don’t believe you can run a unit like that because you’ve got to have people who... know what’s going on, and the same thing is in the clubs. And you need a backup system there... I have no idea why we haven’t got the staff. I have no idea. I’ve tried to address the problem... she said there are financial constraints... but I don’t see how we can have financial constraints if you are meant to be serving a population and you need ‘x’ amount of staff to serve that population and you’ve got ‘x’ - 4, why can’t you get ‘x’ + 4 to bring it up?” (Doctor 1)*

Staff-related challenges raised by respondents are summarized in figure 2. This diagram broadly demonstrates how these different challenges relate to one another, ultimately reducing the quality of patient care.

### **Staff Attitudes**

Respondents discussed a number of attitudes that they felt existed amongst staff members. Broadly speaking, the dominant attitude described was a sense of apathy amongst staff, which included low motivation and resistance to change. When discussing staff attitudes, respondents used such words as the following: despondent, disheartened, jaded, disempowered, ambivalent, distrustful, helpless, overwhelmed. Factors relating and contributing to staff apathy were also described.

Mixed feelings (summarized in table 4) existed as to whether it was appropriate for staff to feel apathetic or whether there were valid reasons as to why they felt apathetic. Some respondents (mostly staff members) commented that these feelings related to external factors and that it was difficult to stay motivated, while others (mostly management) felt that staff behaviour itself promoted apathy ('internal' factors) and it was therefore within their own power to effect a change in their attitude.

*(Insert table 4 here)*

*“The thing is the one thing, I can only take it from the mouth of a client, that’s the only place I can take it from, and what they tell me [is] that staff don’t really care. Again that is a very subjective kind of issue because how you want to be cared and how I want to be cared is a totally different kind of a thing. So they don’t really always specifically use the word ‘rude’, you know, but ‘Hulle worry nie oor myne, hulle gee nie om nie’ [They’re not concerned about me, they don’t care] - you know, ‘they don’t take note of me’, you know, those kind of things or whenever.” (Clinical manager 2)*

Some respondents described how they found it possible to keep their levels of motivation up (summarized in additional file 12).

Many respondents felt that staff’s resistance to change was an obstacle in chronic disease management and policy implementation. Typically this resistance was described to relate to different aspects of the policy, for example, monitoring patients, completing stationary, critically evaluating practices to improve efficiency.

*“...they need to look at how they’re doing now... and how can work better and smarter. But that’s not what’s happening...” (Provincial employee 3)*

Most respondents expressed negative feelings regarding facility management and felt that managers weren’t performing adequately (issues summarized in additional file 13).

*“...all our CNPs have been trained from our registered nurses here. Those registered nurses haven’t been replaced. Our trauma nurses have been trained here and they’ve been put in the blood room or they’ve been put in the dressing room. I mean, that doesn’t make sense to me. It doesn’t make sense to me that you send somebody on a year’s course, you spend a helluva lot of money and then they come back and you shove them into the blood room. I don’t actually understand this at all.” (Doctor 1)*

### **Staff perceptions of patients**

Respondents held a variety of opinions and impressions of patients, mostly relating to patients’ knowledge, attitudes and behaviour. These can broadly be divided into negative and positive perceptions and are summarised in a diagram in figure 3.

*“Sometimes, I think it’s sometimes not, it’s the mindset, man. Although we tell them, okay, fine, diet control and all those things - it seems to me sometimes they want to be pushed for things; they don’t want to initiate things themselves, ek weet nie of hulle despondent is nie [I don’t know if they are despondent] or they don’t have the drive... they live, they take each day as it comes.” (Nurse 5)*

*“So I don’t know if the way that they’re being educated is just not effective or if they are just not empowered to feel, okay, this is my issue, I need to look after myself. Or maybe they think, oh, well, I just come to the hospital and they tell me things and I get my medication and I go home - and that’s where it ends, you know, they go home and they forget about it all... (Doctor 2)*

*“I don’t know if they don’t know the impact of their diseases...So they don’t really take responsibility; to them it’s like: ‘Er, it’s okay, I’m feeling fine, you know, I’m feeling fine and I don’t feel like taking my tablets’. You pick it up along the way and if there’s any problem then they tend to blame the doctor or the facility or the system.” (Doctor 5)*

## Discussion

The results of this research indicate a gap between policy and its implementation to improve and support chronic disease management at this primary care facility. Gaps in policy implementation could represent a failure of one or more of the aspects of primary health care: accessibility, continuity, comprehensiveness, coordination and accountability.[22, 36] This highlights a larger gap: the need to strengthen the application of primary health care principles at this facility.

One of the most significant reasons for the gap between policy and implementation seems to be poor policy knowledge by clinicians tasked with assessing and managing chronic disease patients on a daily basis. Many of the respondents reported that they had not even heard of the policy or had received no training on how to implement the changes stipulated. These findings are concerning since the poor dissemination of policy[14] and inadequate training[33,37] have been identified as factors contributing to poor policy implementation. Cheung et al. highlight the need to carefully analyse policy documents to ensure that there is alignment between policy statements and intended outcomes, as well as the importance of policy documents being easily available to those implementing the policy concerned.[38] Further, in a study done in Tanzania on the implementation of new treatment guidelines for Malaria, inadequate training around this new policy was found to be one of the main reasons for poor policy implementation. Further, poor policy knowledge in this primary care facility seemed to translate into clinicians working individually rather than as a team to manage chronic disease patients. This can result in a fragmented service, with clinicians trying to treat and educate patients on an individual basis with little continuity of care for patients or collaboration between staff members[39,40]. The factors once again point to gaps in the application of the primary health care approach, with services lacking continuity and comprehensiveness.[36]

Aside from what was done on an *ad hoc* basis in the chronic disease club, intensive group education for patients was not undertaken, which in a busy, overloaded primary health care system could surely be a time-saving measure. Unpublished data

[K. Manning 2011] on research done in this community suggests that group education produces more positive and sustainable results than individual education. In addition to the lack of collaboration between individual clinicians, facility-based staff indicated little or no interaction with community-based services who provide, as one of their services, on-going education. Literature suggests that strong links between internal systems and external services as well as the use of multidisciplinary teams appear to be important requirements in primary health care for successful implementation and sustainability of chronic disease services.[36,41] The community-based services identified in this study appeared to be well established and functioning effectively. However, many patients were not being referred to these services, thereby adding to the facility's patient load which community-based services are designed to relieve.[28] Patients should be able to receive on-going education in the community around their chronic disease as well as support in lifestyle modification and medication adherence,[28] which has the potential to further decrease the burden of workload at the facility itself. Facility staff seem largely unaware of the extent of community-based services available to their patients, and if they are aware, they seem distrustful of the efficacy of the service or reluctant to visit and support the health care workers providing these services. Palliative care programmes for those with end-stage chronic diseases don't seem to be available at all either at a facility or community level. All of these factors result in reduced quality of care for patients suffering from chronic diseases as well as highlighting the lack of coordinated and community-oriented care, aspects essential to effective primary health care.[22,42]

Other major factors that appear to contribute to the gap between policy and its implementation include inadequate numbers of staff and a lack of skill diversity amongst staff members, combined with high patient numbers. These factors relate to the primary health care elements of accessibility of the provider and continuity of care.[22,36] Primary health care literature suggests that increasing the ratios of primary care physicians to patients significantly improves health outcomes, reduces costs and reduces hospital admissions.[43] One solution suggested in the literature is the use of patient care teams, where groups of staff members with different skill sets divide into teams and work together to ensure efficient and more effective

management of patients with chronic diseases.[43,44] Mash et al. tested this method at a nearby facility similar to this case study and demonstrated limited success, but identified important barriers that if addressed would facilitate future improvement.[45] Other literature suggests that high-quality chronic care delivery was more likely to occur in facilities that were able to sustain smaller patient-physician ratios as well as those that combined clinical services with referral to a range of integrated community programs. This emphasises further the importance of good links to community-based services.[46] At the facility studied, those staff members with specialised skills are not valued and are therefore not retained or replaced if they decided to leave.

Adequate financial provision and shrewd management of the limited finances provided, as well as good human resource management of the staff and skills available to the facility, seem to be other major gaps contributing to poor policy implementation. This is likely the result of difficulties providing strong, visible, innovative leadership both at a facility and provincial level and highlights the need for the primary health care principle of accountability.[22] Staff are also not permanently or exclusively allocated to one area of the facility, resulting in frequent turn-over of staff and a lack of ownership by individual staff members of various aspects of chronic disease care. Management appear to value a body of staff with diverse skills who are able to work in any clinical domain and don't place priority on any specific area. However, staff expressed a preference to be allocated to an area about which they feel passionate and where they can remain permanently, which could enhance continuity of care.

The results suggest a break-down in relationship between both clinical staff and management, as well as local and provincial management staff. There is a general tone of apathy around the ability to affect change and significantly improve chronic disease management, with most respondents appearing despondent and blame for inadequate chronic disease care being continually shifted from one party to another. In addition to inter-staff relationship frustrations, respondents also seemed to be frustrated by the chronic disease patients themselves, whom they are trying to help.



The negative perceptions around patient behaviour seem to add to their sense of apathy and despondency.

Rispel et al.[33] assessed various aspects of the current South African health system and health policy implementation and highlighted a number of ongoing challenges which were similar to the challenges identified in this study. These include the following:

- fragmentation of leadership and existing services
- suboptimal policy implementation
- little attention to quality of care
- poor co-ordination of training with real health sector needs
- insufficient training of adequate numbers of certain health professionals
- attrition of highly skilled health professionals and poor human resource management
- lack of motivation and poor morale amongst staff members
- poor financial management and accountability with chronic overspending at a provincial level
- poor performance for cost per capita inputs
- medicine shortages and poor supply chain processes
- insufficient linkages between health information, human resources and financial information systems.[33]

Recommendations to address these issues included strong, visible, effective leadership as well as analysis of the cost-effectiveness of services provided coupled with streamlined monitoring and evaluation systems.[33]

Literature also shows that these policy implementation difficulties are not limited to chronic disease policy, but exist in other sectors of health care in South Africa as well. Lund et al.[34] conducted a survey of the resources within and the utilization of mental health services across the public sector during 2005. Despite progressive policy, the survey revealed significant discrepancies in provincial resources, absence of reliable data needed to correct these discrepancies, dominance of hospital rather

than community-based services and significant unmet needs for mental health care provision. It was concluded that urgent action was needed to correct weak policy implementation.[34] Another study proposed the following reasons for poor policy implementation in South Africa: inadequate dissemination of policy, poor communication between various levels of the health system once policy had been approved, and unclear articulation of objectives, roles and responsibilities in order to ensure successful implementation of policy in the long-term.[47]

### ***Recommendations***

The gap between existing policy and implementation could be bridged in a number of ways, many of which were highlighted during the investigation. As mentioned, many of these gaps also represent the poor application of primary health care principles across the health care system, which, if addressed generally, would likely result in improved adherence to policy principles.

Staff need to be better educated and informed around the key tenets of the policy itself, and misconceptions about community-based services need to be addressed. Support group facilitators in the community should be invited to assist with chronic disease clubs at the facility at least once a month to improve links between the facility and community. This could facilitate the building of relationships between patients and community health workers as well as the community health workers and the staff, and could assist with obvious staff shortages at the facility. Clinical staff from the facility who are involved with chronic disease management could also visit each of the support groups periodically and offer additional input and support. Strong, dynamic, visible leadership is needed to ensure that these changes are made and that existing difficulties are tackled, a recommendation which is supported by current literature.[35] Furthermore, while staff policy knowledge is important, a supportive environment with effective communication from senior clinicians and management as well as consideration for staff feelings could also improve the alignment of practice with existing policy.

While focusing on improved staff policy knowledge, it might also be important to take a step back in the process, and consider reviewing the policy itself with front-

line staff. By using a collaborative process for policy development and improvement, there could be a higher level of staff buy-in to policy implementation as well as the identification of areas of the policy that may be problematic to implement practically in specific contexts. This could be achieved by using a consensus-building method such as nominal group technique[48] and could be the basis of future research. Staff involvement in this kind of policy development and problem-solving could have the potential to ensure far more effective and comprehensive policy implementation.

Participant responses suggest that chronic disease patients would benefit considerably from the presence of dedicated staff for chronic disease management, including a specific post for a chronic disease champion as well as a staff member to run regular therapeutic groups to fulfil the need for intensive facility based education of patients at diagnosis. Based on their comments, it could be recommended that staff members should be permanently allocated to chronic disease care, additionally trained and supported, and not be expected to fulfil any other role in the facility that is not connected with chronic disease management. A multi-disciplinary team approach with sufficient variety of staff with different and specialized skills would significantly improve services offered to chronic disease patients, including continuity of care.[34,49-51] A dedicated budget for chronic disease management may help to ensure that the full range of services and equipment are planned for and provided. However, current literature does not support the use of a ‘vertical approach’, with dedicated, disease-specific budgets and fragmentation of care. Internationally there has been a call for an integrated, patient-centred, team-based and community-oriented primary care approach, also known as ‘horizontal programming’.[52] The literature supports the need to increase the number of primary care practitioners relative to patient populations if horizontal programming is to be effective, as well as ensuring adequate health budgets to establish effective primary health care systems, which will then result in health cost saving.[34,41,42]

Education is a key aspect of chronic disease management and should be prioritised at a facility as well as a community level and should be on going to empower patients and their families. More research needs to be done into the types of education

material and educational format that would best assist with this goal and that would be most effective at improving patient knowledge, insight and buy-in around lifestyle changes. More education could take place while patients are waiting at the facility to be seen by a clinician. However the approach taken to the delivery of education should be carefully considered; motivational interviewing has been shown to be an effective approach in this regard[53]. It could be helpful to get patients who are doing well on their medication to talk to and encourage other patients in a group setting, utilizing peer-support; however, this needs further study to establish efficacy. Clinicians should aim to adopt a patient-centred approach during consultations, by listening to and addressing patients' individual concerns. This is supported by current literature which demonstrates improved health outcomes when effective physician-patient communication takes place.[54] Health education needs to extend to patients' families and ideally needs to start at school level to enhance the prevention of chronic diseases. Community education as well as chronic disease support groups could also be set up at various workplaces or after hours to ensure that employed patients are provided for. Disseminating health messages to surrounding communities is an important aspect of chronic disease prevention and there are a variety of ways in which this could be achieved (such as mass media campaigns, cellphone transmitted health related text messages and school education programmes).

### ***Limitations and Strengths***

Although exploring chronic disease policy implementation at one facility could be seen as a limitation, this allowed for more in-depth analysis of relevant issues. Another possible limitation is that the principal investigator was contracted to work at the facility as a doctor at the time of data collection. Interpersonal factors and work dynamics could have influenced what participants were prepared to share. However, this enabled the principal investigator to have greater insight into and an appreciation of the complexity of policy implementation issues as well as the added benefit of staff being able to discuss issues with someone they knew and who understood their work environment more than an outsider may have. Due to the complexity of the policy document, the guide questions for the focus groups and interviews became quite extensive, which was another limitation. This could perhaps

have been better addressed by an initial survey to establish detail followed up with a focus group or interview to obtain more depth of insight around implementation issues. A further limitation is that chronic disease patients themselves were not included as participants in this study to provide information on the patient-centeredness of care and patient satisfaction. This may be a useful follow-up study.

## **Conclusions**

Poor policy knowledge seems to be one of the major reasons for the gap between the policy document and its implementation at the facility studied. This results in fragmented individual clinical practice rather than cohesive team work, as well as poor links between facility-based and community-based services. Lack of leadership at a managerial level with breakdown in staff-management relationships adds to staff apathy and contributes to reduced patient care. These issues need to be urgently addressed in order for chronic disease management to improve at a local level. On a broader scale, the lack of adherence to primary health care principles, which have been shown in the literature to result in cost-effective care and improved health outcomes[41,42], could contribute to policy implementation failure. At a philosophical level, this research highlights the tension between primary health care principles and a disease-based approach in a primary care setting.

