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Ecology of medical care of the ward 11 community registered to the Chiawelo Community Practice

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Ecology of medical care of the ward 11 community registered to the Chiawelo Community Practice.

Dr Santhuri Pillay

Student number: 0000381H

A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand in partial fulfilment of the requirements for the degree of Master of Medicine in Family Medicine

Supervisor:

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(Family Medicine, University of the Witwatersrand)

Dedication:

To my family and loved ones…especially Lee.

Acknowledgement:

A special thank you to my supervisor, Prof Moosa and my co-supervisor, Mrs Pretorius, who joined at the write-up stage. Thank you for your patience, guidance and support.

Table of Contents:

	Page
Declaration	4
Practical adjustments to protocol	5
Abstract	6
Report – article format	7-29
Appendices	30-46
Ethical approval	47-48
District and national approval	49-50
Proposal	51-69
Turnitin report	70

Declaration:

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

FACULTY OF HEALTH SCIENCES

PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS

SENATE PLAGIARISM POLICY: APPENDIX ONE

I _____Santhuri Pillay_____ (Student number: ____0000381H_____) am a student registered for the degree of __Masters in family medicine_____ in the academic year ___2020____.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.
- I have included as an appendix a report from "Turnitin" (or other approved plagiarism detection) software indicating the level of plagiarism in my research document.



Signature: Date: ____21/08/2020_____

Practical adjustments to the research:

1. Title:
   Original title: Ecology of medical care of the ward 11 community registered to the Chiawelo Community Practice.
   Article title: Improving access, utilisation and satisfaction using a community-oriented primary care model for National Health Insurance in South Africa
   The title of the article is different from the approved research proposal title under the advisement of the primary supervisor because we thought it would make the article more easily accepted for publication. Ecology of medical care does imply utilisation, but we were also addressing accessibility and satisfaction with the facilities in the questionnaire.
2. Sampling: in the proposal all adults from one household would be invited to participate in the research. It was decided that one adult from each household would be invited to participate in the study to ensure a wider sampling of ward 11. If there was no consenting adult, then the next house was asked. If there was a consenting adult, then the next fifth house was invited. A map of ward 11 was used to ensure the sample incorporated a broad sample of the ward.
3. Data collection: in the proposal five community health workers who already had their own electronic tablets were going to do the data collection using the Redcap program. At the time of data collection, the Chiawelo Community Health Practice was undergoing a restructuring from management. We then made the decision to hire two fieldworkers exclusively for data collection. Since we then did not have access to electronic tablets, all forms were printed in all three languages and hard copies were used (appendix 1, 2 and 3).
4. Data analysis: MaxQDA was used for thematic content analysis of the last open-ended question on the questionnaire. The researcher was not familiar with the software at the time of the proposal
5. Data collection tool: after the original forms were translated and back translated by the Wits Language School, additions were made on the questionnaire appear in English on the Tshivenda and Xitsonga forms.

Abstract

Improving access, utilisation and satisfaction using a community-oriented primary care model for National Health Insurance in South Africa

Background

Community-based primary care (COPC) has been shown to be more effective than a facility-based approach. Incorporating this in the National Health Insurance scheme would improve community involvement and satisfaction of services. Based on the concept of ecology of medical care, this research aimed to explore the experiences of a community exposed to the COPC approach in a facility with a defined population.

Methods

Cross-sectional descriptive study using a questionnaire to evaluate the utilisation of medical and alternate care in Chiawelo, Soweto. A total of 422 adults from different households in the demarcated service delivery area were evaluated.

Results

Key findings from this study showed a high utilisation rate of the Chiawelo Community Practice (CCP), that was largely proportional to the incidence of perceived ill-health. The service was usually used for acute complaints in the majority of instances. Specialised services at the Chiawelo Community Health Centre (CHC) were frequently used. On comparison of general satisfaction and perception of accessibility, the CCP rated much higher than the CHC. The CHW's, associated with the CCP, either reduced or had no effect on the frequency of consultations. Despite challenges around the booking systems and cost of phoning for appointments, participants valued the services they received.

Conclusion

The overall experience of the sampled community was supportive of the COPC facility.

This article is intended for publication in the South African Family Practice Journal.

Improving access, utilisation and satisfaction using a community-oriented primary care model for National Health Insurance in South Africa

Introduction

The Alma-Ata and Astana Declarations are global initiatives to holistically improve health for communities around the world.[1,2] These, and other key global statements, emphasise the importance of improving access and community participation in the development and sustainability of their own health and primary care services.[3, 4] The National Health Insurance (NHI) policy, soon to be implemented in South Africa, is aimed at improving access to health care for all South Africans irrespective of socioeconomic status.[5] The community-oriented primary care (COPC) model has been shown to improve both access and satisfaction of care.[6]

The public health sector remains the main health care provider in South Africa. [7] In post-apartheid South Africa, studies pertaining to accessibility and utilisation of primary services have found that many challenges still exist.[8] Issues relating to utilisation, accessibility and satisfaction are to be addressed by the NHI through focussing on primary health care (PHC) services.[9] An improvement in primary care should also lead to decongestion of secondary and tertiary facilities. However, utilisation studies conducted in Sweden, Norway and Taiwan revealed hospital admissions were not reduced despite their well-functioning primary care system.[10-12]

In particular, vulnerable groups such as women and children are not being sufficiently addressed.[13] Common challenges that relate to the distance to the closest facility and a general dissatisfaction with primary care sites, have led to a preference for hospital care.[14,15] Conversely, other studies in South Africa, have shown primary care facilities are effectively used with some level of satisfaction.[16,17]

Thus far, studies in Johannesburg, Limpopo, KwaZulu-Natal and the Eastern Cape have been conducted to evaluate public perceptions and an understanding of the NHI scheme. Findings

included high expectations of improvement in service delivery and black participants viewed the public system as inferior to the private health sector.[18,19] Other studies found that there was a low basic understanding of the proposed scheme.[20,21]

It is commonly accepted that the current public health sector cannot support the anticipated patient-load under the NHI. The national utilisation rate in 2017/2018 was considered low at 2.7 visits per person per year, as published in the District Health Barometer of 2016/2017. [22] In response to the need for more staff, research has been conducted to explore how to incorporate general practitioners (GP's), into the NHI. [23,24] This is proposed to be on a capitation basis for a defined community. A challenge anticipated by GP's in capitation was a high utilisation of PHC services at 6-8 visits per person per year. Mitigation for this risk was proposed through health promotion and education, by utilising a COPC approach.[25,26] The ward-based outreach teams (WBOT's), with community health worker's (CHW's) deployed based on COPC and established as part of PHC re-engineering for NHI, struggles to be well supervised. It is often sub-optimal in function with poor linkages of CHW's to facilities and care teams. [27]

One method of health system evaluation is to describe the ecology of medical care in a community. This concept was coined by Dr White in 1961.[28] It addresses a community's opinion of the utilisation and satisfaction of the medical care available to them. Dr White established a tool called the "Square of White" to diagrammatically show the use of facilities.[28,29] In South Africa, research on ecology of medical care has been done with a focus on medical education, research and needs for integrating services based on the social determinants of health in community-based care and not on the intended definition outlined by Dr White.[30-32]

It is well-known that a large proportion of South Africans consult with traditional healers prior to attending allopathic centres of care.[33] Similarly, this was found in Hong Kong, Japan and Singapore.[34-36] The author has considered the allopathic and traditional route of care in this research as it is relevant to our population.

The Chiawelo Community Health Centre (CHC) cares for approximately 150 000 residents in wards 11, 12, 16 and 19. The Chiawelo Community Practice (CCP), started in 2014, is located within the CHC. It uses a team led by a family physician and pilots a capitated PHC service offered to approximately 22 000 registered residents in ward 11, as proposed for the NHI

scheme.[37] It follows a health systems approach to COPC approach to COPC principles to create appropriate utilisation, driven by population engagement, re-oriented PHC services, stakeholder engagement and targeted health promotion. [38,39] Only residents registered to the CCP CHW's in ward 11 can use the CCP. Those registered are free to use any other service, including the CHC. Utilisation of the CCP was found to be low, at 0.67 visits per person per year, based on a registered panel of 17 505 residents of ward 11. Key questions were whether the low utilisation truly addresses the needs of the community, whether the CCP is sufficiently accessible, whether there is satisfaction with the service and how this all compares to the CHC and other services equally available to these residents.

The aim of this study was to use the concept of ecology of medical care to evaluate the perceptions of residents in ward 11 on their utilisation of, accessibility to and satisfaction with the CCP compared to other services available to them in Soweto.

Methods

Study design

A cross-sectional descriptive study using a questionnaire to evaluate the utilisation on medical and alternate care available to the ward 11 sample of residents registered with the CCP.