## **List of Abbreviations**

BMI – body mass index

CBS – community-based services

CBSGs – community-based support groups

CD – chronic disease

CDM – chronic disease management

CDU – chronic disease medication central pre-packaging service

CHC – community health center

ECG – electrocardiograms

HIV/AIDS – human immunodeficiency virus / acquired immunodeficiency virus

LIFE flipchart – Lifestyle Intervention For Empowerment programme flipchart

LMICs – low and middle income countries

NPOs - non-profit organisations

PGWC – provincial government of the Western Cape

WHO – World Health Organisation

## **Authors' contributions**

CAD analysed the policy and audit data, developed guide questions, conducted the focus groups and interviews and drafted the manuscript. CED conceived of the study and assisted in its design, provided guidance in conducting focus groups and assisted with data analysis. GFB participated in the design of the study and contributed to the data analysis. All authors read and approved the final manuscript.

## **Competing interests**

The authors declare that they have no competing interests.

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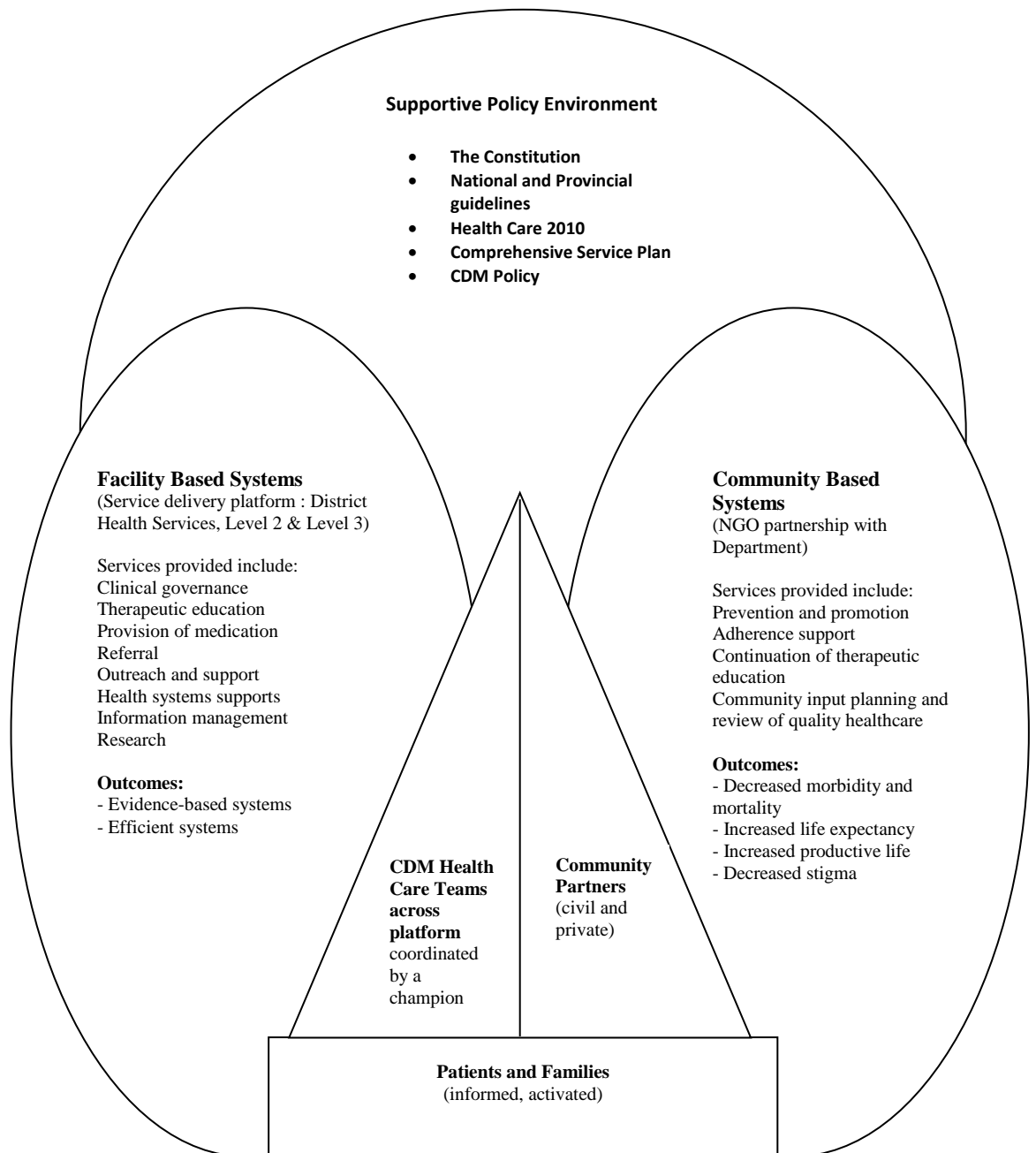
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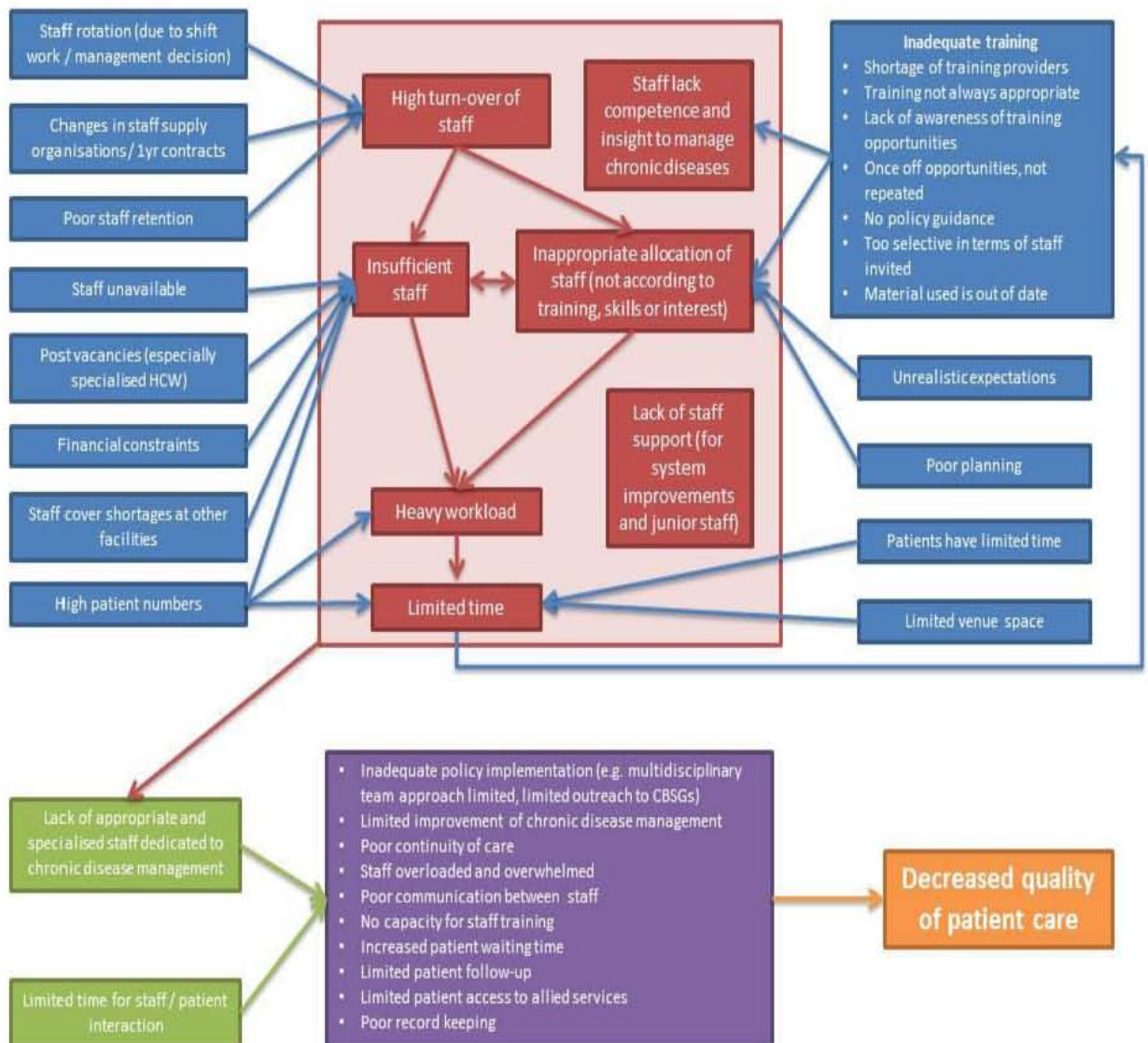
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# Figures

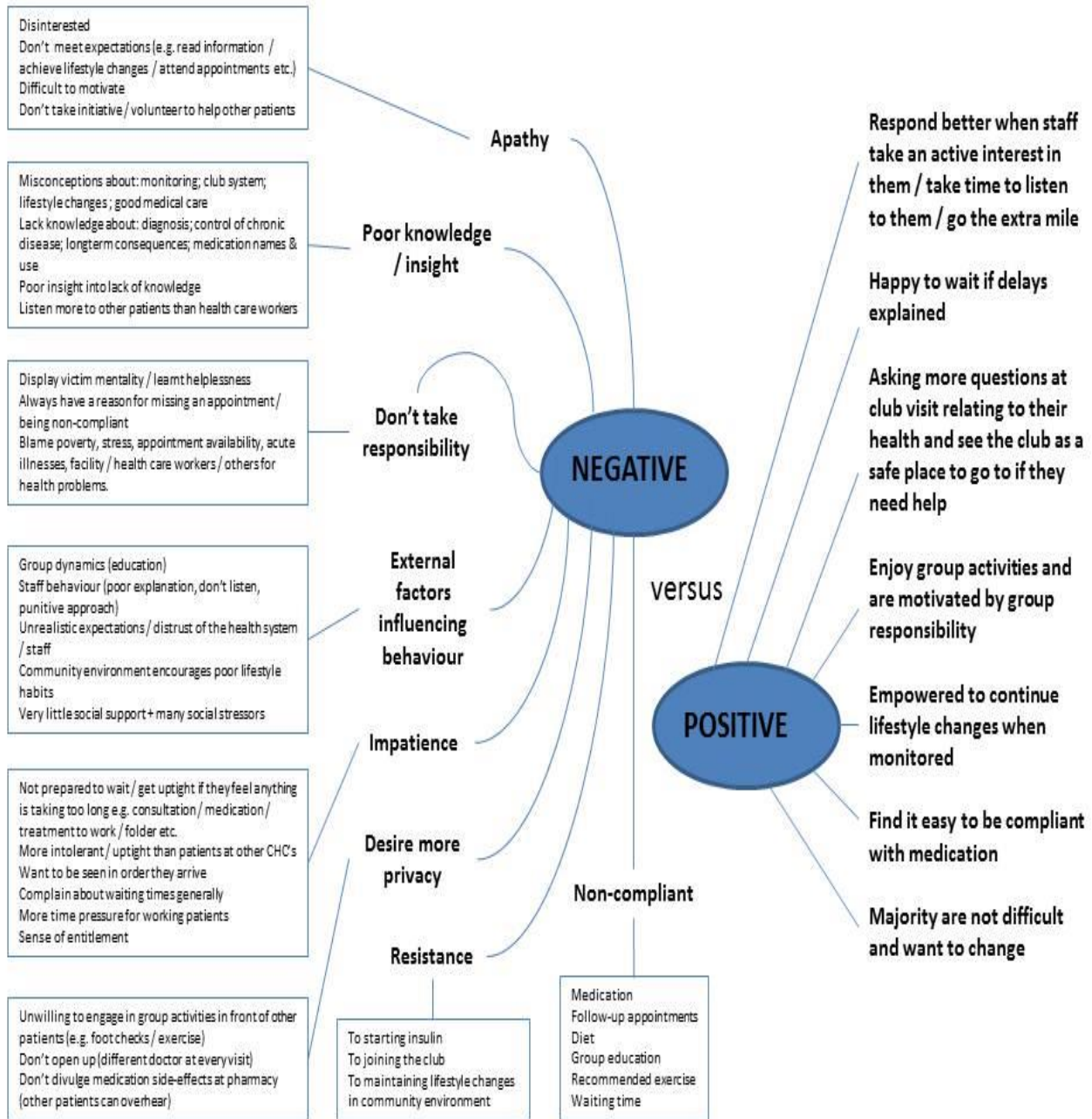
**Figure 1: Overarching model for the PGWC Adult Chronic Disease Management Policy[28]**



**Figure 2: Summary of staff-related challenges**



**Figure 3: Staff perceptions of patients**



## Tables

**Table 1: Summary of positive and negative perceptions of the PGWC CDM policy**

<i>Positive</i>	<i>Negative</i>
<ul style="list-style-type: none"> <li>• Focuses on upstream factors, not just on the individual</li> <li>• Emphasizes continuity of care (facility-based stabilization with community follow-up and support)</li> <li>• Focuses on secondary prevention</li> <li>• Good use of Chronic Disease Record Sheet or 'pink sheet' (effective summary of patients' health status and useful tool for staff)</li> </ul>	<ul style="list-style-type: none"> <li>• Too idealistic</li> <li>• Concern that certain aspects of the policy are not based on evidence from a South African context</li> <li>• Doesn't consider staffing and financial constraints</li> <li>• Clinicians' opinions on management as well as their different skill levels were not considered by policy makers</li> <li>• Staff have little motivation to implement the policy</li> <li>• The policy itself has not been clearly communicated to staff</li> </ul>

**Table 2: Positive and negative aspects of chronic disease clubs**

<i>Positive</i>	<i>Negative</i>
<ul style="list-style-type: none"> <li>• Dedicated club sister is always available (ensures patients get seen / problems are sorted out, builds trust, patients feel comfortable opening up to her, she is aware when patients are being dishonest)</li> <li>• Better disease control with fewer amputations and eye complications</li> <li>• Best opportunity for patients to be involved in managing their own illness</li> <li>• Folders are prepared in advance</li> <li>• Patients are well triaged on arrival</li> <li>• Good continuity of care (patients' choice of clinician is generally accommodated)</li> <li>• More accommodating with appointment times than when making a general booking (patients able to get earlier bookings)</li> <li>• Specific booking times / effective appointment system</li> <li>• Shorter waiting times</li> <li>• Counselling is done better in the club</li> <li>• Better communication so patients know what to expect (e.g. around logistics, waiting times, management etc.)</li> <li>• Dedicated club room (important so that patients know where to go if they need assistance of any kind)</li> <li>• Special assistance provided for the elderly / disabled</li> <li>• Group setting helps to keep patients motivated</li> <li>• New asthma club is growing</li> </ul>	<ul style="list-style-type: none"> <li>• Only for 'good' / compliant patients (if club appointment is missed, patients aren't rebooked for the club but have to wait for a general booking)</li> <li>• Adequate health promotion is impossible due to patient numbers</li> <li>• Specific days are allocated for specific chronic diseases (challenging for working patients)</li> <li>• No epilepsy club</li> <li>• Some patients refuse to use the club</li> <li>• Patients are booked later than the date requested as the club is fully booked (so they run out of medication)</li> <li>• If medication is changed, patients can't be followed-up weekly and if additional bookings are made, the facility just gets overloaded with patients for that day</li> <li>• Most education is done by one staff member without input from others (quality and quantity is unknown)</li> <li>• Patients' folders get lost / long waiting periods for folders at times</li> <li>• Training only for clinical staff who see club patients daily</li> <li>• Perceived to be for the elderly and not for younger patients</li> <li>• Not enough physical space to accommodate every chronic disease patient at the facility</li> <li>• A "booking club" is needed where patients who are first diagnosed with a chronic disease are given a longer</li> </ul>