Setting

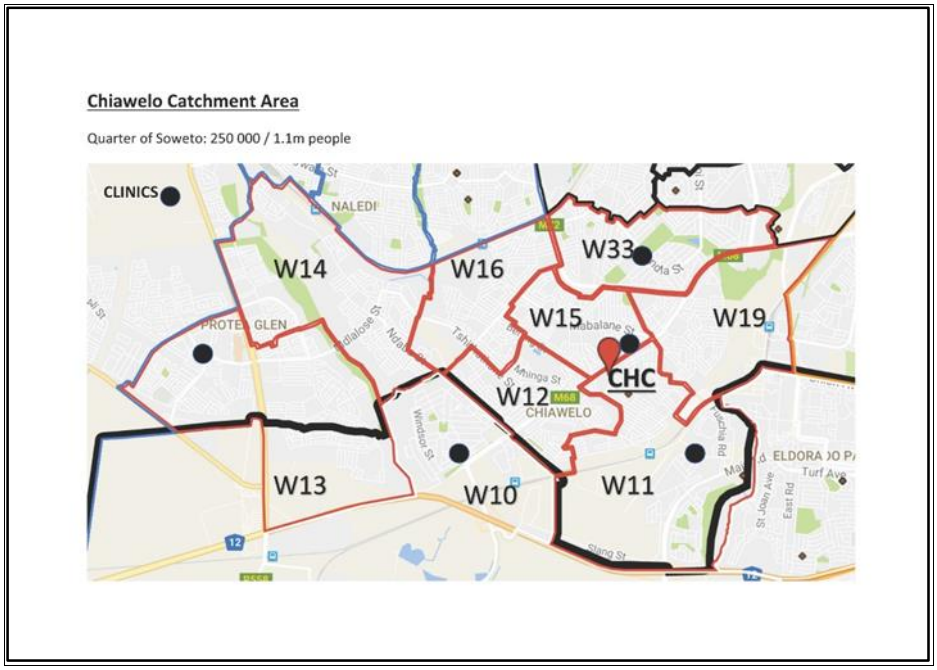


Figure 1: Ward delineation in Chiawelo [33]

The area of Chiawelo is an underdeveloped urban area. It was created in 1956 as an ethnic extension of Soweto for Xitsonga and Tshivenda speaking people. The CCP, located within the CHC grounds, provides care for a defined registered community. Ward 11 is just one of the many wards making up the Chiawelo area and was the first area to which residents were registered to the CCP. Subsequently it is now providing a service to many surrounding wards, as depicted in Figure 1. The CCP uses a COPC approach to PHC, using CHW's that are strongly linked to the clinic. The CHC follows a usual facility-based approach. Other services available to the community include smaller clinics, a secondary level hospital, Bheki Mlangeni Hospital, and a tertiary level hospital, Chris Hani Baragwaneth Academic Hospital. There are also multiple private sector facilities in the area, including GP's and traditional healers.

The CCP team, actively providing care at the time of the study in 2018, comprised of - two family physicians, one clinical associate, one to two interns, several rotating students, eighteen CHW's and a nurse team leader. The seven support staff and appointment system had been

disrupted by CHC management a few months prior to data collection. The service catered for acute and chronic conditions, with referral to the CHC for services such as antenatal care, immunisations and x-rays. The CCP has a telephonic booking system and its own small pharmacy where clinicians dispense medications. CHW's are the key tool for population engagement, registering residents and following up in the community. They collate a problem list of their panel to be discussed with the clinical team weekly as well as to receive training. The filing system incorporates each individual patient within a household folder including a CHW file. There is a monthly meeting with key stakeholders to discuss priorities and targeted health promotion activities.

Study population

As of May 2017, there were 17 505 people and 4 257 households from ward 11 registered with the CCP.

Sampling

One adult (≥ 18 years old) from each sample household was invited to participate in the survey. If there was more than one adult per household, the first to consent to participate was interviewed. Only one adult from each household was included to ensure a better coverage of the entire ward 11 sample. Using the survey monkey sample size calculator (95% confidence interval, 5% margin of error) a sample size of 350 households was calculated. On completion of the data collection, the sampled population was 424. Due to the overzealousness of the field workers the larger sample size added to the power of the study and reduces the type 2 error. Two questionnaires were excluded because consent was not documented. The number of households that declined to participate in the study was not documented. The total sample of 422 was used for analysis.

A map was used by two field workers to ensure that the ward was widely sampled. One adult from each household was invited to complete the questionnaire; then the fifth next household would be included. If there was no adult available, the next-door household was used. The data collection was conducted during working hours over a period of just over one month (19 October 2018 to 21 November 2018).

Data collection

Two field workers, who had previously volunteered as support staff member at the CCP were employed exclusively for data collection. They were both fluent in English, Tshivenda and Xitsonga.

The information sheet was explained to each participant and a copy was given, in their preferred language, to keep. Then, a consent form was signed with the option of a thumb print alternative for illiterate participants. Then, the questionnaire was completed with the assistance of the field workers.

Data collection tools

The questionnaire was compiled with reference to the data collected in the original studies on ecology of medical care. The first seven questions were derived from the original studies done and others were influenced by later studies based on the original concept. [10,15,28,29,35] The remainder of the questionnaire was developed with the primary supervisor, based on experience and knowledge of the area. Questions were focused on utilisation, accessibility and satisfaction. The questionnaire developed was divided into sections. Demographic data collected were age, gender, marital status and income. Access data was obtained asking how many times the participant felt ill in the last month and then how many times they sought help. Then they were asked to select where they sought help from using a list including a range of resources, including the CCP and CHC, as well as the private and traditional sectors. They were asked if they had used the CCP, or CHC, or both and which services they used at each. They were asked to rank ease of access to CHC and CCP from 1 (easy) to 10 (difficult). They were asked to rank satisfaction with service at CHC and CCP from 1 (satisfied) to 10 (not satisfied). They were asked whether CHW's reduced, increased, or did not change their number of visits to CCP. They were lastly asked an open-ended question to voice any other concerns. Each fieldworker signed a separate section on every consent form as proof to keep all information obtained in the interview confidential. The information sheet, consent form and questionnaire were available in Xitsonga, Tshivenda and English. Translation and back translation were done by the Wits Language School.

Data analysis

Data capturing and analysis were done with Microsoft Excel and STATA/IC 14.2. Data pertaining to utilisation of services were converted into percentages, then to ratios per 1000

people in order to be compared with other studies done on ecology of medical care, in keeping with the "Square of White".[28] A simple rating system of one to ten was used for participants to rate their satisfaction of each service and their perceived ease of access to each facility. A qualitative content analysis of the last open-ended question was done using MaxQDA 2018. Themes emerged from the categories generated and a member check was done by the supervisors to ensure credibility of the coding.

Ethics and approval

Approval to conduct the study was obtained from: the Human Research Ethics Committee (Medical), University of the Witwatersrand, Johannesburg; the Johannesburg Health District Research Committee (DRC 2018-05-007); and the National Health Research District Committee (GP_201805_037).

Results

The Majority of the participants were female patients (72%) aged between 41 and 60 years (43%). The next most common age group ranged from 61 to 80 years (26.6%). Roughly half of the sample was married or had had the same partner for more than a year (51.1%). This was closely followed by the single/divorced and widow/widower categories (27.5%).

The most common source of income from the sample was those receiving grants, including pensioners (44.7%). The group of unemployed participants ranked second (27.8), with the rest of the sample being mostly employed (full-time, part-time or self-employed) (24.4%).

The discrepancies in the total for each category in the demographic data were due to each participant not completing all the data (Table 1).

Age (years)	N=421 n (%)
18-40	102 (24.2)
41-60	181 (43.0)
61-80	112 (26.6)
81-100	26 (6.2)
missing data	1 (0.2)
Gender	N=422 n (%)
Female	304 (72.0)
Male	118 (28.0)
Marital status	N=415 n (%)
Single/divorced	114 (27.5)
Married/partner for >1year	212 (51.1)
Widow/widower	89 (21.4)
Other	0 (0)
missing data	7 (1.7)
Income	N=414 n (%)
Grants (child, disability, pension)	185 (44.7)
Full-time employed	12 (2.9)
Part-time emplyed	34 (8.2)
Self-employed	55 (13.3)
Unemployed	115 (27.8)
Other	13 (3.1)
missing data	8 (1.9)

Table 1: Demographics

The number of times a participant considered themselves sick was compared to the number of times they sought help from any person or facility. From the sample, the majority of participants who had felt ill once, sought help once (62.4%); for those who had felt ill twice, some 18.3% sought help twice; and for those who had felt sick three or more times, some 4.1% sought help three or more times. The scatterplot was compiled using STATA with a

calculated coefficient of 0.82. This implies that there is a fairly strong positive relationship between the perceived needs and use of the facilities available to the community (Figure 2) (table 2).

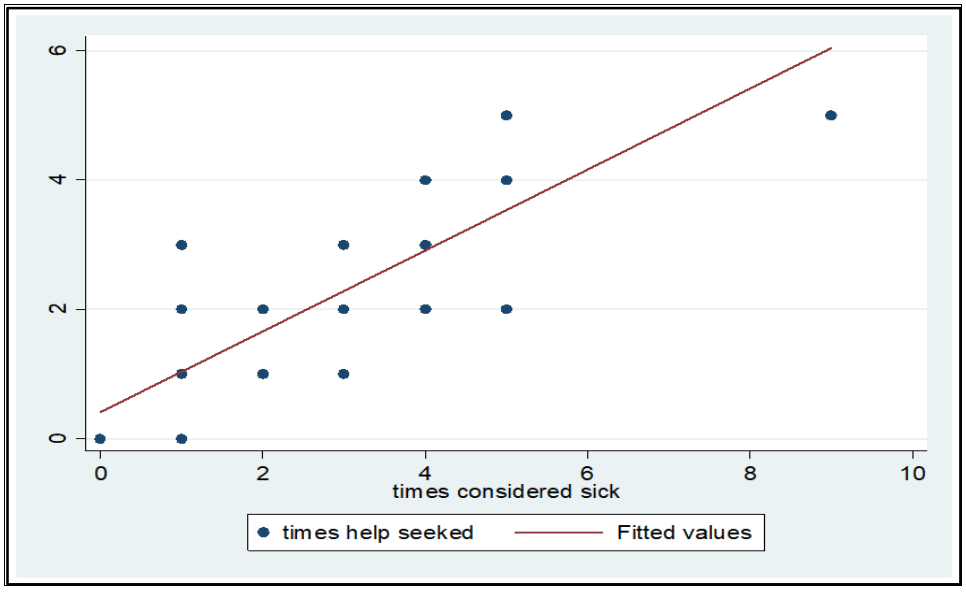


Figure 2: Number of times considered sick compared to number of times help was sought

No of times considered sick N=410 %(n)	No of times help-sought (N=410) % (n)			
	0 n=5	**1 n=286**	**2 n=101**	**3+ n=11**
0 n=5	1.2 (5)	0	0	0
1 n=267	0	62.4 (256)	2.4 (10)	0.2 (1)
2 n=101	0	6.3 (26)	18.3 (75)	0
3+ n=37	0	1.0 (4)	3.9 (16)	4.1 (17)

Table 2: Number of times considered sick compared to number of times help was sought

The "Square of White[28,29]" is a diagram depicting the facilities used by a sampled population according to their perceived needs. By standard it is constructed from the actual data for a theoretical population of 1000. The diagram illustrates that almost all (98.3%) of the participants who considered themselves sick in the last month consulted at the CCP. The next mostly used service was the CHC at 7.3%. Hospital use was at 9.2% (5% for CHBAH

and 4.2% at BMH). Hospital use was not differentiated into first time presentations or referrals from another level of care. There was limited use of other services, including private GPs practicing in Soweto and no participants reported having consulted traditional healers (Figure 3).

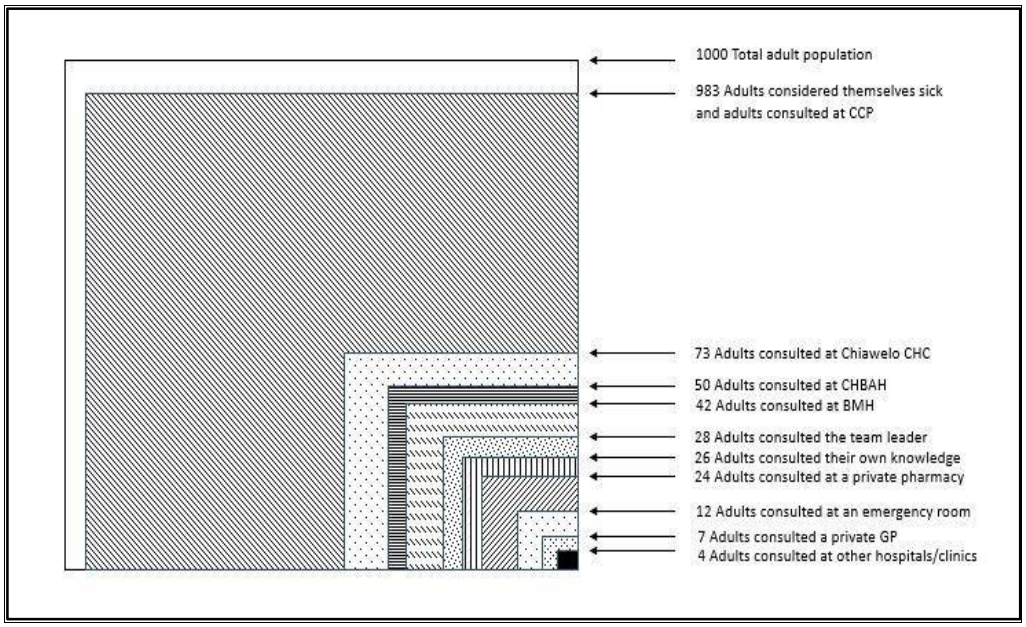


Figure 3: "Square of White" Monthly prevalence of participants considering themselves sick and where they sought help (Adapted [28,29])

The most frequently used service at the CCP was acute complaints (70.5%), followed by routine chronic disease follow-ups (27.5%) (Figure 4).

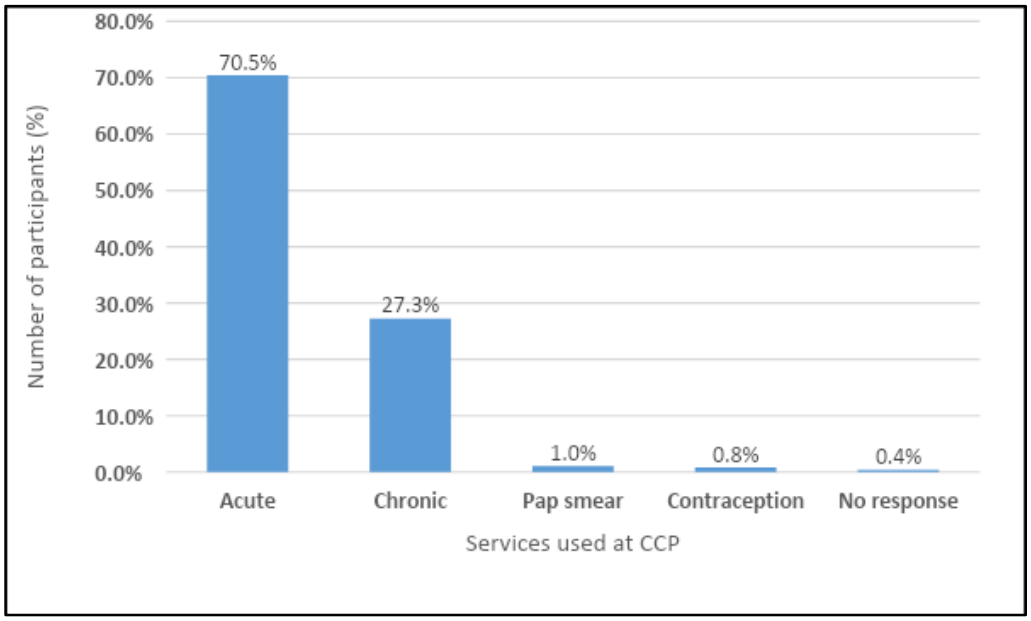


Figure 4: Services used at the CCP

Acute (21.8%) and chronic services (12.7%) was also used at the CHC by the sampled ward 11 population. Specialised services depicted below are not available at the CCP, but CCP patients are also referred to these services by the CCP staff members (Figure 5).

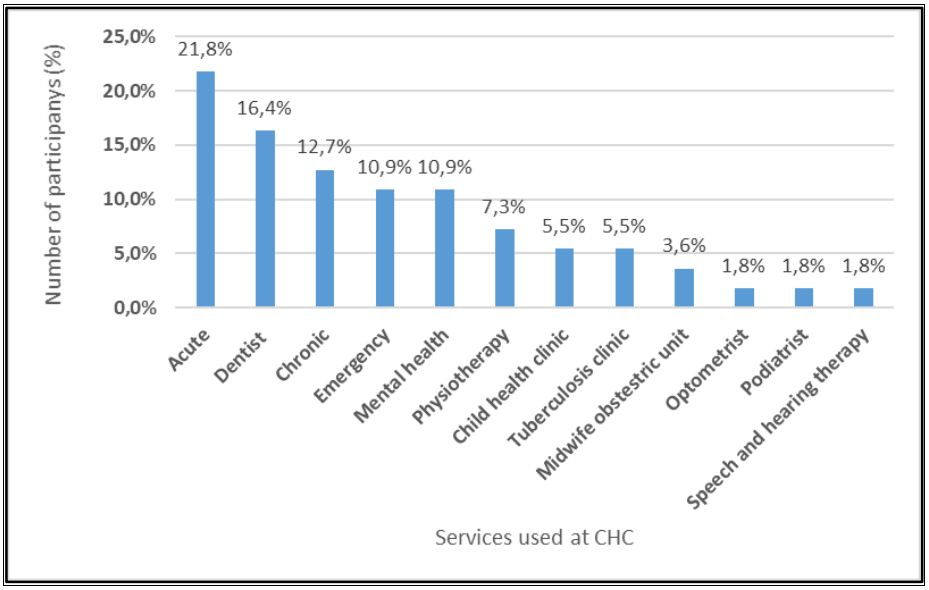


Figure 5: Services used at the CHC

A rating system of 1 to 10 was used to evaluate ease of access to both the CCP and CHC. Ratings of one to 10 were grouped as follows: one to three (easy to access), four to seven (fair to access); and eight to 10 (difficult to access). The participants found the CCP to be easily accessible (90.3%) and the CHC to be difficult to access (58.9%) (Figure 6).