<ul style="list-style-type: none"><li>• Fewer complaints to management</li></ul>	appointment <ul style="list-style-type: none"><li>• HIV and chronic disease services should be integrated to share resources</li></ul>
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**Table 3: Positive and negative opinions about the chronic disease record sheet**

<i>Positive</i>	<i>Negative</i>
<ul style="list-style-type: none"> <li>• Excellent overview of a patient’s progress over years</li> <li>• Useful tool to show trends in monitoring to patients (e.g. blood pressure, weight etc.)</li> <li>• Shouldn’t necessitate duplicating folder notes</li> <li>• Indicates visit dates which helps clinicians to find most up-to-date previous script</li> <li>• Good reminder of when to repeat investigations</li> <li>• Mostly being completed by clinical staff</li> </ul>	<ul style="list-style-type: none"> <li>• Contains printing errors</li> <li>• Duplicate copies arise, as originals are not always seen in patients’ folders so new forms are then issued by prep-room staff</li> <li>• Information has to be duplicated from patient notes</li> <li>• Can’t document when a patient was seen by a dietician or if they have attended a therapeutic group</li> <li>• Too time consuming to complete</li> <li>• Not completed by prep room and / or certain clinical staff</li> <li>• Staff sometimes forget to complete form</li> <li>• Don’t include details for patients with epilepsy</li> <li>• Will become redundant when new primary healthcare booklet is released</li> </ul>

**Table 4: Internal and external factors which promote staff apathy**

<i>External factors</i>	<i>Internal factors</i>
<ul style="list-style-type: none"> <li>• No incentive to improve care</li> <li>• Patient behaviour remains unchanged despite staff efforts</li> <li>• Different motivations to management</li> <li>• Frequently raised issues (e.g. inadequate staffing) are never dealt with / nothing changes / things only get worse</li> <li>• Lack of consequences for those not performing adequately</li> <li>• Little / no training</li> <li>• Staff don't meet expectations</li> </ul>	<ul style="list-style-type: none"> <li>• Staff lack initiative</li> <li>• Become jaded because they put too much pressure on themselves</li> <li>• Don't care / not patient-centred</li> <li>• Disempowered, ambivalent and distrustful towards authority, don't want to be told how to practice</li> <li>• Don't take responsibility and ownership of their circumstances</li> <li>• Disinterested</li> <li>• Feel helpless and unsure how to effect change</li> <li>• Overwhelmed, feel unable to problem-solve / innovate</li> <li>• Considering patients' needs takes lots of energy</li> <li>• Don't plan for the future therefore can't effect change</li> <li>• Lack of staff 'buy in' proposed plans</li> </ul>

## **Additional files**

### **Additional file 1: Summary of PGWC Chronic Disease Management Policy**

Due to the high number of people with chronic diseases visiting Community Health Centres (CHC), the Chronic Disease Management (CDM) policy was developed and then implemented in the Western Cape in 2009. The key conditions to be targeted included:

- Cardiovascular diseases (including ischaemic heart disease, stroke, peripheral vascular disease)
- Asthma and COPD
- Diabetes
- Hypertension
- Epilepsy [28]

The aims of the policy, with relation to the above chronic diseases, are to:

- Guide disease management in the Western Cape
- Reduce morbidity and mortality
- Reduce the burden of disease [28]

### **FACILITY BASED SYSTEMS**

#### ***Service delivery platform (District Health Services, Level 2 and Level 3)***

At a district health services level, chronic disease management is provided via two routes, facility-based services and community-based services (within geographical sub-district areas). In the Cape Town Metro District, chronic diseases should be managed within community health centres (primary care facilities) by multi-disciplinary teams (MDTs) led by a family physician. The management of chronic diseases should therefore include multi-sectorial interventions to address upstream issues, alongside multi-disciplinary healthcare services.

### ***CDM Health Care Teams (coordinated by CDM champion)***

The chronic disease team (mentioned before as the MDT) should consist of the following people (where possible) with these primary responsibilities:

- Family Physician / Medical Officer: clinical governance and quality assurance, and consultant to the primary care practitioners
- Clinical Nurse Practitioner: assessment, treatment and referral
- Dietician: addressing primary prevention and health risk factors
- Health Promoter: addressing risk factors through behaviour modification
- Pharmacist (and assistant): counselling on medication adherence
- Rehabilitation therapists (occupational therapist, physiotherapist and / or speech therapist): promoting rehabilitation and increasing independence
- Counsellor: mediation and support [28]

One of these team-members should be nominated as the CDM champion, to co-ordinate the provision and monitoring of CDM services.

### ***Clinical governance***

Issues that should be addressed include:

- Increasing the number of clinics providing chronic diseases care
- Assessing patient satisfaction and quality of care every 6 months and involving the surrounding community in care planning
- Reducing the number of people with a BMI > 30
- Prescribing drugs for 1-3 months to minimise patient travel

### ***Therapeutic education***

After diagnosis, patients and caretakers should be supported and educated regarding self-care, self-monitoring, compliance, prevention of complications and management of their disease. Lifestyle modification should be achieved through ‘therapeutic groups’ (run by a Nurse and Health Promoter with input from other chronic disease team members), which empower patients to lead healthy lifestyle by setting group and individual goals for behaviour change. The Lifestyle Intervention for Empowerment Programme (“LIFE” Programme) pilot project uses a behaviour modification flip chart to promote healthy lifestyles and can be used within therapeutic groups. Education activities should be sensitive to the cultural and

economic realities of the patient, and materials should be available in local languages.

### ***Provision of medication***

Facilities should have dedicated pharmacy support for CDM and should make use of the pre-packing of medication for stable CD patients which can then be delivered to alternative sites (e.g. patient's home / community-based support group). Medication can also be prescribed in 2 month supplies thereby minimise patient travel.

### ***Referral***

Once patients are stable, they should be referred to the closest support group attached to the CHC. A formal referral process should be followed (by completing standardised forms) for referral from facilities to community-based services, and from community based services back into primary care facilities.

### ***Outreach and support***

The delivery of MDT outreach and support services for CDM should be provided from all levels of care, from tertiary hospitals down to community based services.

### ***Training***

The facility-based MDT is responsible for sharing knowledge and skills with community based staff. In addition, there should be continuous training of staff working in CDM, in all settings. A training strategy for CDM (to ensure an appropriate skill mix and sustainability for both facility-based and community-based staff) should be provided. The aims of such training would be to ensure that:

- Every facility has staff members who have the skills to prevent, diagnose and manage chronic conditions
- Staff are able to provide counselling and motivation on disease acceptance, continuity of care and compliance
- Staff are able to make patients feel welcome despite attending frequently over the years
- All staff show respect and concern for the elderly and the disabled
- Staff have the skills and attitude to protect and promote the rights of patients

### ***Information management and research***

The following records should be available and maintained:

- CDM Register (to register all new CDM clients and keep track of attendances)
- Chronic Disease Record Sheet (also known as the “pink form”, to record and evaluate CDM)
- Patient folders
- Patient carried cards
- Routine Monthly Reports
- Integrated Audit Tool for Chronic Disease Management\* (used annually to assess quality of care in CDM)
- Home-based care records, including support group registers

\*The Integrated Audit Tool for Chronic Disease Management consists of two components: the first evaluates facility’s equipment and processes for CDM, and the second is a folder review for each condition. Data from the folder review is used to assess the short-term outcomes of CDM.

## **COMMUNITY BASED SYSTEMS**

### ***NPO partnership with Department***

Community-based CDM is an outsourced service provided by contracted NPOs (non-profit organisations), supported by facility-based MDT. The NPOs facilitate community-based support groups (CBSG), which should provide adherence support, health education, counselling, screening, healthy lifestyles promotion, foot care, eye screening, physical exercise and alternative sites for the delivery of chronic disease medication.

### ***Prevention, Promotion and Continuation of Therapeutic Education***

At CBSG, patients are provided with information about the condition, behaviour modification and counselling on medication as a continuation and reinforcement of education received at the facility. These educational activities should be culturally and linguistically appropriate.

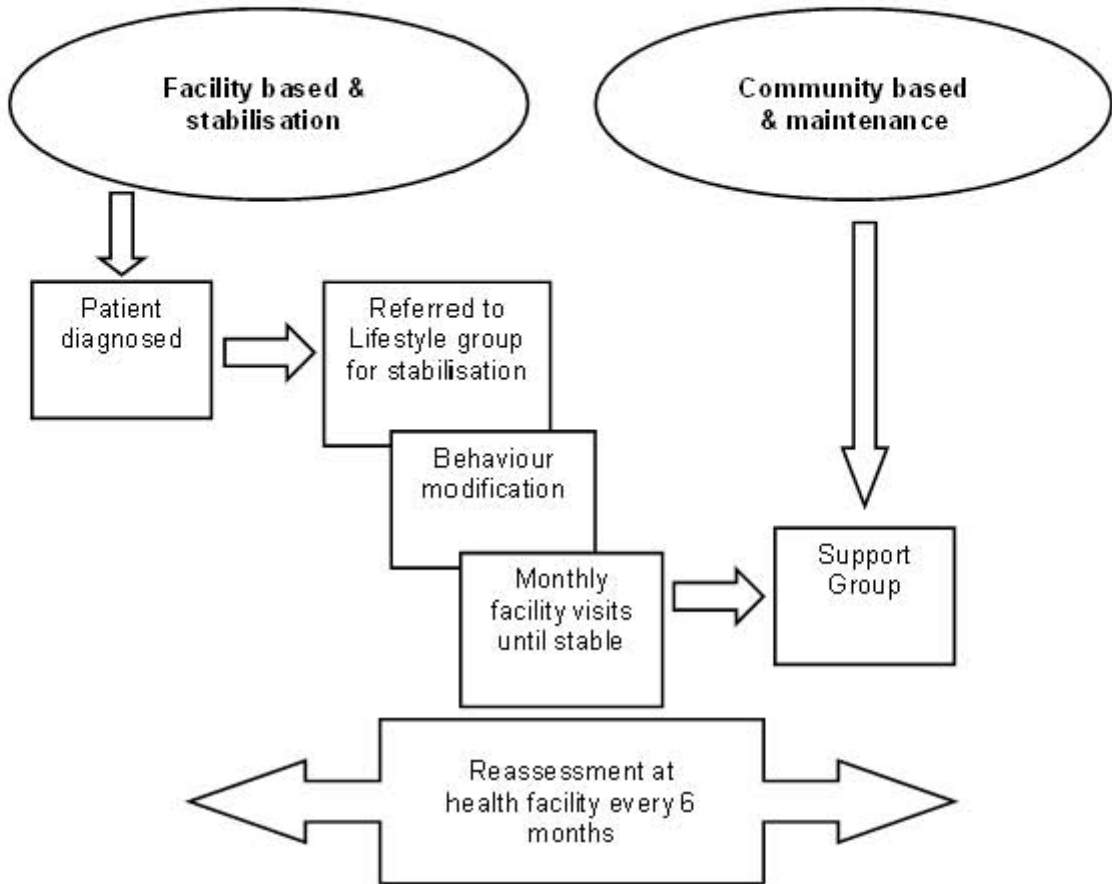
### ***Adherence support***

The policy, using the concept of facility-based stabilisation with community-based maintenance, is a life-span model designed to provide on-going support to people with chronic diseases. However it is expected that a significant number of these clients will learn to manage their own condition, medication and lifestyle changes, and will be discharged from CBSG.

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**SUMMARY OF INTERFACE BETWEEN FACILITY AND COMMUNITY-BASED SERVICES**[28]



## **Additional file 2: Guide Questions for Focus Groups**

- What do you know about PGWC chronic disease policy model of care?
- How do you think this facility is doing in terms of managing chronic diseases?

### ***General feelings***

- What is working well in terms of the proposed model of care (i.e. Facility-based stabilisation interacting with community based maintenance)? If it is not working well, why?
- What needs improvement?
- Frustrations? Difficulties?
- What are the barriers to providing good quality care for chronic diseases at a primary care level? Facility-based challenges? Community-based challenges? Patient challenges?

### ***Role of facility management***

- Is there anything (e.g. that management could do / changes that could be made) that would help you to do your job better? (e.g. problems with equipment / facilities)?
- Is there any staff training offered around chronic disease care? Has anyone been on this training? Was it useful?

### ***Specific issues***

- What do you think of the pink form? Strengths / weaknesses?
- How do you feel about counselling patients about risk factors for chronic diseases (smoking, diet, exercise, alcohol)? How well do you think this is being done? Do you think it is effective? Barriers / difficulties?
- Do you feel able to adequately assess patients' current state of disease? If not, why?
- Do you feel able to avoid / manage complications? If not, why?
- Do you feel able to involve patients in treatment management plans for chronic disease? Barriers / difficulties?

- How is continuity of care provided for? Is there any continuity in which doctor / clinical nurse practitioner sees the patient at each visit?
- Do you feel that generally chronic disease targets are being met? (blood pressure, glucose control, signs of complications etc.) Barriers / difficulties?

*Community-based services*

- Are there any community-based resources to assist patients with chronic diseases? Do you feel able to make use of these? (If not, why?)
- Would you be surprised if some of the patients being managed were to die from their chronic disease in the next 6-12 months? If so, is the need for palliative / supportive / end-of-life care ever explored with patients? Do you feel you have the skills to manage / feel comfortable with palliative / supportive care? Are patients ever referred to community resources if required (e.g. hospice, home-based care etc.)?
- Is there anything else anyone would like to add?

### Additional file 3: Guide Questions for Individual Interviews

1. What do you **know** about PGWC chronic disease policy model of care?
2. What is your **role** in the PGWC chronic disease policy model of care?
3. Is there a **chronic care team** at this facility? Who are the members and is it a multidisciplinary team? Is there anyone else who should be included?
4. How do you think this facility is doing in terms of **managing chronic diseases**?

#### Audit Folder Review Issues identified

5. What are the **targets** being aimed for on the audit data? What interventions are available for primary care facilities who are not meeting targets / not improving services each year?
6. Some **lifestyle counselling** (around diet, exercise, smoking and alcohol) is reported to be done but how is it being done? Are staff using motivational interviewing techniques? Is it didactic or patient-centred? Is there any priority / goal setting during these sessions?
7. Are patients ever **involved** in making a **management plan**? (No space on the pink sheet to document patient involvement in management planning)
8. **Diabetics & Hypertensives:**
  - a. Weight is being recorded, but seldom BMI and never waist circumference. Comment?
  - b. Only some of the annual parameters are being done to assess disease state (creatinine, cholesterol, urine analysis, ECG, HbA<sub>1c</sub>). Why?
  - c. Very few eye assessments and foot checks are being done. Comment?
  - d. Generally poor score on outcome measures (target blood pressure, BMI, HbA<sub>1c</sub>, cholesterol, creatinine). Why?
9. **Asthmatics & COPD**
  - a. Little/no counselling about smoking and only some counselling about inhaler technique. Why?
  - b. Few patients received a flu vaccine. Why?

- c. Poor assessment of current disease state (control; peak expiratory flow rate)
- d. Increasing amount of acute exacerbations recorded. Significance?

#### 10. Epileptics

- a. Very few patients had seizure type recorded. Why?
- b. Very few received counselling about medication, side-effects and lifestyle changes (same concerns regarding counselling method as mentioned above)
- c. None of the patients audited were fit-free for more than one year (primary outcome). Why?

#### Facility issues

##### 11. Why are there inadequate supplies / amount of:

- Obesity cuffs
- Chronic disease stationary
- Foot screening forms
- BMI wheel
- Tape measure
- Peak expiratory flow reference chart
- Asthma 20-second question forms
- Spacer demonstrator
- Asthma pamphlets (in appropriate language)
- COPD pamphlets (in appropriate language)
- LIFE flip chart

12. Does a **chronic disease register** exist? Is it being used?

13. Do patients have any **hand-held (take-home) records** regarding their illness / progress / management plan? Do you think these would help (both patients and the health care team)?