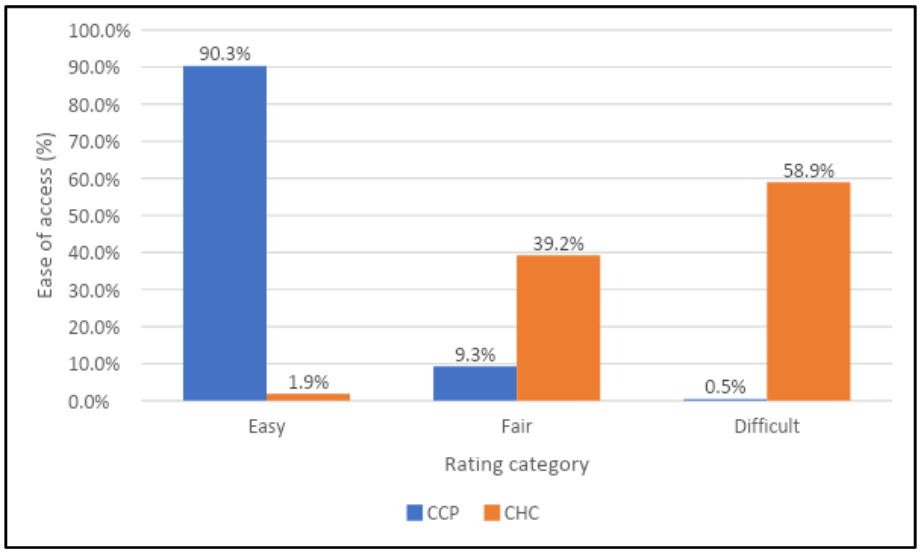


Figure 6: Ease of access to the CCP compared to the CHC

A rating system of one to 10 was also used to evaluate satisfaction with the services - one being satisfied and 10 not satisfied. The ratings were grouped as follows: one to three (satisfied), four to seven (ambivalent); and eight to 10 (dissatisfied). Overwhelmingly, the sampled population found the service at the CCP more satisfactory (92.2%) when compared to the CHC (28.0%) (Figure 7).

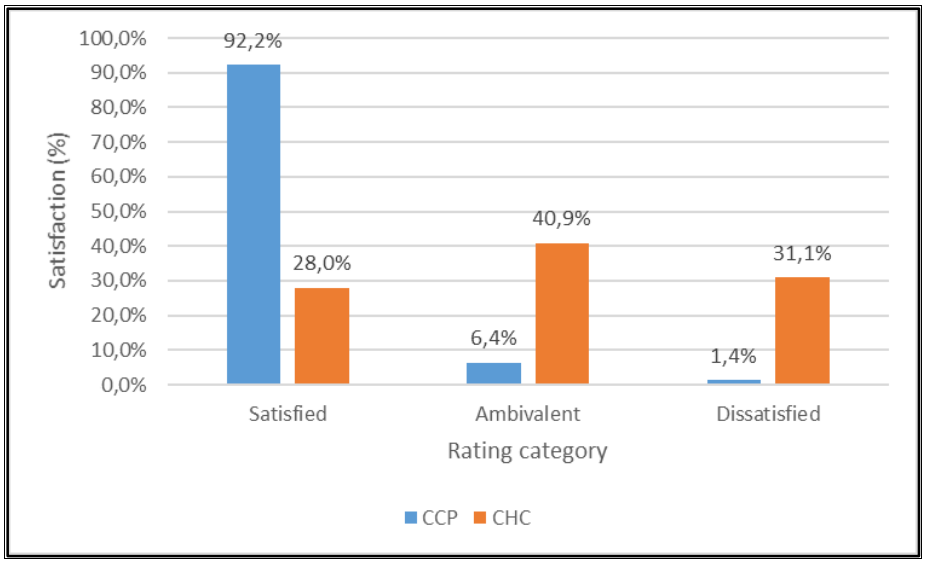


Figure 7: Satisfaction with service at the CCP compared to the CHC

The participants expressed how CHWs at the CCP influenced the frequency of their visits there. The highest ranked category (44.2%) found themselves using the CCP less frequently than they would have done previously; while 39.7% found there was no change in their frequency of visits (Figure 8).

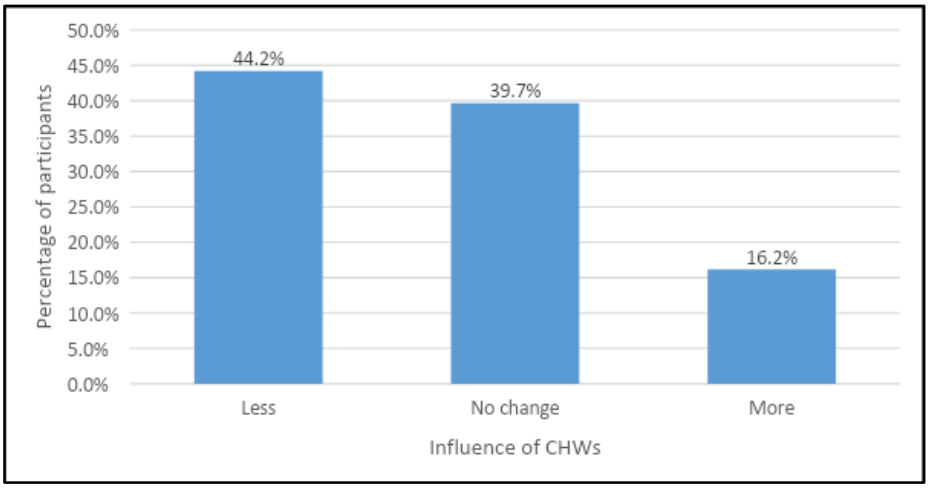


Figure 8*:* CHWs' influence on the number of times the participants visited the CCP

There was one opened-ended question on factors influencing the number of times participants visited the CCP. The comments were grouped into generally positive (227 comments) and generally negative (111 comments).

Positive comments were:

"The service is good compared to the general side where we spend the whole day."

"The service is good more especially when you book."

Contrary to the above, negative comments were:

"No, it's always full when we book, vitals staff must not have attitude, please give us all the medication and don't send us to the pharmacy."

In terms of operational challenges in the clinic, most participants commented on the long waiting times particularly for doctors:

"Please add doctors these days the service is slow."

"The service is slow when waiting to see a doctor."

The booking system that was recently implemented to improve waiting times was received with mixed feelings:

"They are able to help us even though we didn't book, the service is good."

"They must treat us the same as the booked ones."

"When a child is sick and you didn't book you wait in a queue for long, they don't do call in the morning, your service is poor."

Many comments were made on inconsistent telephone service and requests were made for a toll-free number. The filing system was also found to be inefficient and prolonged waiting times.

Positive perceptions included:

"The service is good and not good because they don't always answer our calls, please have a toll-free number because we not employed."

Negative perceptions included:

"The service is good; they should stop misplacing our files."

"The service is a bit slow; the staff don't pick up our calls when we phone."

Staff attitudes negatively influenced patient visits to the clinic. Participants indicated that: staff members were sometimes unfriendly; clinical staff did not always examine them; and,

preference was given to students, who they found to be more thorough. Many comments were made about the constantly changing staff which they felt slowed the whole system down:

"Some doctors don't check us; I prefer the student doctors."

"Service is slow because there is new staff every month".

There were mixed comments about the CHWs:

"CHWs don't come to check up on us so that we can add more family members."

"CHWs do come check on us."

Suggestions were made to add more services, namely a children's clinic, an eye clinic, x-ray services and a dental clinic. Requests were also made to include after-hours services.

Discussion

Key findings from this study showed a preferential use of the CCP, that was largely proportional to the incidence of perceived ill-health. The service was used for acute complaints in most instances. The limited use of the CHC was mostly for specialised services, with CCP staff also referring to these services. The CCP rated much higher than the CHC for general satisfaction and perception of accessibility. Specific factors influencing this were, however, not explored. The CHWs, associated with the CCP, either reduced or had no effect on the frequency of consultations. When participants were given the chance to openly comment on factors affecting their visit rate they used it to comment broadly on service and make suggestions.

The CCP, using a COPC approach, has proven more beneficial than a facility-based approach. [6] From the results above, it suggests that there was an overall positive experience of the CCP by the sampled community, when compared to the CHC. This illustrates the participants support for the CCP, which uses community-centred primary healthcare, as called for by the Astana Declaration and WHO initiatives.[2-4] The CCP meets the perceived needs of the registered community in ward 11, despite low utilisation. The family physician led PHC team, including CHW's, as demonstrated in the CCP can improve utilisation, access and satisfaction of the PHC service. This supports a stronger role for family physicians in the district health service and NHI despite challenges experienced. [40] There are still many aspects of the CCP that require improvement and development that are similar throughout facilities relating to

operational and staff.[15] The need for support, training and appropriate remuneration for the CHWs is paramount to sustaining the COPC approach.[39]

High utilisation was a concern brought forward by GPs regarding their incorporation into the NHI scheme.[22,23] A focus on staffing and development of the ward-based teams and strong linkage of CHW's to clinical services, as modelled in the CCP, would alleviate the expected high utilisation rates. Utilisation of the CCP appears, partly, to be made lower by the CHW's influence on the community of ward 11. However, this low utilisation reflects perceived needs and not actual needs of the community. With further development and support of the CCP and WBOT's, the actual needs of the community can be identified through a stronger population screening program.[39] This would allow restructuring of a facility, not only to meet the perceived needs, but also the health needs of that particular community could be identified. Furthermore, this would guide health promotion projects for each defined area in accordance with the Astana Declaration and WHO directives.[1-5]

International studies found high utilisation of hospitals despite having well-established primary services.[9-11] This appears not to be the case for this community sample as they showed a high use of PHC services. This could be related to financial issues as most of the participants were either receiving a grant or unemployed. Transport and distances to facilities is a well-known challenge in South Africa.[17] This emphasises the need to improve accessibility and satisfaction with the NHI construct.

Traditional healers play a large role in the physical, mental and spiritual health of our population in South Africa, similar to that found in the Far East.[34-36] Curiously, the option of care received from a traditional healer was given as an option on the questionnaire; however, not one of the participants mentioned having visited a traditional healer. This could have been influenced by the field workers and how they phrased the question. Issues relating to stigmatisation by staff members at the clinic have been hypothesised too, but this would require further investigation.

Limitations and strengths

The primary supervisor of this study, a family physician who founded the CCP is very well-known in the community. This could have led to a bias in the way the participants reflected on the CCP. The fieldworkers, independently hired to do data collection, had previously

volunteered at the CCP, making them familiar with the service. However, some of the participants may have known them, which again could have influenced the formers' responses.

English was neither the first language of the fieldworkers nor the participants. All forms were made available in English, Tshivenda and Xitsonga, but most of the questionnaires were completed in English by the fieldworkers on behalf of the participants. Although both fieldworkers were fluent in all three languages, this may have influenced how the responses were understood and documented.

Data collection was done during working hours which may have skewed the demographics, as it excluded the working population. The period of data collection was conducted during two consecutive months. This did not reflect for any seasonal variation that may have influenced the perception of illness or attendance to services with regard to weather and travel barriers. Only one adult from each household was used as a participant to ensure greater sampling of the ward 11 area for the calculated sample size. There were no specific criteria used for selection of the one adult per household that was sampled. This was left up to the field worker to include the first adult who consented to participation in the study, thereby using convenience sampling. The participants or households that declined participation were not documented and their reasons for declining were not explored. It is not known how representative the single adult interviewed represented the entire household's health needs or the facilities they sought help at. This could have led to a limitation by skewing the results surrounding utilisation, accessibility, and satisfaction with the CCP service. This selection bias could have contributed to the predominance of female participants.

Development of the questionnaire was done based on data collected from the original and subsequent studies done on the ecology of medical care, but the bulk of the questions were compiled from lived experiences of the primary supervisor. This could have created bias in the information generated.

Implications and recommendations

Although this is a small study confined to one area, it shows that the community sample responded more positively in support of its own community practice in comparison with the facility based CHC. This reinforces the need for a community-based approach to primary care

going forward with the NHI. Currently undergraduate students rotate through a COPC facility, but there may be a need to intensify this exposure and to focus more on primary care and not just the specialty disciplines during training. Family medicine registrars spend a full three-month rotation in COPC and apply these principles in all realms of practice.

The author would recommend that similar population surveys be conducted in other communities, already exposed to the NHI pilot facilities, to evaluate their satisfaction with the service. A further recommendation would be to develop and support the ward-based teams to focus services to a specific community and increase their involvement.

Conclusion

The use of the COPC model in the proposed NHI scheme would increase community involvement, as well as reduce superfluous use, improve accessibility and satisfaction. While this study was limited to one designated area, it shows this community supports the service they are receiving from the CCP.

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Disclaimer

The findings in the study are of the author's own findings and are not the official position of the institution.

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Appendix 1: Information sheets

Participant in formation sheet (English)

Research study: Ecology of medical care of ward 11 registered to Chiawelo Community Practice

Researcher: Dr Santhuri Pillay (Family medicine registrar ant the University of the Witwatersrand)

Supervised by: Associate Professor Shabir Moosa (Family Physician at Chiawelo Community Practice)

Dear Participant,

Thank you for taking the time to go through this information sheet. My name is Dr Santhuri Pillay. I would like to do a research project that assesses if the Chiawelo Community Practice is supplying the services this community needs.

Questions will address how many times over the last month you did not feel well. It will also ask where and how many times you sought help for not feeling well over the last month. Further questions will ask about how accessible you find the Chiawelo Community Practice and how satisfied you are with the services. It will also ask how accessible and satisfied you are with services at the Community Health Centre. A full set of questions can be found attached to this form.

The results from this project will be assessed as part of the research component of my specialising degree. The results will also be used to re-organise the services the Chiawelo Community Practice to better suit the needs of the community.

If you are willing to participate, I will ask you please to fill out a questionnaire with the help of the fieldworker.

All the answers will be seen by the fieldworker who notes down all the information, myself and Prof Moosa. There will be no name linked to the answers and so can never be traced back to you. The fieldworker will also sign the consent form as a commitment to keep all the answers you give confidential.

Answering this questionnaire will in no way affect how you are treated by the Chiawelo Community Practice and the community health workers.

Regards,

Dr Santhuri Pillay

Participant information sheet (Xitsonga)

Xitandzhaku xa 2:

Papila ra mahungu ra mungheneri

Ndzavisiso: Ikholoji ya nhlayiso wa rihanyu ra vutshunguri ya wadi ya 11 leyi tsarisiweke eka Ntlawa wa Muganga wa Chiawelo.

Mulavisisi: Dok Santhuri Pillay (Murhijisitara wa vutshunguri wa ndyangu eYunivhesiti ya Witwatersrand)

Mulanguteri: Phurofesa wa Ntlawa Shabir Moosa (Dokodela wa Ndyangu eka Ntlawa wa Muganga wa Chiawelo)

Eka Mungheneri

Ha khensa ku va u tinyikile nkarhi wa ku hlaya papila leri ra mahungu. Vito ra mina ndzi Dokodela Santhari Pillay. Ndzi lava ku endla phurojeke ya ndzavisiso leyi yi nga ta kambisisa loko Ntlawa wa Muganga wa Chiawelo wu ri ku phakeleni vukorhokeri lebyi byi lavekaka emugangeni.

Swivutiso swi ta kumimisa leswaku i kangani eka n'hweti leyi hundzeke u nga titwa u nga pfukangi. Swi ta tlhela swi vutisa leswaku hikwihi na ku i kangani u laveke mpfuno loko u nga titwi kahle eka n'hweti leyi yi hundzeke. Swivutiso swo tlhandlekela swi ta vutisa leswaku u fikelela njhani Ntlawa wa Muganga wa Chiawelo na leswaku u eneriseka njhani hi vukorhokeri bya wona. Swi ta tlhela swi vutisa leswi u fikelerisaka no enerisekisaka xiswona hi vukorhokeri bya Senthara ya Rihanyu ya Muganga. Sete ya swivutiso leswi swi heleleke yi nga kumeka yi namarhetiwile eka fomo leyi.

Mivuyelo ya phurojeke leyi yi ta kamberiwa tanihi xiphemu xa xiyenge xa ndzavisiso wa digiri ya mina leyi ndzi tokotaka hi yona. Mivuyelo yi ta tirhisiwa ku lulamisa nakambe vukorhokeri bya Ntlawa wa Muganga wa Chiawelo ku va byi fambelana swinene na swilaveko swa muganga.

Loko u tsakela ku nghenela, ndzi ta ku kombela ku hlamula swivutiso swa wena n'wini u karhi u pfuniwa hi mutirhi wa rihanyu wa muganga.