14. Is the **chronic disease stationary** utilised (audit noted there to be insufficient amounts for stationary)? Is a routine monthly report on chronic disease management given / written?

15. Is there a **dedicated pharmacist**? Is medication pre-packed? Can patients have medication delivered to alternate sites? By who / how? How many

months supply of medication can patients get at one time? Are there any difficulties with attaining adequate stock / supplies of chronic disease medication?

### Education and Groups

16. Who conducts chronic disease **group education** at the facility? When and where is it done? How often? What format does it take? What language is it conducted in? Are family members / caregivers also involved in this education? Is this education sensitive to the cultural and economic realities of patients? Is the content ever audited / reviewed?
17. Do **lifestyle groups** exist (how does this tie in with group education)? Who runs these groups (suggested: nurse and health promoter)? Are group and individual goals set? When, where and how often does this group meet?
18. Is the Lifestyle Intervention for Empowerment Programme (“**LIFE**” **Programme**) project, with behaviour modification flip charts to promote healthy lifestyles, utilised? If so, can you explain this project in more detail?
19. Who runs the **community based support groups**? How many patients are enrolled in these? Are the majority of patients being down referred into these groups? What is done during these support groups (suggested: screening, health promotion, nutrition, physical exercise, eye screening, foot care, medication compliance)? Are groups culturally sensitive and linguistically appropriate? Is there any support / outreach offered by the chronic care / multidisciplinary team at the primary care facility? Who audits / reviews the services provided? What does a patient do if they are dissatisfied with a support group? Are patients discharged from support groups? What do they do after they are discharged?

### Other issues noted

20. Is there any **staff training** offered around chronic disease care? Is this also available to community-based staff?
21. Who is the **chronic disease champion**? Does such a person exist? What is their role? Do they co-ordinate the monitoring activities for the chronic disease programme?

22. How is **adherence support** offered? Are there any systems existing to trace defaulters?
23. How is **continuity of care** provided for? Is there any continuity in which doctor / clinical nurse practitioner sees the patient at each visit?
24. Is **patient satisfaction** with the services offered ever assessed?
25. How are **patients made to feel welcome** in the facility? Is special respect shown / assistance provided for the elderly and the disabled?
26. Are patients with end-stage chronic diseases identified? Is **palliative care** offered? Are patients being referred to community-based palliative care services?
27. Is the **proposed model** of care actually **functioning** (i.e. facility-based stabilisation interacting with community based maintenance)? If not, why? What needs improvement? Frustrations / difficulties? What are the barriers to providing good quality care for chronic disease patients at a primary care level? Facility-based challenges? Community-based challenges? Patient challenges?
28. Any other comments?

**Additional file 4: Summary of respondents' perceived roles in chronic disease policy and management**

**Perceived Roles in CD Policy / Management**

- Implementing one / some aspects policy:
  - Facility-based services
  - Club system
  - Therapeutic groups
  - Coordinating policy implementation at a higher level
- Policy development
- Management / providing guidance:
  - Provincial level
  - Facility level (including clinical aspects as well as resources)
  - Club level
- Community-based services
- Supporting medication compliance and educating patients about different aspects of their medication (individual level)
- Patient education around chronic disease
- Fulfilling practical duties to ensure the smooth running of the clubs at the facility
- Running stroke rehabilitation & support group



## **Additional file 5: Role of the chronic disease champion**

### **Role of Chronic Disease Champion:**

- Drive and be accountable for chronic disease management as well as taking ownership of the programme
- Implement and follow the facility's Standard Operating Procedures (SOP)
- Innovate and plan future implementation changes and budget needs
- Spread policy knowledge and educate other staff on implementation (but don't conduct implementation itself)
- Be the person in charge but also bring together a team to manage chronic disease patients

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## **Additional file 6: Respondents' views on club education**

### **Respondents' views on club education**

- Patients' disease is now better controlled than previously
- Patients' knowledge is improving and they are asking questions
- Patients don't retain knowledge imparted
- Significant amount of education is happening
- Education helps patients to manage their own disease
- Little / no input from other staff members in club education
- Patients don't receive good education initially (at diagnosis)
- Initial education should be given by a doctor to ensure a good foundation of knowledge
- There needs to be congruency in health messages between staff members
- Education is not sensitive to patients' economic realities
- Limited printed / audiovisual resources are available due to financial constraints
- More allied staff members are needed (e.g. dietician, health promoter, podiatrist)
- Education is not well planned
- Enthusiasm for patient education waxes and wanes
- Literacy / patient understanding limits group education around medication
- Patients are still unaware of the potential consequences of their chronic disease
- Difficult to get patients to take responsibility for their health
- Unsure if group education makes a significant impact on chronic disease outcomes

## Additional file 7: Reasons for inadequate lifestyle counselling

### **Reasons for inadequate lifestyle counseling:**

- Punitive and / or didactic approach
- Curative rather than preventative focus
- Misperceptions around motivational interviewing (further training needed)
- Conducting counseling in a consultation is an idealistic concept
- Very brief, not thorough, education
- Too time consuming
- Language barriers (especially with foreign patients)
- Patient's mindsets
- Not done at diagnosis (patients continue long-term with poor practices)
- Insufficient allied / support staff to assist
- Can't be done in group (needs to be on an individual basis)
- Pressure from management to see larger patient numbers (quality is therefore compromised)
- Audit focus is on *what's* happening not the quality of *how* it's being done
- Incongruency of messages between different staff members

## **Additional file 8: Structure and function of therapeutic groups**

### **Structure & Function of Therapeutic Groups**

- Size: 8 – 10 patients per group
- Duration: one session per week for 6 weeks
- Goal: motivating lifestyle changes
- Coordinated by: dedicated staff member (on site daily)
- Need to record each patient's measurements and vitals at the start of each session
- Each session should include interactive education and discussion run by a health professional addressing an aspect of disease prevention and motivating change
- The LIFE flipchart is very helpful for group discussion
- After completion, patients should be transferred to community-based support groups (for on-going education and monitoring)

## **Additional file 9: Advantages and disadvantages of therapeutic groups**

### **Therapeutic Groups**

#### **Advantages**

- Emphasis on patient responsibility for their own health
- Addresses victim behavior and encourages problem solving
- Far more efficient and beneficial when compared to once-off individual consultations
- Fosters patient motivation by group sharing and encouragement
- Empowers and challenges patients regarding lifestyle changes
- Involves in-depth education about diet, exercise, disease process and medication while considering upstream factors
- Creates opportunities for patients to ask questions
- Teaches patients how to make permanent changes and about self-monitoring
- Measures patient outcomes (important benefit of keeping patients motivated)
- Partners and family members can also attend
- Training is available on how to run groups
- Positive patient feedback (South Africans enjoy problems solving in groups)

#### **Disadvantages**

- Group times are not always conducive to working patients
- Challenge of group dynamics (one difficult personality may dominate discussions / discourage others from attending)
- Family members are not always involved

## **Additional file 10: Indications of lack of staff competence**

### **Indications of Staff Lack of Competence:**

- Don't feel confident managing certain aspects of chronic diseases (e.g. poorly controlled epileptics, distinguishing and managing asthma versus COPD)
- Not managing the basics well (e.g. inhaler technique; counselling)
- Lack mathematical skills needed to perform calculations (e.g. BMI) without assistive equipment
- Display poor note-keeping in patients' folders
- Don't understand the potential benefits of conducting a chronic disease audit
- Don't plan for the future or use a multidisciplinary approach when caring for patients
- Don't connect palliative care with complications of chronic diseases

## **Additional file 11: Function of support groups**

### **Function of Support Groups:**

- Monitoring (blood pressure, glucose, weight etc.)
- Alternative site for medication collection
- Medication adherence counseling
- Lifestyle education (diet, exercise, smoking and / or alcohol)
- Motivating behavior change
- Foot care
- Exercise activities
- Opportunities for patients to open up, discuss problems & ask questions

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## **Additional file 12: Summary of respondents' views on how to stay motivated**

### **Staying Motivated**

- Remaining in area of clinic that staff member is passionate about (with management working to retain good staff)
- Using personal experience to help patients
- Looking for creative solutions to difficult problems
- Commitments from management to improve working conditions
- Staff taking ownership of the area that they are responsible for
- Critically evaluating practices to allow for improvements
- Using different approaches with different patients
- Working hard
- Taking pride in appearance / uniform
- Working 'smarter' and pooling resources
- Planning for the future and for the sustainability of any new implementations
- Willing to go the extra mile for patients / beyond what is expected
- Taking encouragement from seeing a patient's condition improve, in whom the staff member has invested time and energy



**Additional file 13: Areas where management are not meeting staff expectations**

**Management Not Meeting Expectations:**

- Staff not being allocated to their areas of expertise
- Inadequate numbers of staff being allocated to certain areas
- Not admitting to staffing shortages
- Not willing to hire additional staff
- No dedicated posts created for chronic disease management
- Staff not always being given opportunities for additional training
- Focus on numbers of patients seen rather than the quality of the service delivered
- Not offering sufficient guidance
- Lacking good leadership skills
- Not meeting expectations from province
- Not dealing with logistical difficulties (e.g. procurement delays, difficulties contacting the laboratory)
- Not informing staff of results of surveys / studies conducted at the facility
- Poor communication with clinical staff around updated policies

# PART D: Appendices

## Ethical Approval

University of Cape Town



FACULTY OF HEALTH SCIENCES  
Human Research Ethics Committee

### Amendment Form

REC REF Number	109/2011
Title	Primary care doctors' current practices around lifestyle behavior change counseling. <b>New title:</b> Alignment of current primary care practices with the PGWC Adult Chronic Disease Management Policy: A case study of Retreat Community Health Centre
Principal Investigator	Dr. C. Draper

### List of Proposed Amendments with Revised Version Numbers and Dates

Subsequent to the submission of the previous proposal (REC REF 109/2011), it came to light that a PhD study had been conducted with a very similar title and methods. Even though the findings of this study (those that are the most similar to the previous proposal) are not yet published, a decision was made to find a new topic. This new topic covers some similar issues, and is within the same broad field: the management of chronic diseases at the primary care level. Furthermore, this new topic draws on a very similar sample and uses similar methodology. The new proposal is attached.

In addition, the Principal Investigator has been changed to Dr. Claire Draper, who is the MMed student conducting the study as part of the School of Public Health and Family Medicine. Protocol within this school is that the postgraduate students are named as Principal Investigator, with supervisors listed as co-investigators. This change is reflected on the new proposal.



<b>HREC office use only (FWA00001637; IRB00001938)</b>			
<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Type of review: Expedited	<input checked="" type="checkbox"/> Full committee	
This serves as notification that all changes and documentation described above are approved.			
Signature		Date	
Chairperson of the HREC	<i>Usley Hewley</i>		20/5/11

Provincial Government of the Western Cape

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FINANCE

PAGE 01/01



DEPARTMENT  
of HEALTH

Provincial Government of the Western Cape

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REFERENCE: RP 95/2011  
ENQUIRIES: Dr V Applah - Balden

501 Garden City Heights  
Lonsdale Way  
Pinelands  
7405

For attention: **Claire Draper**  
**Catherine Draper**  
**Graham Bresick**

Re: Alignment of current primary care practices with the PGWC Adult Chronic Disease Management Policy: A case study of Retreat Community Health Centre

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

Retreat CHC                      Mr Lemmetjies                      (021) 713 9741

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 report within six months of completion of research. This can be submitted to the provincial Research Co-ordinator ([healthres@pgwc.gov.za](mailto:healthres@pgwc.gov.za)).
3. The reference number above should be quoted in all future correspondence.

We look forward to hearing from you.

Yours sincerely

DR T NALEDI

DIRECTOR: HEALTH IMPACT ASSESSMENT

DATE: 29.08.2011

CC                      DR K GRAMMER                      DIRECTOR: SOUTHERN/WESTERN

# Consent Forms

## Focus groups

Dear participant

The Chronic Disease in Africa Initiative, based in the Department of Medicine at the University of Cape Town, is conducting a study titled “Putting Prevention into Practice”. This study aims to develop and test strategies and resources for health care providers and community health workers to enable them to offer brief, best practice, behavioural change counselling in a variety of settings, on the topics of smoking, drug and alcohol abuse, poor diet, obesity and overweight and lack of physical activity.

As a component of this broader study, we are conducting research to investigate the current management and care of patients with chronic disease at [facility name] CHC, and to understand how chronic disease management policy is being implemented in this facility. The chronic disease management policy was implemented by the Western Cape Provincial Government in 2009 as a strategy to improve care for patients with chronic diseases. Based on the findings in our investigation, we hope to understand better the practical realities of implementing this policy and be able to make recommendations that will aim at improving chronic disease management in primary care settings in general. This will help us to ultimately develop intervention programmes that will be beneficial to both patients and staff.

The purpose of this focus group is to learn more about your perceptions of how patients with chronic diseases are managed and cared for at [facility name] CHC, as well as to get your input on recommendations to improve this management and care.

There are no right or wrong answers to the questions you will be asked, and it is important for you to answer these questions as honestly as possible so that your views can be accurately represented. With your permission, this focus group

discussion will be audio recorded. Although the person conducting the focus group may know your name, your name will not be used when reporting on this study and your name will not be connected to your responses in this focus group. We are unfortunately not able to ensure the confidentiality of the focus group discussions, but will encourage other focus group participants not to share the identities of other participants with those outside the focus group.

We understand that your participation in this focus group is voluntary. You are able to withdraw from this focus group at any time. If you choose not to be involved in this study, there will be no negative consequences for you (e.g. employment or treatment at [facility name] CHC).

The information that we will get from this study will be very helpful to the Chronic Disease Initiative in Africa, and will positively influence the formulation of intervention strategies aimed at improving patient care.

If you agree to participate in this study, please could you sign in the space below. If you have any queries, please contact:

Dr. Cathi Draper

021 650 4567

UCT/MRC Research Unit for Exercise Science and Sports Medicine

Sports Science Institute of South Africa

Newlands

Signature of participant: \_\_\_\_\_

Date: \_\_\_\_\_

Name of investigator: \_\_\_\_\_

Signature of investigator: \_\_\_\_\_

Date: \_\_\_\_\_

This study adheres to the guidelines described in the Declaration of Helsinki Ethical Principles for Medical Research Involving Human Subjects.

Should you have any queries regarding your rights and welfare as a research participant, please contact:

Prof. Marc Blockman

Chairperson

Health Science Faculty Research Ethics Committee

021 406 6492

E52-24 Groote Schuur Hospital Old Main Building

Observatory

7925

University of Cape Town

## Individual Interviews

Dear participant

The Chronic Disease in Africa Initiative, based in the Department of Medicine at the University of Cape Town, is conducting a study titled “Putting Prevention into Practice”. This study aims to develop and test strategies and resources for health care providers and community health workers to enable them to offer brief, best practice, behavioural change counselling in a variety of settings, on the topics of smoking, drug and alcohol abuse, poor diet, obesity and overweight and lack of physical activity.

As a component of this broader study, we are conducting research to investigate the current management and care of patients with chronic disease at [facility name] CHC, and to understand how chronic disease management policy is being implemented in this facility. The chronic disease management policy was implemented by the Western Cape Provincial Government in 2009 as a strategy to improve care for patients with chronic diseases. Based on the findings in our investigation, we hope to understand better the practical realities of implementing this policy and be able to make recommendations that will aim at improving chronic disease management in primary care settings in general. This will help us to ultimately develop intervention programmes that will be beneficial to both patients and staff.

The purpose of this interview is to learn more about your perceptions of how patients with chronic diseases are managed and cared for at [facility name] CHC, as well as to get your input on recommendations to improve this management and care.

There are no right or wrong answers to the questions you will be asked, and it is important for you to answer these questions as honestly as possible so that your views can be accurately represented. With your permission, this interview will be audio recorded. Although the person conducting the interview may know your name,

your name will not be used when reporting on this study and your name will not be connected to your responses in this interview.