Tihlamulo hinkwato ti ta voniwa hi mutirhi wa rihanyu wa muganga loyi a tsalaka mahungu hikwawo, mina, na Prof Moosa. A ku nga vi na vito leri nga ta famba kun'we na tihlamulo

hikokwalaho a ku na ndlela ya leswaku tihlamulo ti nga kumeka leswaku ti huma eka wena. Mutirhi wa rihanyu wa muganga u ta tlhela a sayina fomo ya mpfumelelo ku endlela ku tiboha ku hlayisa tihlamulo hinkwato leti u ti nyikeke tanihi xihundla.
Ku hlamula swivutiso leswi a swi nga khumbi na kan'we ndlela leyi u khomiwaka ha yona hi Ntlawa wa Muganga wa Chiawelo na hi vatirhi va rihanyu va muganga.
Wa wena,
Dok Santhuri Pillay

Participant information sheet (Tshivenda)

Tshiengedzwa tsha 2:
Bambiri ḽa mafhungo ḽa mudzheneli
Ngudo dza ṱhoḓisiso: Ekholodzhi ya ndondolo ya mushonga ya wadi 11 yo ridzhisiṱariwaho Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo
Muṱoḓisisi: Dr Santhuri Pillay (Ridzhisiṱirara Makone wa Mutakalo wa malwadze o fhelelaho Yunivesithi ya Witwatersrand)
U khou lavheleswa nga: Associate Professor Shabir Moosa (Makone wa Mutakalo wa malwadze o fhelelaho Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo)
Kha Mudzheneli,
Ri khou livhuwa tshifhinga tshavho u lavhelesa bambiri iḽi ḽa mafhungo. Dzina ḽanga ndi Dr Santhuri Pillay. Ndi khou tama u ita thandela ya ṱhoḓisiso ine ya ṱola arali Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo hu tshi ṅetshedza tshumelo dzine tshitshavha itshi tsha dzi ṱoḓa.
Mbudziso dzi ḓo amba nga ha uri ndi lungana he vha ḓipfa vha sa vuwi zwavhuḓi ṅwedzi wo fhelaho. I ḓo dovha ya vhudzisa uri ndi ngafhi na uri ndi lungana he vha ṱoḓa thuso musi vha tshi khou pfa vha sa vuwi zwavhuḓi ṅwedzi wo fhelaho. Musi ndi tshi khou ḓi vhudzisa ndi tshi ya phanḓa ndi ḓo vhudzisa nga ha uri vha a kona u swikelela Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo na uri vho fushea u swika ngafhi nga tshumelo. I ḓo vhudzisa hafhu uri vha swikelela na u fushea u swika ngafhi nga tshumelo kha Senthara ya Tshitshavha ya Mutakalo. Sethe yo fhelelaho ya mbudziso i ḓo nambatedzwa kha fomo heyi. Mvelelo dza thandela heyi dzi ḓo ṱolwa sa tshipiḓa tsha ṱhoḓisiso ya digirii yanga ye nda pfumbudzelwa yone yo khetheaho. Mvelelo dzi ḓo dovha dza shumiselwa u dzudzanya

hafhu tshumelo Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo u itela u tea ṱhoḓea dza tshitshavha.

Arali vha tshi khou takalela u dzhenela, ndi ḓo vha humbela u ḓadza mbudzisavhathu vha tshi khou thuswa nga mushumeli wa mutakalo wa tshitshavha, u itela vhone.

Phindulo dzoṱhe dzi ḓo sedzwa nga mushumeli wa mutakalo wa tshitshavha ane a ḓo ṅwala fhasi mafhungo oṱhe, nṋe Phurofesa Moosa. A hu nga ḓo vha na dzina ḽine ḽa nga ṱumanywa na phindulo na uri hu nga si vhuye ha vuwa ho waniwa uri ndi vhone. Mushumeli wa mutakalo wa tshitshavha u ḓo dovha a saina fomo ya thendelo u dzudza phindulo dzavho sa tshidzumbe.

U fhindula mbudzisavhathu idzi nga nḓila ifhio na ifhio a zwi nga kwami kufarelwe kwavho nga Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo na vhashumeli vha Mutakalo wa Tshitshavha.

Wavho a fulufhedzeho,

Dr Santhuri Pillay

Appendix 2: Consent form

Consent form (English)

Ecology of medical care of ward 11 registered to Chiawelo Community Practice

Researcher: Dr Santhuri Pillay (Family Medicine Registrar at University of the Witwatersrand)

Supervised by: Associate Professor Shabir Moosa

Concerning participation in the Research Project:

I understand that I have been invited to participate in the above study (see participant information sheet).

I have read the aims and objectives of the proposed Research Project. I was given opportunity to ask questions and was also given enough time to think about this Research Project. I have not been forced or pushed in any way to take part. I am clear about the aims of the Research Project.

I understand that taking part in this Research Project is completely voluntary i.e. of my own choice. I know that I may withdraw from it at any time without giving any reasons.

I do understand that the questionnaire will be collected, and that this information will be used only for the purposes of analysing as data in this Research Project. I have been told that only the researchers above will be able to access the questionnaire. I have also been told that when this analysis is completed these questionnaires will be destroyed. I agree to participating in the study.

I know that the results of this Research Project will be used for scientific and educational purposes, and that may include being published. I agree to this, provided any identifying data is removed.

I hereby agree to participate by filling this questionnaire for the Research Project.

…… …….. ……..

Name of participant Signature of participant Witness

…….. ……..

Place Date

_____

Statement by the interviewer: (field worker)

I have given written and oral information regarding this Research Project to the participant.

I agree to answer any future questions concerning the Project as best as I am able.

I will adhere to the protocol as it has been approved.

I agree to keep all information given to me by the participant confidential.

Name of interviewer: Signature:

Date Place

Consent form (Xitsonga)

Xitandzhaku xa 3: FOMO YA MPFUMELELO

Ikholoji ya nhlayiso wa rihanyu ra vutshunguri ya wadi ya 11 leyi tsarisiweke eka Ntirho wa Muganga wa Chiawelo.

Mulavisisi: Dok Santhuri Pillay (Murhijisitara wa vutshunguri wa Ndyangu eYunivhesiti ya Witwatersrand)

Mulanguteri: Phurofesa wa Ntlawa Shabir Moosa

Mayelana na nghenelo wa Phurojeke ya Ndzavisiso:

Ndza swi twisisa leswaku ndzi komberiwile ku nghenela ndzavisiso lowu nga laha henhla (vona papila ra mahungu ra mungheneri).

Ndzi hlayile swikongomelo na swikongomelotsongo swa Phurojeke ya Ndzavisiso leyi kunguhatiweke. Ndzi nyikiwile nkarhi wa ku vutisa swivutiso na ku tlhela ndzi nyikiwa nkarhi wo enela wa ku ehleketa hi Phurojeke leyi ya Ndzavisiso. A ndzi sindzisiwangi kumbe ku susumetiwa hi ndlela yihi kumbe yihi ku va ndzi nghenela. Ndzi twisisa swikongomelo swa Phurojeke ya Ndzavisiso.

Ndza swi twisisa leswaku ku nghenela Phurojeke leyi ya Ndzavisiso i ku tinyiketela hi ku hetiseke, hilesw. hi ku tsakela ka mina. Ndza swi tiva leswaku ndzi nga tihumesa eka yona nkarhi wun'wana na wun'wana handle ka ku va ndzi nyika swivangelo swo nkarhi.

Ndza swi twisisa leswaku tihlamulo ti ta hlengeletiwa, na leswaku mahungu ya ta tirhisiwa ntsena eka swikongomelo swa ku kambisisa data ya Phurojeke ya Ndzavisiso lowu. Ndzi

byeriwile leswaku ko va ntsena valavisisi lava nga laha henhla va nga ta fikelela nhlengelo wa swivutiso. Ndzi tlherile ndzi byeriwa na leswaku loko nkambisiso lowu wu hetiwile, nhlengelo lowu wa swivutiso wu ta cukumetiwa. Ndza pfumela ku nghenela ndzavisiso lowu. Ndza swi tiva leswaku mivuyelo ya Phurojeke ya Ndzavisiso yi ta tirhisiwa eka swikongomelo swa xisayense na swa tidyondzo, na leswaku swi ta katsa na ku hangalasiwa. Ndza pfumela eka leswi, ntsena loko data leyi kumekeke yi nga susiwa.

Ndza pfumela ku nghenela hi ku hlamula swivutiso leswi swa Phurojeke ya Ndzavisiso.

…… ……. ……

Vito ra mungheneri Nsayino wa mungheneri Mbhoni

…… ……

Ndhawu Siku

_____

Xitatimente hi muithavhiyuwi: (mutirhi wa rihanyu wa muganga)

Ndzi nyikile mahungu yo tsariwa na yo vulavuriwa hi ta Phurojeke ya Ndzavisiso eka mungheneri.

Ndza pfumela ku hlamula swivutiso swin'wana na swin'wana swa Phurojeke ku ya hileswi ndzi swikotisaka swona.

Ndzi ta landzelela swiyimo tanihilaha swi pasisiweke hakona.

I agree to keep all information given to me by the participant confidential.

…… ……. ……

……

Vito ra muithavhiyuwi Nsayino Siku

Ndhawu

<u>Consent form (Tshivenda)</u>

Tshiengedzwa tsha 3: FOMO YA THENDELO

Ekhoḽodzhi ya ndondolo ya mushonga ya wadi 11 yo ridzhisiṱariwaho Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo

Muṱoḓisisi: Dr Santhuri Pillay (Ridzhisiṱirara Makone wa Mutakalo wa malwadze o fhelelaho Yunivesithi ya Witwatersrand)

U khou lavheleswa nga: Associate Professor Shabir Moosa

Nga ha u dzhenela Thandela ya Ṱhoḓisiso:

Ndi a pfesesa uri ndo rambiwa u dzhenela ngudo dzo bulwa afho nṱha (kha vha sedze bambiri ḽa mafhungo ḽa mudzheneli).

Ndo vhala zwipikwa zwa Thandela ya Ṱhoḓisiso yo dzinginywaho. Ndo ṋewa tshikhala tsha u vhudzisa mbudziso na u dovha hafhu nda ṋewa tshifhinga tsho linganaho tsha u humbula nga ha Thandela ya Ṱhoḓisiso iyi. A thongo kombetshedzwa nga iṅwe nḓila uri ndi shele mulenzhe. Ndi khou pfesesa zwipikwa zwa Thandela ya Ṱhoḓisiso.

Ndi a pfesesa uri u shela mulenzhe kha Thandela ya Ṱhoḓisiso iyi ndi u dzhenela nga u tou funa i.e. ndi u nanga ha nṋe muṋe. Ndi a zwi ḓivha uri ndi nga ḓibvisa khayo tshifhinga tshiṅwe na tshiṅwe ndi songo thoma nda ṋetshedza zwiitisi.

Ndi a pfesesa uri mbudzisavhathu dzi ḓo kuvhanganyiwa, na uri mafhungo haya a ḓo shumiselwa fhedzi u itela u saukanya data kha Thandela ya Ṱhoḓisiso iyi. Ndo vhudziwa uri ndi vhaṱoḓisisi fhedzi vho bulwaho afho nṱha vhane vha ḓo kona u swikelela mbudzisavhathu. Ndo dovha hafhu nda vhudzwa uri musi u saukanywa uhu hu tshi fhela mbudzisavhathu idzi dzi ḓo tshinyadzwa. Ndo tenda u dzhenela ngudo.

Ndi a ḓivha uri mvelelo dza Thandela ya Ṱhoḓisiso iyi dzi ḓo shumiselwa ndivho dza sainthifiki na dza pfunzo, na u nga ganḓiswa. Ndo tendelana nazwo, tenda ha vha ho bviswa data ine ya topola.

Ndi fhano u tendela u dzhenela nga u ḓadza mbudzisavhathu iyi ya Thandela ya Ṱhoḓisiso.

…… …….. ……..

Dzina ḽa mudzheneli Tsaino ya Ṱhanzi

…… ……

Fhethu

Datumu_____

Tshitatamennde nga muithaviuwi: (mushumeli wa mutakalo wa tshitshavha)

Ndo ṋetshedza thendelo yo tou ṅwalwaho na ngau tou amba mafhungo nga ha heyi Thandela ya Thodisiso kha mudzheneli.

Ndi khou tenda u fhindula mbudziso dziṅwe na dziṅwe tshifhingani tshiḓaho dzi elanaho na Thandela nga afho hune nda nga kona ngaho.

Ndi ḓo tevhedza matshimbidzele a zwithu sa zwe zwa themendeliswa zwone.

I agree to keep all information given to me by the participant confidential.

…….. …….. ……..

……..

Dzina ḽa muithavuwi Tsaino Datumu Fhethu

Appendix 3: Questionnaire

Questionnaire (English) *(please mark the relevant option or add own answer)*

1. Age _____
2. Gender _____
3. Marital status (single, same partner for >1year, married, divorced, widow/er, other) _____
4. Income (full-time employed, part-time employed, self-employed, unemployed, child grant, disability grant, pensioner, other) _____
5. How many times have you considered yourself ill/not well in the last month? _____
6. How many times did you seek help for not feeling well/ill? _____
7. Where did you seek help? *(Please indicate all the places where you sought help and how many times)*
    a. Own knowledge
    b. Family
    c. friend
    d. traditional healer
    e. pharmacy (over the counter medication)
    f. private GP
    g. private specialist
    h. Chiawelo Community Practice
    i. Community health worker
    j. Team leader (Sister Yvonne)
    k. Chiawelo Community Health Centre
    l. Other clinics/Community Health Centre's
    m. Bheki Mlangeni Hospital
    n. Chris Hani Baragwaneth Academic Hospital
    o. Other hospitals
    p. emergency room
    q. other

8. If Chiawelo Community Health Centre was used, which services were used? *(indicate how many times each service was used in the past month)*

    a. HIV clinic
    b. TB clinic
    c. Antenatal clinic
    d. MOU
    e. acute clinic
    f. chronic clinic
    g. child health clinic
    h. mental health clinic
    i. physiotherapist
    j. occupational therapist
    k. speech and hearing therapist
    l. dentist
    m. optometrist
    n. podiatrist
    o. emergency room in clinic
    p. emergency room in hospital
    q. admitted to hospital

9.) If the Chiawelo Community Practice was used, which services were used?

    a. General clinic: (acute/chronic/vaccines/contraception/papsmear)
    b. Other_____

10. How easy is it for you to get services at the Chiawelo Community Practice? (rank: 1 easy to 10 difficult) _____

11. How satisfied are you with the service at the Chiawelo Community Practice? (rank 1 satisfied to 10 not satisfied) _____

12. How easy is it for you to get services at the Chiawelo Community Health Centre? (rank: 1 easy to 10 difficult) _____

13. How satisfied are you with the service at the Chiawelo Community Health Centre? (rank: 1 satisfied to 10 not satisfied) _____

14. How do you think the Community Health Worker has affected the number of visits you make to the Chiawelo Community Practice by giving support and advice?

a. less visits
b. more visits
c. no change

15. Is there any other factor that has influenced the number of visits you make to the Chiawelo Community Practice? (must give some detail, not just yes or no)

_____

_____

_____

_____

_____

Questionnaire: Xitsonga

Nongoloko wa swivutiso: *(please indicate the relevant option or add your own answer)*

1. Vukhale _____
2. Rimbewu _____
3. Xiyimo xa vukati (a wu tekangi/tekiwangi, u tshame na murhandzani ku ringana >lembe ri 1, u tekile/tekiwile, u tharile/thariwile, u muferiwa wa xinuna/xisati, swin'wana) _____
4. Muholo (wa ntirho wa nkarhi hinkwawo, wa ntirho wa nkarhinyana, wo titirha, wo ka u nga tirhi, giranti ya n'wana, giranti ya vutsoniwa, wa muphexinara, swin'wana)

_____

5. I kangani u nga titwa u vabya/kumbe u nga titwi kahle n'hweti leyi nga hundza?

_____

6. Xana u lavile ku pfuniwa kangani loko u nga titwi kahle/kumbe loko u vabya?

_____

7. Xana u lavile ku pfuniwa kwihi? *(please indicate all the places you sought help and how many times)*

a. Vutivi bya wena
b. Ndyangu
c. munghana
d. mutshunguri wa xinto
e. khemisi (murhi lowu xaviwaka ku ri hava xibumabumelo xa dokodela)

f. dokodela wa mavabyi hinkwao wo ka a nga ri wa mfumu
g. Mutokoti wo ka a nga ri wa mfumu
h. Ntolovelo wa Muganga wa Chiawelo
i. Mutirhi wa swa rihanyu wa le mugangeni
j. Murhangeri wa xipano (Sisita Yvonne)
k. Senthara ya swa Rihanyu ya Muganga wa Chiawelo
l. Titliliniki tin'wana/Senthara ya swa Rihanyu
m. Xibedlhele xa Bheki Mlangeni
n. Xibedlhele xa Chris Hani Baragwaneth Academic
o. Swibedlhele swin'wana
p. kamara ra swa xihatla
q. swin'wana

8. Loko Senthara ya swa Rihanyu ya Muganga wa Chiawelo yi tirhisiwile, hi byihi vukorhokeri lebyi byi tirhisiweke? *(please indicate how many times each service was used in the last month)*

a. Tliliniki ya HIV
b. Tliliniki ya TB
c. Tliliniki ya nkarhi wa ku biha emirini
d. MOU
e. tliliniki ya vuvabyi byo tika
f. tliliniki ya vuvabyi bya godzombela
g. tliliniki ya rihanyu ra vana
h. tiliniki ya rihanyu ra miehleketo
i. dokodela wo tshungula hi ku masaja, kufumeta na vuolori
j. dokodela wa lava va hlakarhelaka eka vuvabyi bya miri na bya miehleketo
k. dokodela wa mbulavulo na ku twa
l. dokodela wa swa meno
m. dokodela wa swa mahlo
n. dokodela wa milenge
o. emergency room in clinic
p. emergency room in hospital
q. admitted to hospital