We understand that your participation in this interview is voluntary. You are able to stop the interview at any time. If you choose not to be involved in this study, there will be no negative consequences for you (e.g. employment or treatment at [facility name] CHC).

The information that we will get from this study will be very helpful to the Chronic Disease Initiative in Africa, and will positively influence the formulation of intervention strategies aimed at improving patient care.

If you agree to participate in this study, please could you sign in the space below. If you have any queries, please contact:

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# **PGWC Adult Chronic Disease Management Policy**

Provincial Government of the Western Cape

Department of Health

## **Adult Chronic Disease Management Policy**

A strategy for the five key conditions

17 July 2009



## **Acknowledgement**

Western Cape has prioritised the management of chronic diseases as one of the key interdivisional service priorities. To this end, the Department wishes to thank those senior managers, programme managers, coordinating clinicians and clinicians who served on the Chronic Disease Management (CDM) Reference Group for sterling work in producing a guiding conceptual framework early in 2006. The following CDM Task Team members that drafted and consulted on this policy framework are also acknowledged:

Dr Michael Pather, Prof Bryan Kies, Dr Arina Schlemmer, Dr Karen Cohen, Ms Elaine Sclanders, Dr Rob Martell, Dr Indira Govender and Ms Unita van Vuuren.

Members of the strategic management team and the technical work group for ambulatory care are also acknowledged for doing further work in refining content and the layout of this policy document.

This policy framework presents a starting point for incrementally developing a comprehensive strategy for managing chronic diseases in the province. Future work will include adding other important adult chronic conditions and those diseases that affect children.

.....  
Professor K C Househam  
Head: Department of Health  
Western Cape  
Date:

## Contents

<b>1</b>	<b>Background</b> .....	<b>1</b>
<b>2</b>	<b>Introduction</b> .....	<b>2</b>
<b>3</b>	<b>Aims</b> .....	<b>2</b>
<b>4</b>	<b>Objectives</b> .....	<b>3</b>
<b>5</b>	<b>Situational Analysis</b> .....	<b>3</b>
	5.1 Burden of Disease .....	3
	5.2 Risk factors .....	4
	5.3 Current service provision .....	5
<b>6</b>	<b>Framework</b> .....	<b>6</b>
	6.1 Policy Context .....	6
	6.2 Service Delivery Context .....	6
	6.3 Service Platform .....	7
	6.4 Service Models .....	7
	6.4.1 Facility Based Model .....	7
	6.4.2 Community Based Model .....	8
	6.5 Service Packages .....	8
	6.6 Referral Pathways .....	8
	6.7 Outreach and Support .....	8
	6.8 Training .....	8
	6.9 Norms and Standards .....	8
	6.10 Clinical Governance .....	9
<b>7</b>	<b>Implementation Strategies</b> .....	<b>9</b>
	7.1 Guiding Principles .....	9
	7.2 Managerial and institutional arrangements .....	9
	7.3 Disease Determinant Approach .....	9
	7.4 Ambulatory care .....	10
	7.5 Adherence support .....	11
	7.6 Alternative Distribution of Medication .....	12
	7.7 Existing CDM Pilot Projects .....	13
	7.8 Training Strategy .....	13
	7.9 Norms and Standards .....	13
<b>8</b>	<b>Monitoring and Evaluation</b> .....	<b>15</b>
	8.1 Performance Indicators .....	15
	8.2 Data Collection Tools / Source Documents .....	16
	8.3 Data Flow.....	16
	8.4 Quality Assurance .....	16
<b>9</b>	<b>Implementation Schedule</b> .....	<b>16</b>
<b>10</b>	<b>Recommendations</b> .....	<b>18</b>

**Annex A-E Audit tools (not included)**

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# 1 Background

The high number of people with chronic diseases visiting community health centres requires the Department to consider the management of people with chronic diseases comprehensively. It has been estimated that 12% of people living in the Western Cape represent 50% of attendances at PHC facilities. They present with one of eight conditions, namely: hypertension; diabetes mellitus; ischaemic heart disease follow-ups; chronic psychiatric illnesses; chronic obstructive pulmonary disease (COPD); HIV / AIDS; and tuberculosis. The medication dispensed to these patients represents 80% of all prescriptions dispensed at the pharmacies at these facilities.

Chronic diseases may be inherited, but many lifestyle and environmental factors such as smoking, inappropriate diet, sedentary lifestyle and heavy alcohol consumption are known to increase risks. These are to some extent within the control of a well-informed individual, however there are often other factors such as poverty, under-nutrition in-utero and in infancy, and genetic predisposition, over which the individual has little control.

Besides early diagnosis, management and harm reduction, there are opportunities at every stage for disease prevention and for promoting healthy behaviour.

Chronic Diseases have not previously been prioritised in terms of resource allocation, and have had to compete with other priorities such as HIV/AIDS, TB and trauma. As a consequence, the Inter-divisional Executive Committee of the Western Cape Department of Health took a decision in 2006 to establish a Provincial Reference Group comprised of senior managers, coordinating clinicians, clinicians and experts; with a brief to develop a Provincial policy and implementation strategy for chronic disease management (CDM).

In 2007 a conceptual framework was developed and presented to the Inter-divisional Executive Committee, which endorsed a proposal that this be developed into a policy framework and implementation strategy to guide the management of chronic diseases in the Western Cape. The Inter-divisional Executive Committee subsequently prioritised the following chronic diseases for targeted interventions:

- Cardiovascular Diseases (including ischaemic heart disease, stroke and peripheral vascular disease)
- Asthma and Chronic Obstructive Pulmonary Diseases (COPD);
- Diabetes (as a risk factor for Cardiovascular Diseases)
- Hypertension (as a risk factor for Cardiovascular Diseases)
- Epilepsy

A task team consisting of senior family physicians, clinicians and health programme managers drafted the CDM policy framework and consulted on it at a workshop held on 24 October 2007. Refining work by the task team

happened during 2008, and the work done by this team has resulted in the CDM policy framework and proposed implementation strategies set out in this document.

## 2 Introduction

Chronic diseases are defined as follows:

*Non-communicable diseases including cancers, chronic diseases of lifestyle, mental health problems, those living with physical and/or structural impairments and children with long-term health needs. (WHO, 2006)*

Chronic diseases of lifestyle (CDL) are a group of diseases that share similar risk factors as a result of exposure to unhealthy diets, smoking, lack of regular exercise, and possibly stress. The major risk factors are high blood pressure, tobacco addiction, high blood cholesterol, diabetes, and obesity. These result in various long-term disease processes, culminating in high mortality rates attributable to strokes, tobacco- and nutrition-induced cancers, chronic bronchitis, emphysema and renal failure, amongst others.

The identified key conditions are:

- Cardiovascular diseases (including ischaemic heart disease, stroke, peripheral vascular disease);
- Asthma and chronic obstructive pulmonary diseases (COPD);
- Diabetes (as a risk factor for cardiovascular diseases);
- Hypertension (as a risk factor for cardiovascular diseases);
- Epilepsy; and
- Mental health disorders.

The Inter-divisional Executive Committee proposed that the top five should be adopted for a targeted focus, and that mental health be excluded from this framework as much work has already been done in this area by the Coordination Clinicians Committee.

This strategy will therefore focus on these key adult conditions: cardiovascular diseases, asthma and COPD, diabetes, hypertension and epilepsy. The range of conditions covered will be reviewed as part of the CDM work for 2010/11. Similarly, childhood CDM will be considered at a later date.

This is the first CDM strategy, and aims to present a starting point for the ongoing development of the integrated management of chronic diseases. The strategy describes the process of developing services at all levels of care, and changing practice to improve health outcomes and reduce healthcare attendances and admissions. Work in this area will be progressed

incrementally, towards the development and implementation of a fully comprehensive strategy for chronic disease management.

### 3 Aims

The aims of the policy are as follows:

- 1 To serve as an overarching guide for the management of prioritised chronic diseases at all levels of care in the Western Cape.
- 2 To present a coherent strategy intended to reduce morbidity and mortality arising from these chronic diseases.
- 3 To contribute towards the reduction of the overall burden of chronic diseases in the Province.

### 4 Objectives

- To ensure the implementation of existing National and Provincial disease-specific policy guidelines.
- To present models for clinical services, service packages, clinical governance and referral pathways, norms and standards for chronic diseases.
- To propose implementation strategies and appropriate resources for the management of these chronic diseases.
- To promote implementation of health systems research for CDM.
- To identify indicators for the monitoring and evaluation of chronic diseases across the service delivery platform.

## 5 Situational Analysis

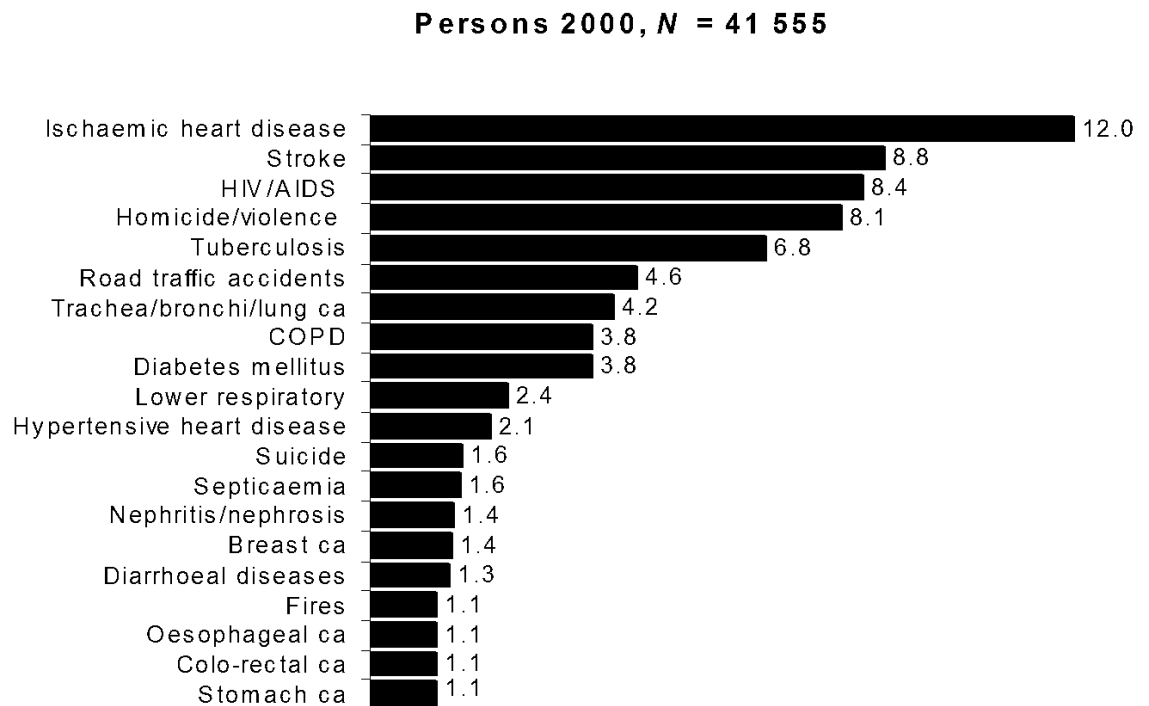
### 5.1 Burden of Disease (BoD)

According to the Western Cape BoD Study project, mortality trends in the Province are characterised by a quadruple burden of disease as shown below

Cause of Death	% Years of Life Lost (YLL)
HIV / AIDS / TB	22.0
Homicide / violence / road traffic accidents	19.8
Ischaemic heart disease / stroke	10.5
Childhood diseases	6.0
<b>Total</b>	<b>58.3</b>



The twenty leading causes of death across the Western Cape in 2000 are shown below:

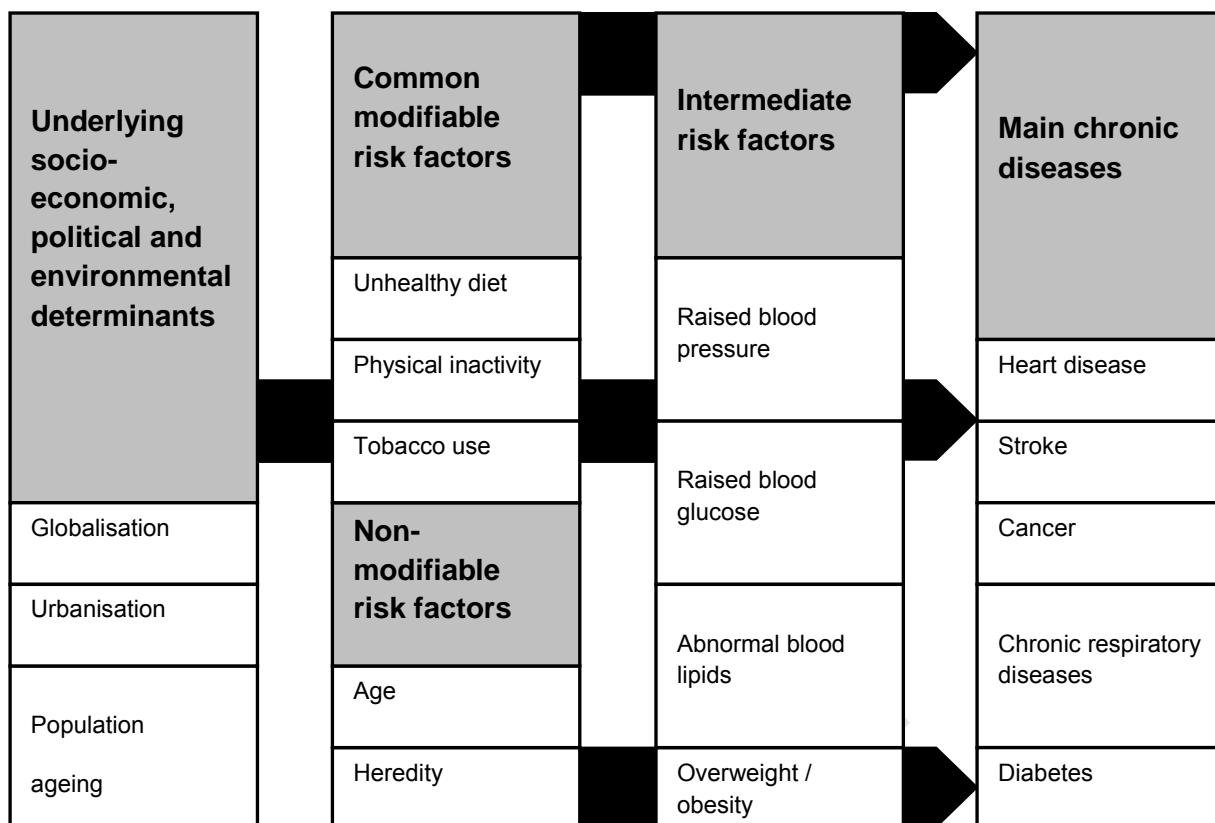


Intentional and unintentional injuries, respiratory disease, TB, lung cancer and COPD were higher in males than in females, whilst cardiovascular disease, stroke HIV and diabetes were higher in females than in males.

## 5.2 Risk Factors

There is now a large body of evidence concerning the risk factors for non-communicable diseases (NCDs). The rapid rise in rates of NCDs in the same population over time, and amongst migrants (both from rural to urban settings as well as from other countries) provides compelling evidence that the primary determinants of these diseases are not genetic but environmental factors, including diet and lifestyle. This is supported by a large number of prospective observational and intervention studies.

These risk factors are presented schematically in the diagram below:



**Unhealthy diet:** affordability and poor access to fresh fruit and vegetables result in many people subsisting mainly on highly processed food (grains and sugars). These foods are often given flavour with cooking oil and the cheaper (fatty) cuts of meat. The pressures of impoverished urban life also drive an increasing consumption of ‘snack’ foods, decreased physical activity and high levels of stress.

**Physical inactivity:** although there has been limited data on physical activity, the Youth Risk Behaviour Survey (YRBS) indicated that 41.7% of high school learners participated in insufficient or no physical activity. This pattern of inactivity seems to extend into adulthood. A national WHO survey in 2003 (WHO 2005), found that less than one third of South Africans met international recommendations for health-enhancing physical activity (that is, accumulating 30 minutes of moderate activity on most, but preferably all days of the week), and that nearly half (46%) were reportedly inactive.

**Overweight:** the prevalence of weight problems and obesity is high in the Western Cape (57.1%) in women and highest of all Provinces (38.4%) in men. Overweight (BMI >25) and obesity (BMI >30) are important risk factors for cardiovascular diseases. At least three quarters of type 2 diabetes, a third of ischaemic heart disease, a half of hypertensive disease, a third of ischaemic strokes and about a quarter of osteoarthritis can be attributed to excess weight gain. A high BMI in adolescence predicts elevated adult mortality rates and cardiovascular disease, even if the excess body weight is lost in later life.

**Tobacco use:** the Western Cape has the highest prevalence of smoking of all the Provinces: 44.7% of men and 27% of women. Of particular concern is

the high prevalence of pregnant women in the Western Cape who smoke tobacco. The Global Youth Tobacco Survey (2003) demonstrated an alarming rise in the pattern of commencement of smoking amongst young people in the Province, particularly in males.

### 5.3 Current Service Provision

The proportion of PHC facilities currently providing a chronic disease management service is shown below:

	<b>Total number of facilities</b>	<b>Number providing CDM</b>
CHCs	59	42
Fixed clinics	240	92
Mobile and satellite clinics	162	78

*Numbers of facilities taken from 2009/10 APP*

The total numbers of PHC attendances for diabetes, hypertension, asthma and epilepsy in 2007/08 is as follows:

<b>Indicator</b>	<b>New patients</b>	<b>Follow-up Patients</b>	
Diabetes	10,420	227,055	
Hypertension	25,710	715,599	
Asthma	6,908	Under 18yrs	Over 18yrs
		15,713	193,084
Epilepsy	15,284	No report	
<b>Total Chronic Visits</b>		<b>2,075,490</b>	

*Source of information: RMR 2007 – 2008*

Hospitals have only been collecting this data since April 2009, but work is in progress to collate and analyse this data to further inform service planning.

The escalating prevalence of chronic diseases and their association with multiple deprivation indices such as poverty pose challenges to resource allocation in support of a Provincial response.

Re-planning and robust prioritisation of human resources, infrastructure, appropriate health technologies and supplies are critical for the Province to reverse trends in the burden of chronic diseases. Arising from the above situational analysis, the following key needs are pertinent:

- The need to mitigate against both downstream and upstream issues and risks related to chronic diseases; and
- Design of a policy framework and implementation strategy.

## **6 Framework**

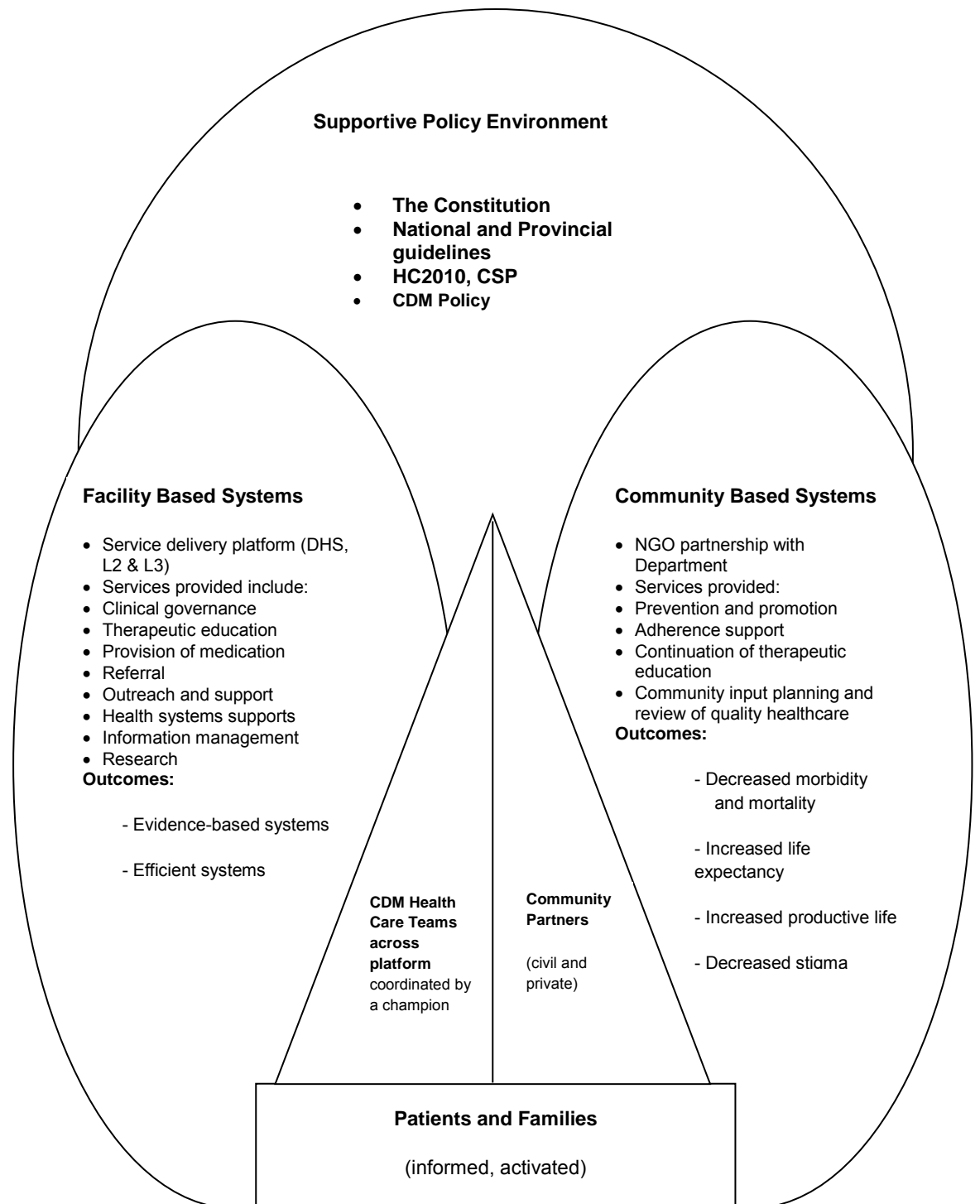
### **6.1 Policy Context**

The strategy for the management of chronic diseases has been developed within the context of the following national and Provincial policy perspectives:

- The Constitution of the RSA (Act 108 of 1996)
- National Health Act 2003
- National Strategic Plan
- National guidelines for chronic disease management
- Medicine and Related Substance (Act 101 of 65)
- Healthcare 2010
- Comprehensive Service Plan

### **6.2 Service Delivery Context**

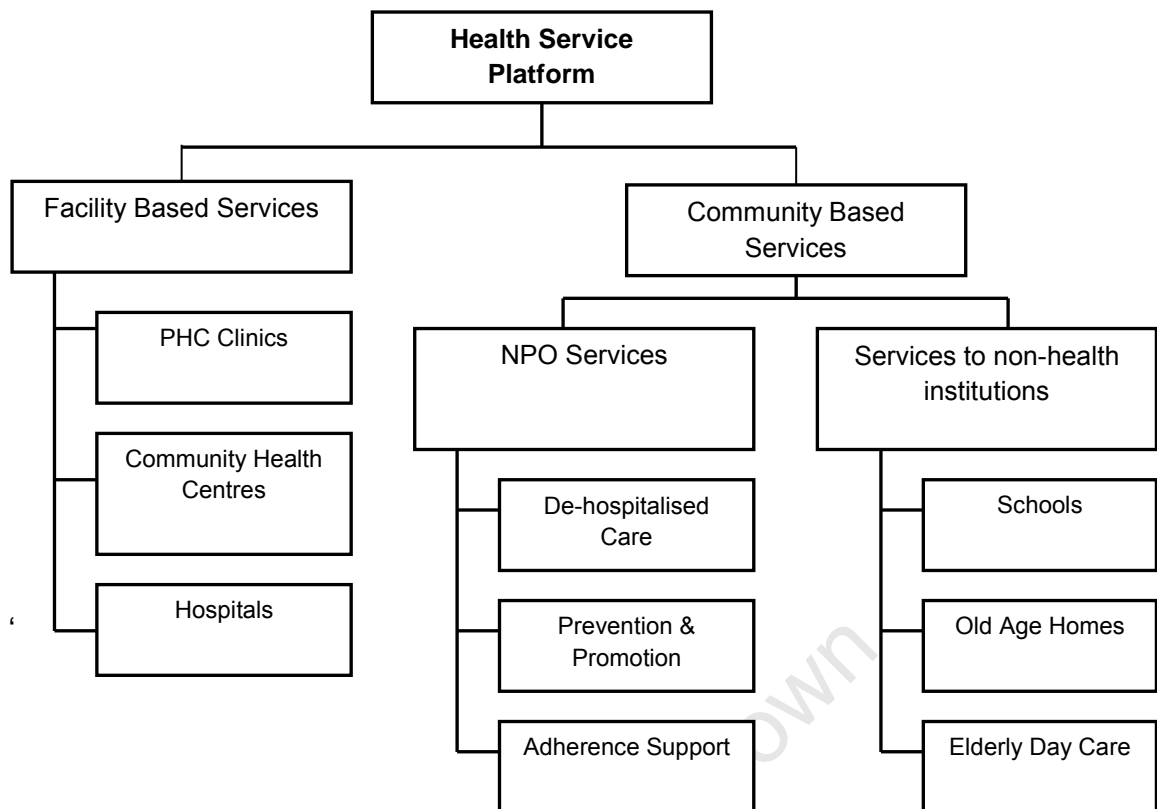
Better health outcomes in the management of chronic diseases are dependent on a good interface between facility and community based services. The planned policy and delivery context are illustrated in the overarching model shown below (adapted from the WHO Model):



### 6.3 Service Platform

At the district health services level, services for chronic diseases will be provided via two main streams, Facility Based Services and Community Based Services; within given geographical Sub-district areas.

The diagram below shows the main settings for the delivery of chronic disease management services:



Clearly defined patient pathways across the interfaces between service areas will facilitate the management of chronic diseases at the lowest appropriate level of care.

## 6.4 Service Models

### 6.4.1 Facility Based Models

PHC management of chronic diseases is currently as follows:

- Metro District: chronic diseases are managed by a multi-disciplinary teams (MDTs) led by a family physician, within community health centres. Most facilities have dedicated pharmacy support.
- Rural Districts: clinical nurse practitioners manage chronic diseases in clinics, occasionally with a clinic based MDT but more usually with MDT outreach and support. Pharmacy support is provided by District hospitals.

Both models use the pre-packing of medication for stable chronic disease clients, delivered to alternative sites.

In District Hospitals, services for chronic diseases are managed by family physicians.

In level 2 hospitals, chronic diseases are managed by general medicine physicians under the leadership of level 2 clinical heads.

In level 3 hospitals, chronic diseases are managed within specialities.

#### **6.4.2 Community Based Model**

Community based CDM is an outsourced service provided by contracted NPOs, supported by facility based MDT outreach and support. The NPOs facilitate support groups, which provide adherence support, health education, counselling, screening and healthy lifestyles.

As part of the strategy to bring services closer to communities and to reduce waiting times in health facilities, the support groups are also alternative sites for the delivery of chronic disease medication.

There is a formal referral process for referral from facilities to CBS, and from community based services back into PHC facilities.

#### **6.5 Service Packages**

A minimum service package for chronic disease management at each level of care will be developed. These will be under-pinned by clear case definitions and patient profiles.

#### **6.6 Referral Pathways**

Clear referral pathways are needed between all care settings, for referral up and down the continuum of care. The following need to be in place for well-managed transfers of care:

- Communication between referring sites
- Standardised documentation on discharge of patients.
- Clear case definitions and patient profiles to guide referrals
- Agreement on access to specialist medications
- Patient-held chronic disease card
- Appointment systems

These protocols and procedures will be developed as part of the implementation of this strategy.

#### **6.7 Outreach and Support**

The delivery of Multi-Disciplinary Team (MDT) outreach and support services for CDM should be guided by the approved Departmental policy on outreach and support (Circular H1, 2006) and will include training facility staff in chronic disease management. Outreach will be provided from all levels of care, from tertiary hospitals down to community based services.

## **6.8 Training**

The facility based MDT is responsible for sharing knowledge and skills with community based staff. In addition, there should be continuous training of staff working in CDM, in all settings.

## **6.9 Norms and Standards**

Alongside disease-specific norms, standards and guidelines, this framework provides an over-arching set of norms and standards for chronic disease management. These are set out as part of the implementation strategy (section 7.9).

## **6.10 Clinical Governance**

DHS clinical governance for chronic disease management is led by a family physician (or medical officer where there is no family physician) in each Sub-district. In level 2 hospitals it is led by Clinical Heads; and in level 3 hospitals by Internal Medicine Specialists. Clinical governance must be maintained in line with the approved Departmental clinical governance policy framework.

# **7 Implementation Strategies**

## **7.1 Guiding Principles**

The principles which guide this policy include:

- Approved managerial and institutional arrangements to coordinate chronic diseases management at all levels of the service platform;
- The use of a comprehensive approach to promotion, prevention, treatment, rehabilitation, palliative care;
- Services provided by teams with appropriate skill mix;
- Continuous training and professional development;
- An integrated client-centred approach to multi-disciplinary care;
- A continuum of care meeting the needs of clients of all ages;
- A commitment to quality of care, delivered in the most appropriate setting; and
- Evidence-based practice with measurable outputs and outcomes.

## **7.2 Managerial and institutional arrangements**

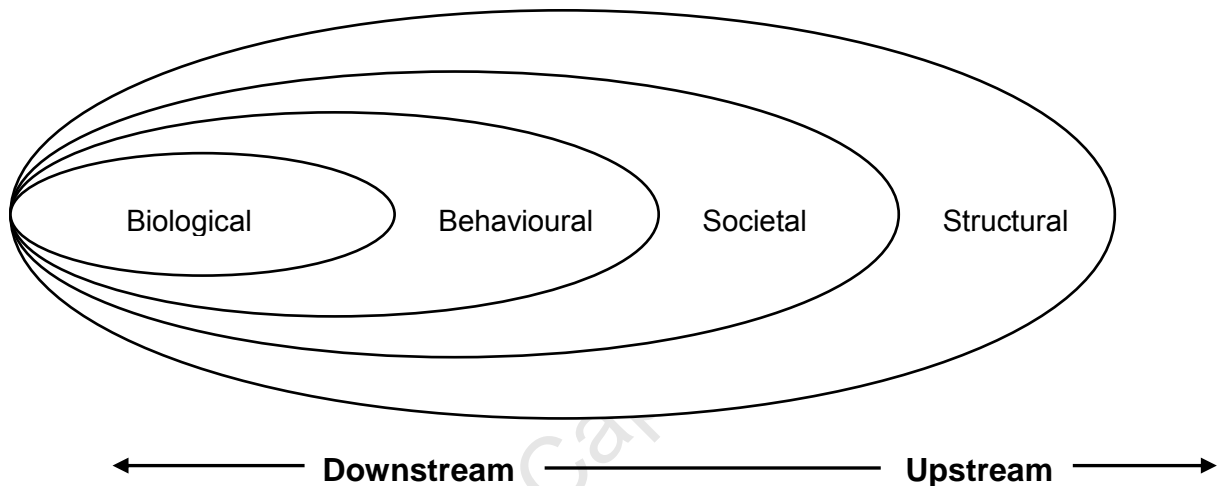
CDM is one of the eight divisional priorities for District Health Services and Health Programmes, and thus resides with the Chief Directorate, Health Programmes.



The CEO of Groote Schuur Hospital is the Strategic Management Team (SMT) manager responsible for Ambulatory Care, which also coordinates chronic disease management.

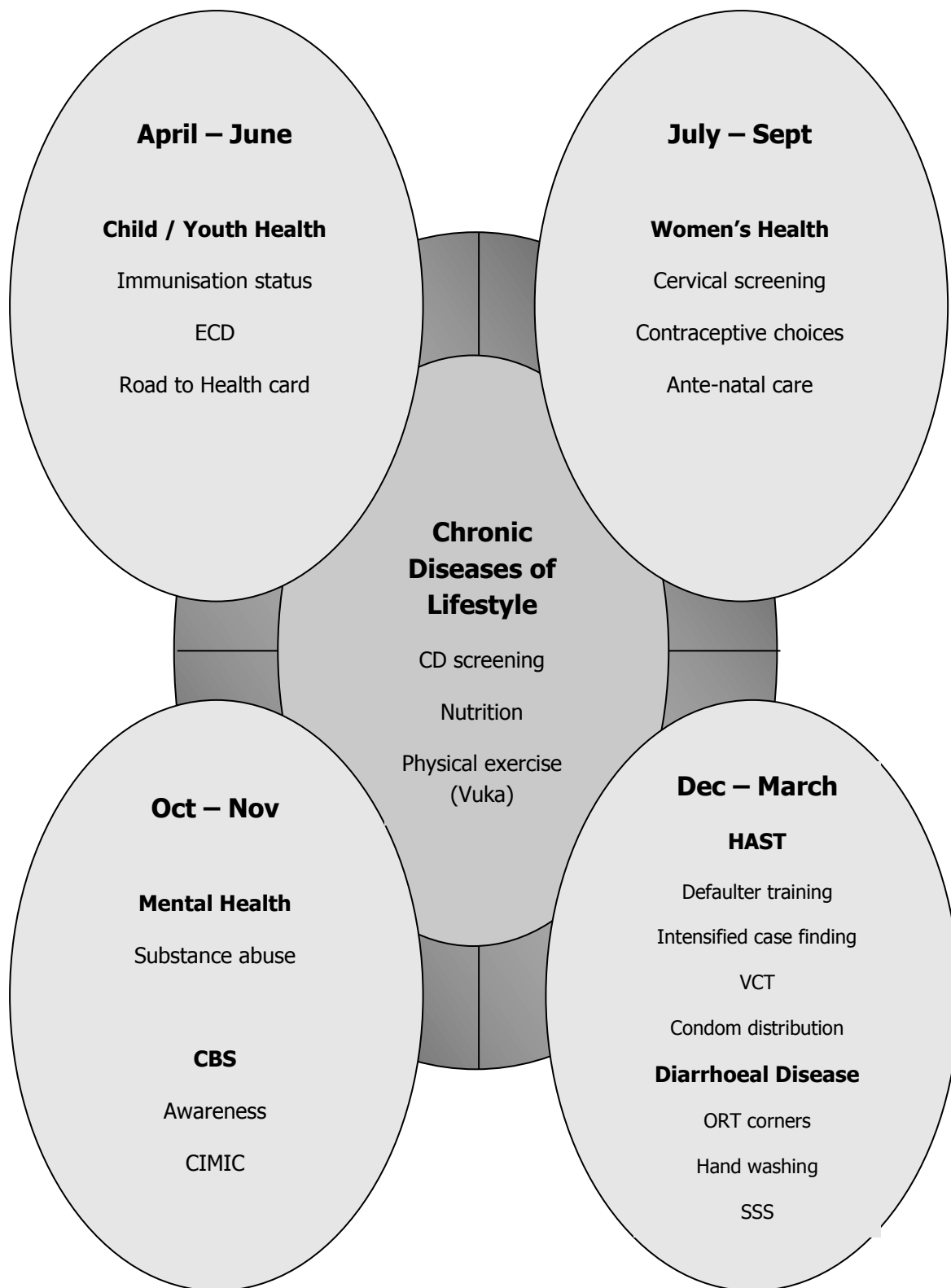
### 7.3 Disease Determinants Approach

The approach to CDM must recognise that disease determinants include both upstream, midstream and downstream issues. This is shown in the diagram below:



The management of chronic diseases will therefore entail multi-sectoral interventions to address upstream issues, alongside the implementation of responsive multi-disciplinary healthcare services.

The wider implications of the Province's disease profile are being addressed through the development and implementation of a comprehensive disease prevention and health promotion strategy, based on the model shown below:



This model was developed for DHS in 2009/10, as a starting point for the coordinated delivery of prevention and promotion initiatives, and will be

expanded to cover other levels of care. This work is being progressed by the Prevention and Promotion programme.

The implementation of the Prevention and Promotion strategy is key to the delivery of integrated CDM services as described in this document, and is supported by this policy.

#### **7.4 Ambulatory care**

Chronic diseases will be managed as part of Ambulatory Care, which is one of the four inter-divisional priorities to be implemented as part of the APP. The main steps for implementing ambulatory care are:

- Develop standard case definitions for stable adult and paediatric CDM
- Quantify the numbers of clients to be relocated by central hospitals (according to the case definitions) in each geographic area
- Establish and maintain the capacity of the recipient CHCs to absorb the referred clients

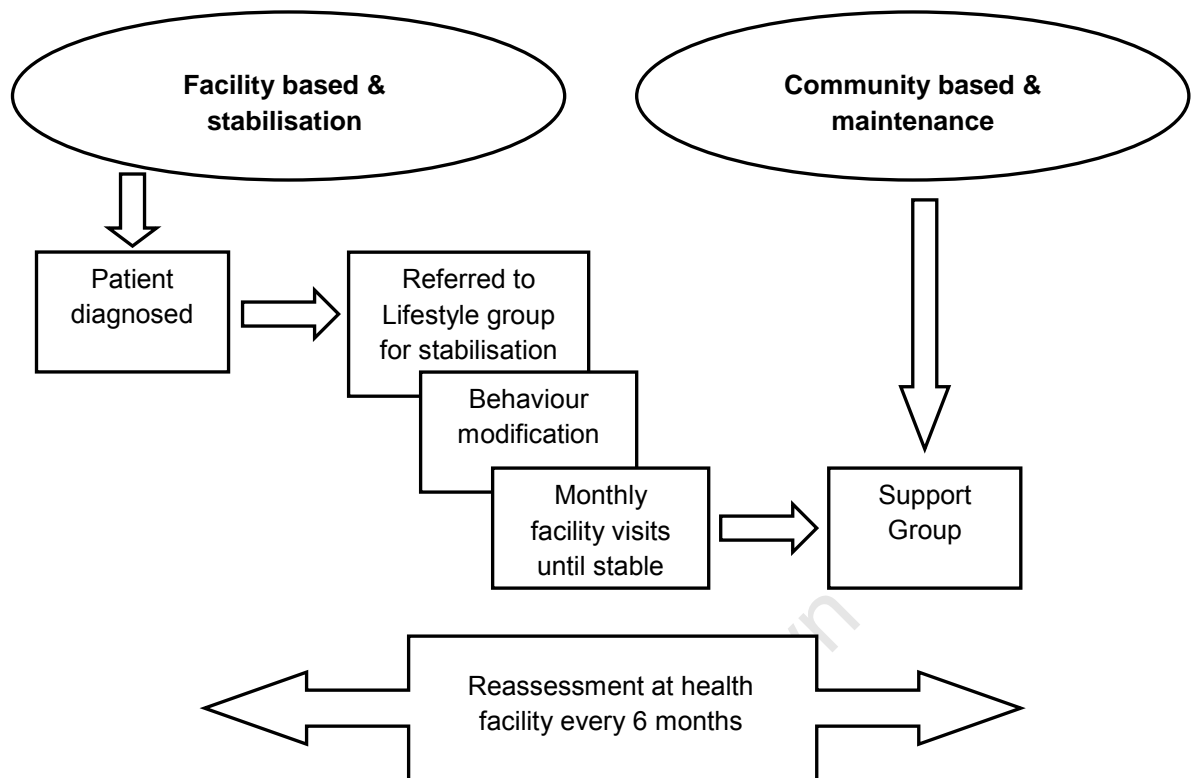
#### **7.5 Adherence Support**

The development of a model for adherence support aims to:

- Provide continuity of care;
- Maximise quality of life and independence;
- Prevent avoidable hospital admissions; and
- Reduce morbidity and mortality due to chronic diseases.

The model also supports HIV and TB adherence support, and work is being progressed incrementally towards the integration of all adherence support and counselling services. A detailed plan for integrated service delivery will be developed as part of the implementation of this strategy.

The interface between facility and community based services is illustrated below:



New patients are diagnosed at the health facility and seen there by a chronic disease team member for counselling and education.

The chronic disease team consists of the following people (where possible) with these primary responsibilities:

- Family Physician / Medical Officer: clinical governance and quality assurance, and consultant to the primary care practitioners
- Clinical Nurse Practitioner: assessment, treatment and referral
- Dietician: addressing primary prevention and health risk factors
- Health Promoter: addressing risk factors through behaviour modification
- Pharmacist (and assistant): counselling on medication adherence
- Rehabilitation therapists (occupational therapist, physiotherapist and / or speech therapist): promoting rehabilitation and increasing independence
- Counsellor: mediation and support

Lifestyle groups are run by the Nurse and Health Promoter, with input from other chronic disease team members, and aim to empower patients to lead healthy lifestyles. This work is carried out in therapeutic groups, where group and individual goals for behaviour change are set.

Once the patient is stable he or she is referred to the closest support group attached to the CHC, where he or she is provided with information about the condition, behaviour modification and counselling on medication. The aim of

support groups is to encourage clients with chronic diseases to lead healthy lifestyles, and the package of care is as follows:

- Screening (blood pressure, glucose, temperature, weight and waist circumference)
- Health promotion
- Nutrition
- Physical exercise
- Eye screening (for visual acuity)
- Foot care
- Medication compliance

This is a life-span model, designed to provide ongoing support to people with chronic diseases. However it is expected that a significant number of these clients will learn to manage their own condition, medication and lifestyle changes, and will be discharged from the support groups.

This model has been successfully piloted within the Metro and (with some flexibility around MDT inputs) in rural Districts. It is therefore proposed that the model be agreed in principle for the delivery of CDM services in all areas. The model should then be rolled out in each Sub-district, according to local context as regards burden of disease and patient profiles.

## **7.6 Alternative Distribution of Medication**

The following initiatives have been agreed in principle, in order to support the management of chronic diseases through improving access to medication:

- 1 The option of giving CDM patients two months' supply of medication was agreed by DEXCO in 2008. This is strongly recommended, whether the patient collects or receives home deliveries.
- 2 Community Caregivers are already delivering medication to Category 3 home based care clients who do not have family help with this. This option is supported, with the recommendation that Caregivers receive continuous training.
- 3 A courier system for medication delivery to homes or post offices needs piloting and evaluation.

Further work is underway to agree on the most effective initiatives for each Sub-district. It is recommended that the only most appropriate solution(s) are implemented in each area.

## 7.7 Existing CDM Pilot Projects

The following pilot projects are already underway in the Metro:

- The Lifestyle Intervention for Empowerment Programme (“LIFE” Programme) project, using a behaviour modification flip chart to promote healthy lifestyles
- A diabetic project aiming to improve the management of diabetic patients through improving clinical governance
- CDM Register and CDM record sheet to assess quality of care
- A mobile retinal screening project, operating in CHCs across the District
- Community eye care workers providing community based screening, through door to door case finding

All these projects are supported by this strategy, and recommended for roll-out across the Province, subject to financial viability.

Mechanisms need to be developed to work inclusively with all levels of care to further develop these pilots and identify hospital based pilot projects.

## 7.8 Training Strategy

A training strategy for CDM needs to be developed, to ensure an appropriate skill mix and sustainability for both facility based and community based staff. The Oventions Project will fund some aspects of CDM training, complemented by funding from IMOCOMP (Improvement and Maintenance of Competencies). Service divisions need to work closely with HRD to develop a training programme, including the procurement of training providers.

## 7.9 Norms and Standards

Implementation of this framework and the strategies within it must be guided by over-arching norms and standards. The following norms and standards are therefore recommended for adoption:

### Norms:

- 1 Increase the proportion of clinics providing comprehensive services for persons with chronic diseases.
- 2 Assess patient satisfaction and quality of care 6 monthly by a supervisor who also evaluates the degree of community involvement in care planning.
- 3 Reduce the number of people with a BMI greater than 30.
- 4 Minimise patient travel by prescribing supplies of drugs to last 1-3 months.

## Standards:

- 1 References, prints and educational materials:
  - Western Cape Chronic Diseases Management Policy and Implementation Strategy, to be used in conjunction with National disease specific guidelines
  - Management protocols on Type II diabetes at primary health care level
  - Health promotion and educational materials relating to chronic diseases of lifestyle, ageing and cancer in local languages
- 2 Equipment and Special Facilities:
  - Working sphygmomanometer with range of cuffs, and stethoscope.
  - Urine test strips for glucose, protein and ketones
  - Blood glucose testing equipment
  - Demonstration material for asthma (spacer and placebo inhaler)
  - Peak expiratory flow meter
  - Functioning scale
  - Tape measure
  - Height chart
  - BMI chart or wheel
  - Glucometer
  - Ophthalmoscope
  - Snellen chart and pin-holes
  - ECG machine (hospital levels only)
  - Clinics have easy access for the aged, those in wheelchairs and those with various disabilities
- 3 Medicines and Supplies:
  - Arrangements are made by the clinic to minimise patient travel by prescribing supplies of drugs to last 2 months
- 4 Competence of Health Staff:
  - Every clinic has a staff member who has skills to prevent, diagnose and manage chronic conditions including geriatrics, nutrition, genetics, mental health and reproductive health
  - Staff are able to provide counselling and motivation on disease acceptance, continuity of care and compliance
  - Staff are able to establish in patients a feeling of always being welcome even though they keep coming frequently over the years
  - All staff show respect and concern for the elderly and the disabled
  - Staff have the skills and attitude to protect and promote the rights of patients with regard to a full knowledge of health status, participation in decisions, access to own health records and becoming a partner in own health care

- Staff are receptive to periodic visits from doctors or district surgeons/medical officers and use the visits to review chronic disease patients
- Staff observe universal precautions and infection control measures

#### 5 Referrals:

- All patients are referred to the next level of care when their diagnosis and needs fall beyond the scope of competence as recommended by the protocols
- Staff know where to phone the nearest hospital/doctor for advice
- Follow-up visits are carried out according to the agreed schedule
- Detailed information is kept on the frequency of follow-up visits
- Patients suspected of having any of the five prioritized conditions are appropriately referred

#### 6 Patient Education:

- After diagnosis patients and caretakers are supported and their capacity developed regarding self care, self-monitoring, compliance, prevention of complications and management of the disease
- Education activities are sensitive to the cultural and economic realities of the patient and home

#### 7 Records:

The following records must be maintained:

- Patient register of chronic conditions
- Patient folder
- Patient carried cards
- Home based care records, including support group registers

#### 8 Community Based Services:

- Formal referral processes for CBS services are used
- After analysis of the chronic disease register attempts are made to provide education in the community on modifiable risk factors, healthy food plans, less salt (iodised), weight control, sport and exercise, substance abuse especially alcohol, smoke (tobacco, smoke in houses), UV protection for albinos, early recognition of symptoms and periodic check-ups
- Educational activities are culturally and linguistically appropriate.

#### 9 Collaboration

- Staff collaborate with other departments and sectors whose activities have a bearing on chronic diseases
- Clinic staff approach the catchment area population through community health committees, NGOs, CBOs, youth groups and the church to reduce common risk factors operating in the community



- Develop and facilitate partnerships with research Institutions, universities and DoH BoD Project

## **8 Monitoring and Evaluation**

Mechanisms should be put in place for the monitoring and evaluation of health facility and community based activity; at Sub-district, District and Provincial level. Coordination of the monitoring activities is the responsibility of the CDM Champion.

### **8.1 Performance Indicators**

Performance monitoring of CDM will be primarily through the 2009/10 Annual Performance Plan targets, which are as follows:

- 1 500 000 prescriptions dispensed through an alternative dispensing system.
- 8 sub-districts undertaking annual clinical audits for the management of chronic diseases using the integrated tool.
- 5000 clients transferred from central hospitals to CHCs for chronic disease management.

In addition, RMR (Routine Monthly Reports) data will continue to be collected and monitored across PHC and hospital services.

### **8.2 Data Collection Tools / Source Documents**

- CDM register – to register all new CDM clients and keep track of all CDM (new and old) patient attendances
- Chronic Disease Record Sheet – to evaluate the management of five chronic conditions; Diabetes, Hypertension, Asthma, COPD and Epilepsy
- Clinical audit tool – to assess the quality of care
- Routine monthly report

### **8.3 Data Flow**

Data will be collected at the facility, forwarded to the Sub-district Information Management Officer, sent on to the District Information Officer and Provincial Information Management Officer, and then to Provincial and national programme managers.

## **8.4 Quality Assurance**

The Integrated Audit Tool for Chronic Disease Management is used annually to assess quality of care. The criteria used assessment criteria are based on the Chronic Diseases Record Sheet (the Pink Card implemented in Metro District Health Services) and evaluate the management of five chronic conditions; diabetes, hypertension, asthma, COPD and epilepsy. There are two components to this audit: the first part evaluates facility equipment and processes for these conditions, and the second part is a folder review for each condition. The documents which make up the Audit Tool are given in Annexes A to E.

The audit tool was developed for CHCs and CDCs. It can be easily adapted for clinics, however further work is needed to adapt the tool for hospital services. Data from the folder review will be used to assess the short-term outcomes of CDM. Further research will be needed to develop indicators for the longer term impact.

Coordination of quality assurance processes for CDM is the responsibility of the family physician, or the medical officer where a family physician is not in place.

## **9 Implementation schedule**

### **2009/10**

The following deliverables should be implemented during 2009/10:

- 1 Implement targeted chronic diseases activities as part of the Prevention / Promotion plans of Districts and health facilities.
- 2 Implement Ambulatory Care activities, including:
  - Quantification of the numbers of clients to be relocated per central hospital (based on clear case definitions) per geographic area; and
  - Assessment of the capacity of the recipient CHCs to absorb the referred clients.
  - Development of service plans, covering quantum of clients to be shifted and resource shifts to match these, HR and infrastructure requirements, etc.
- 3 Align and integrate CDM packages of care with those of acute hospitals.
- 4 Develop and endorse an adherence support plan for chronic diseases.

5 Develop protocols and procedures for the following, to support referral pathways:

- Communication between referring sites
- Standardised documentation on discharge of patients.
- Clear case definitions and patient profiles to guide referrals
- Agreement on access to specialist medications
- Patient-held chronic disease card
- Appointment systems

6 Derive lessons from current alternative medication distribution routes and pilot new alternatives.

7 Finalise a training strategy for chronic diseases and begin to implement some elements of the training programme.

8 Institutionalise a monitoring and evaluation system for CDM.

9 Endorse the implementation of the three CDM pilot projects underway in the Metro and evaluate lessons learnt for possible roll out to rural districts.

10 Identify pilot projects within hospital care.

11 Develop a strategy for facility- and community-based integrated adherence support and counselling.

## **2010/11**

The following deliverables are recommended for implementation during 2010/11:

1 Continue implementation of targeted chronic diseases activities as part of the Prevention / Promotion plans of Districts and health facilities.

2 Consider adding other selected chronic diseases to the approved top five (e.g. dermatology, haematology, etc).

3 Implement a full-scale training programme for CDM covering all levels of care.

4 Implement newly piloted alternative medication distribution routes.

5 Institutionalise adherence support activities in all the districts and health facilities.

6 Institutionalise a CDM monitoring and evaluation system across the service platform.

- 7 Liaise with the Provincial Health Research Committee to prioritise research projects for CDM.
- 8 Implement the roll out of the retinal screening projects and other CDM pilots from the Metro in targeted rural districts (if this is supported by the lessons learnt).
- 9 Incrementally implement the integrated adherence support and counselling strategy.

## **10 Recommendations**

It is recommended that:

- a) The Inter-divisional Executive of the 17<sup>th</sup> July 2009 note progress in the drafting of the policy.
- b) The adult CDM Policy be endorsed in principle.

University of Cape Town

## Guide Questions

### Focus Groups

- What do you know about PGWC chronic disease policy model of care?
- How do you think the facility is doing in terms of managing chronic diseases?

### *General feelings*

- What is working well in terms of the proposed model of care, (i.e. Facility-based stabilisation interacting with community based maintenance?) If not working well, why?
- What needs improvement?
- Frustrations? Difficulties?
- What are the barriers to providing good quality care for chronic diseases at a primary care level? Facility based challenges? Community based challenges? Patient challenges?

### *Role of facility management*

- Is there anything (e.g. that management could do / changes that could be made) that would help you to do your job better? (e.g. problems with equipment / facilities)?
- Is there any staff training offered around chronic disease care? Has anyone been on this training? Useful?

### *Specific issues*

- What do you think of the pink form? Strengths / weaknesses?
- How do you feel about counselling patients about risk factors for chronic diseases (smoking, diet, exercise, alcohol)? How well do you think this is being done? Do you think it is effective? Barriers/difficulties?
- Do you feel able to adequately assess patients' current state of disease? If not, why?
- Do you feel able to avoid/manage complications? If not why?

- Do you feel able to involve patients in treatment management plans for chronic disease? Barriers / difficulties?
- How is continuity of care provided for? Is there any continuity in which Dr/CNP sees the patient at each visit?
- Do you feel that generally chronic disease targets are being met? (BP, glucose control, signs of complications etc.) Barriers / difficulties?

*Community-based services*

- Are there any community based resources to assist patients with chronic diseases? Do you feel able to make use of these? (if not, why?)
- Would you be surprised if some of the patients being managed were to die from their chronic disease in the next 6-12 months? If so, is the need for palliative / supportive / end-of-life care ever explored with patients? Do you feel you have any skills / feel comfortable with palliative / supportive care? Are patients ever referred to community resources if required (e.g. hospice, home based care etc)?
- Anything else anyone would like to add?

## Individual Interviews

1. What do you **know** about PGWC chronic disease policy model of care?
2. What is your **role** in the PGWC chronic disease policy model of care?
3. Is there a **chronic care team** at this facility? Who are the members and is it a multidisciplinary team? Is there anyone else who should be included?
4. How do you think this facility is doing in terms of **managing chronic diseases**?

### Audit Folder Review Issues identified

5. What are the **targets** being aimed for on the audit data? What interventions are available for primary care facilities who are not meeting targets / not improving services each year?
6. Some **lifestyle counselling** (around diet, exercise, smoking and alcohol) is reported to be done but how is it being done? Are staff using motivational interviewing techniques? Is it didactic or patient-centred? Is there any priority / goal setting during these sessions?
7. Are patients ever **involved** in making a **management plan**? (No space on the pink sheet to document patient involvement in management planning)
8. **Diabetics & Hypertensives:**
  - a. Weight is being recorded, but seldom BMI and never waist circumference. Comment?
  - b. Only some of the annual parameters are being done to assess disease state (creatinine, cholesterol, urine analysis, ECG, HbA<sub>1c</sub>). Why?
  - c. Very few eye assessments and foot checks are being done. Comment?
  - d. Generally poor score on outcome measures (target blood pressure, BMI, HbA<sub>1c</sub>, cholesterol, creatinine). Why?
9. **Asthmatics & COPD**
  - a. Little/no counselling about smoking and only some counselling about inhaler technique. Why?
  - b. Few patients received a flu vaccine. Why?

- c. Poor assessment of current disease state (control; peak expiratory flow rate)
- d. Increasing amount of acute exacerbations recorded. Significance?

#### 10. Epileptics

- a. Very few patients had seizure type recorded. Why?
- b. Very few received counselling about medication, side-effects and lifestyle changes (same concerns regarding counselling method as mentioned above)
- c. None of the patients audited were fit-free for more than one year (primary outcome). Why?

#### Facility issues

#### 11. Why are there inadequate supplies / amount of:

- Obesity cuffs
- Chronic disease stationary
- Foot screening forms
- BMI wheel
- Tape measure
- Peak expiratory flow reference chart
- Asthma 20-second question forms
- Spacer demonstrator
- Asthma pamphlets (in appropriate language)
- COPD pamphlets (in appropriate language)
- LIFE flip chart

12. Does a **chronic disease register** exist? Is it being used?

13. Do patients have any **hand-held (take-home) records** regarding their illness / progress / management plan? Do you think these would help (both patients and the health care team)?

14. Is the **chronic disease stationary** utilised (audit noted there to be insufficient amounts for stationary)? Is a routine monthly report on chronic disease management given / written?

15. Is there a **dedicated pharmacist**? Is medication pre-packed? Can patients have medication delivered to alternate sites? By who / how? How many



months supply of medication can patients get at one time? Are there any difficulties with attaining adequate stock / supplies of chronic disease medication?

### Education and Groups

16. Who conducts chronic disease **group education** at the facility? When and where is it done? How often? What format does it take? What language is it conducted in? Are family members / caregivers also involved in this education? Is this education sensitive to the cultural and economic realities of patients? Is the content ever audited / reviewed?
17. Do **lifestyle groups** exist (how does this tie in with group education)? Who runs these groups (suggested: nurse and health promoter)? Are group and individual goals set? When, where and how often does this group meet?
18. Is the Lifestyle Intervention for Empowerment Programme (“**LIFE**” **Programme**) project, with behaviour modification flip charts to promote healthy lifestyles, utilised? If so, can you explain this project in more detail?
19. Who runs the **community based support groups**? How many patients are enrolled in these? Are the majority of patients being down referred into these groups? What is done during these support groups (suggested: screening, health promotion, nutrition, physical exercise, eye screening, foot care, medication compliance)? Are groups culturally sensitive and linguistically appropriate? Is there any support / outreach offered by the chronic care / multidisciplinary team at the primary care facility? Who audits / reviews the services provided? What does a patient do if they are dissatisfied with a support group? Are patients discharged from support groups? What do they do after they are discharged?

### Other issues noted

20. Is there any **staff training** offered around chronic disease care? Is this also available to community-based staff?
21. Who is the **chronic disease champion**? Does such a person exist? What is their role? Do they co-ordinate the monitoring activities for the chronic disease programme?

22. How is **adherence support** offered? Are there any systems existing to trace defaulters?
23. How is **continuity of care** provided for? Is there any continuity in which doctor / clinical nurse practitioner sees the patient at each visit?
24. Is **patient satisfaction** with the services offered ever assessed?
25. How are **patients made to feel welcome** in the facility? Is special respect shown / assistance provided for the elderly and the disabled?
26. Are patients with end-stage chronic diseases identified? Is **palliative care** offered? Are patients being referred to community-based palliative care services?
27. Is the **proposed model** of care actually **functioning** (i.e. facility-based stabilisation interacting with community based maintenance)? If not, why? What needs improvement? Frustrations / difficulties? What are the barriers to providing good quality care for chronic disease patients at a primary care level? Facility-based challenges? Community-based challenges? Patient challenges?
28. Any other comments?

## Letter to the Editor

### BMC Health Services Research

To the editor

I would like to submit the following article to be considered for publication in BMC Health Services Research: 'Alignment between chronic disease policy and practice: case study at a primary care facility'.

Very little literature exists on the evaluation of health policy implementation in developing countries such as South Africa. Due to the burden of chronic diseases in these countries, it is important to understand how chronic disease policy can be most effectively implemented in health services. The primary health care approach has been proposed as a strategy for improving patient health and health service delivery. The tension between primary health care principles and using a diseased-based approach in a primary care setting is highlighted in this article.

Yours sincerely

Dr Claire Draper

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BMC Health Services Research

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Manuscripts for Research articles submitted to *BMC Health Services Research* should be divided into the following sections (in this order):

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- [Results and discussion](#)
- [Conclusions](#)
- [List of abbreviations used](#) (if any)
- [Competing interests](#)
- [Authors' contributions](#)
- [Authors' information](#)
- [Acknowledgements](#)
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The methods section should include the design of the study, the setting, the type of participants or materials involved, a clear description of all interventions and comparisons, and the type of analysis used, including a power calculation if appropriate. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses in the Methods section.

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Koonin EV, Altschul SF, Bork P: **BRCA1 protein products: functional motifs.** *Nat Genet* 1996, **13**:266-267.

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Orengo CA, Bray JE, Hubbard T, LoConte L, Sillitoe I: **Analysis and assessment of ab initio three-dimensional prediction, secondary structure, and contacts prediction.** *Proteins* 1999, **43**(Suppl 3):149-170.

*In press article*

Kharitonov SA, Barnes PJ: **Clinical aspects of exhaled nitric oxide.** *Eur Respir J*, in press.

*Published abstract*

Zvaifler NJ, Burger JA, Marinova-Mutafchieva L, Taylor P, Maini RN: **Mesenchymal cells, stromal derived factor-1 and rheumatoid arthritis [abstract].** *Arthritis Rheum* 1999, **42**:s250.

*Article within conference proceedings*

Jones X: **Zeolites and synthetic mechanisms.** In *Proceedings of the First National Conference on Porous Sieves: 27-30 June 1996; Baltimore.* Edited by Smith Y. Stoneham: Butterworth-Heinemann; 1996:16-27.

*Book chapter, or article within a book*

Schnepf E: **From prey via endosymbiont to plastids: comparative studies in dinoflagellates.** In *Origins of Plastids. Volume 2.* 2nd edition. Edited by Lewin RA. New York: Chapman and Hall; 1993:53-76.

*Whole issue of journal*

Ponder B, Johnston S, Chodosh L (Eds): **Innovative oncology.** In *Breast Cancer Res* 1998, **10**:1-72.

*Whole conference proceedings*

Smith Y (Ed): *Proceedings of the First National Conference on Porous Sieves: 27-30 June 1996; Baltimore.* Stoneham: Butterworth-Heinemann; 1996.

*Complete book*

Margulis L: *Origin of Eukaryotic Cells.* New Haven: Yale University Press; 1970.

*Monograph or book in a series*

Hunninghake GW, Gadek JE: **The alveolar macrophage**. In *Cultured Human Cells and Tissues*. Edited by Harris TJR. New York: Academic Press; 1995:54-56. [Stoner G (Series Editor): *Methods and Perspectives in Cell Biology*, vol 1.]

*Book with institutional author*

Advisory Committee on Genetic Modification: *Annual Report*. London; 1999.

*PhD thesis*

Kohavi R: **Wrappers for performance enhancement and oblivious decision graphs**. *PhD thesis*. Stanford University, Computer Science Department; 1995.

*Link / URL*

**The Mouse Tumor Biology Database**

[<http://tumor.informatics.jax.org/mtbwi/index.do>]

*Link / URL with author(s)*

Neylon C: Open Research Computation: an ordinary journal with extraordinary aims. [[http://blogs.openaccesscentral.com/blogs/bmcblog/entry/open\\_research\\_computation\\_an\\_ordinary](http://blogs.openaccesscentral.com/blogs/bmcblog/entry/open_research_computation_an_ordinary)]

*Dataset with persistent identifier*

Zheng, L-Y; Guo, X-S; He, B; Sun, L-J; Peng, Y; Dong, S-S; Liu, T-F; Jiang, S; Ramachandran, S; Liu, C-M; Jing, H-C (2011): Genome data from sweet and grain sorghum (*Sorghum bicolor*). *GigaScience*. <http://dx.doi.org/10.5524/100012>.

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