9. Loko ndhawu ya vukorhokeri ya muganga wa Chiawelo yi tirhisiwile, hi byihi vukorhokeri lebyi byi tirhisiweke?
    a. Tliliniki ya ntolovelo (acute/chronic/vaccines/contraception/papsmear)
    b. Other_____
10. Swi olova ku fika kwihi ku kuma vukorhokeri eka ndhawu ya vukorhokeri ya muganga wa Chiawelo? (rank: 1 easy to 10 difficult) _____
11. Xana u enerisekile ku fika kwihi hi vukorhokeri bya Ntirho wa Muganga wa Chiawelo? (rank: 1 satisfied to 10 not satisfied) _____
12. Xana swi ku olovela ku fika kwihi ku kuma vukorhokeri eka Senthara ya swa Rihanyu ya Muganga wa Chiawelo? (rank: 1 easy to 10 difficult) _____
13. Xana u enerisekile ku fika kwihi hi vukorhokeri eSenthareni ya swa Rihanyu ya Muganga wa Chiawelo? (rank: 1 satisfied to 10 not satisfied) _____
14. How do you think the Community Health Worker has affected the number of visits you make to the Chiawelo Community Practice by giving support and advice?
    a. less visits
    b. more visits
    c. no change
15. Is there any other factor that has influenced the number of visits you make to the Chiawelo Community Practice? (must give some detail, not just yes or no)

    _____

    _____

    _____

    _____

    _____

<u>Questionnaire (Tshivenda)</u>

Mbudzisavhathu: *(please indicate the relevant option or add own answer)*

1. Vhukale _____
2. Mbeu _____
3. Tshiimo tsha mbingano (a tho ngo malwa/mala, muthu wa u tshilisana nae onoyo muthihi lwa >ṅwaha 1, ndo malwa/ mala, ndo ʈ̣ala/ʈ̣alwa, tshilikadzi/muʈ̣olowadzi, zwiṅwe)_____

4. Mbuelo (u shuma lwa tshoṱhe, u shuma nga tshifhinga, u ḓishuma, u sa shuma, mundende wa ṅwana, mundende wa vhuholefhali, muholaphentsheni, zwiṅwe)

_____

5. Ndi lungana he vha ḓipfa vha tshi khou lwala/ vha sa vuwi zwavhuḓi ṅwedzi wo fhelaho?_____

6. Ndi lungana he vha ṱoḓa thuso musi vha tshi khou lwala/ vha sa vuwi zwavhuḓi?

_____

7. Ndi ngafhi he vha ṱoḓa thuso? *(please indicate all the places you sought help and how many times)*

    a. Nḓivho yanga
    b. muṱa
    c. khonani
    d. maine
    e. khemisi (mushonga une wa rengwa khautharani)
    f. Dokotela wa GP
    g. Makone wa phuraivethe
    h. Fhethu ha tshitshavha hune vha lafhiwa hone Chiawelo
    i. Mushumeli wa mutakalo wa tshitshavha
    j. Murangaphanḓa wa thimu (Sister Yvonne)
    k. Senthara ya Tshitshavha ya Mutakalo ya Chiawelo
    l. Dziṅwe kiḽiniki/Senthara dza Tshitshavha dza Mutakalo
    m. Vhuongelo ha Bheki Mlangeni
    n. Vhuongelo ha Akhademiki ha Chris Hani Baragwaneth
    o. Maṅwe maongelo
    p. Rumu ya zwa shishi
    q. zwiṅwe

8. Arali ho shumiswa Senthara ya Tshitshavha ya Mutakalo ya Chiawelo, ho shumiswa tshumelo dzifhio? *(please indicate how many times each service was used in the past month)*

    a. kiḽiniki ya HIV
    b. kiḽiniki ya TB
    c. kiḽiniki dza vhuimana

d. MOU
e. kiḽiniki ḽa dzilafho ḽa tshifhinganyana
f. kiḽiniki ya malwadze a sa fholi
g. kiḽiniki ya mutakalo wa vhana
h. kiḽiniki ya mutakalo wa muhumbulo
i. fiziotherapisithi
j. okhupheshinaḽatherapisithi
k. therapisiti ya muambo na u pfa
l. dokotela wa maṉo
m. dokotela wa maṱo
n. dokotela ane a shumana na nyimele dza milenzhe
o. emergency room in clinic
p. emergency room in hospital
q. admitted to hospital

9. Arali Fhethu ha tshitshavha hune vha lafhiwa hone Chiawelo ho shumiswa, ndi tshumelo dzifhio dzo shumiswaho?
   a. Kiḽiniki nyangaredzi (acute/chronic/vaccines/contraception/papsmear)
   b. Other_____

10. Zwo vha zwi tshi lelulwa u swika ngafhi uri vha wane tshumelo Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo? (rank 1 easy to 10 difficult) _____

11. Naa vho fushea u swika ngafhi nga tshumelo Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo? (rank: 1 satisfied to 10 not satisfied) _____

12.) Naa vho fushea u swika ngafhi nga tshumelo Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo? (rank: 1 easy to 10 difficult) _____

13. Naa vho fushea u swika ngafhi nga tshumelo Fhethu ha Tshitshavha hune vha lafhiwa hone Chiawelo? (redcap tshikalo tsha phimo 1 u swika kha 10) _____

14. How do you think the Community Health Worker has affected the number of visits you make to the Chiawelo Community Practice by giving support and advice?
   a) less visits
   b) more visits
   c) no change

15. Is there any other factor that has influenced the number of visits you make to the Chiawelo Community Practice? (must give some detail, not just yes or no)

_____

_____

_____

_____

_____

Ethical Approval

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

R14/49 Dr Santhuri Pillay

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M180222

NAME: (Principal Investigator)	Dr Santhuri Pillay
DEPARTMENT:	Family Medicine Chiawelo Community Health Clinic
PROJECT TITLE:	Ecology of medical care of the ward 1 1 community registered to the Chiawelo community practice
DATE CONSIDERED:	23/02/2018
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Prof Shabir Moosa

Prof C Penny, Chairperson, HREC (Medical)

APPROVED BY:

DATE OF APPROVAL: 14/05/2018

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and ONE COPY returned to the Research Office Secretary in Room 301 , Third floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. I agree to submit a yearly progress report. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in April and will therefore

be due in the month of April each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

_____ _____

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

District and national approval

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Joburg
a world class African city

JOHANNESBURG HEALTH DISTRICT

Faculty Of Health Sciences
Research Ethics Committee
University of The Witwatersrand
Johannesburg, South Africa
santhuripillay4@gmail.com

Enquiries: Dr EM Ohaju
Tel: 011 694 3888 Cell: 076 8831659
Email: Elizabeth.Ohaju@gauteng.gov.za

Hillbrow CHC: Administration Building
Cr Smith Str. & Klein Street
Private Bag X21, Johannesburg
South Africa, 2017

DRC Ref: 2018-05-007

NHRD Ref no: GP_201805_037

Dear: Dr Santhuri Pillay

Re: Ecology of medical care of the ward 11community registered to Chiawelo Community Practice

Your application for Research Approval refers

The District Research Committee has reviewed your application. This letter serves as an in-principle approval to access the Districts Health facilities (mentioned below) for the above project subject to following conditions:

- The facility to be visited**: CHIAWELO CHC**
- This facility will be visited from **19/09/2018 to 19/09/2019**
- The research can only commence after you submit an ethics clearance certificate from a recognized institution.
- You will report to the Facility Manager before initiating the study.

Region	Regional Health Manager	Contact No.	Cell phone
D	Ms Maria Mazibuko	011 674 1200	082 781 9919

The following conditions must be observed:

- Participants' rights and confidentiality will be maintained all the time.
- No resources (Financial, material and human resources) from the above facilities will be used for the study. Neither the District nor the facility will incur any additional cost for this study.
- The study will comply with **Publicly Financed Research and Development Act, 2008 (Act 51 of 2008) and its related Regulations**.
- You will submit a copy (electronic and hard copy) of your final report. In addition, you will submit a six-monthly progress report to the District Research Committee.

- Your supervisor and University of the Witwatersrand will ensure that these reports are being submitted timeously to the District Research Committee.
- The District must be acknowledged in all the reports/publications generated from the research and a copy of these reports/publications must be submitted to the District Research Committee.

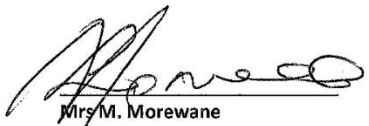
We reserve our right to withdraw our approval, if you breach any of the conditions mentioned above.

Please feel free to contact us, if you have any further queries. On behalf of the District Research Committee, we would like to thank you for choosing our District to conduct such an important study.

Regards,



Dr EM Ohaju
Chairperson: District Research Committee
Johannesburg Health District
Date: 19/09/2018



Mrs M. Morewane
Chief Director
Johannesburg Health District
Date: 19/09/2018

Research Protocol - M180222

Ecology of medical care of the ward 11 community registered at Chiawelo Community Practice

Dr Santhuri Pillay
Student Nº 0000381H

A research protocol submitted to the Faculty of Health Sciences
in partial fulfilment of the requirements for the degree
of
Master in Family Medicine (MMED)
Department of Family Medicine
University of the Witwatersrand

Johannesburg, 2020

Supervisor: Associate Professor Shabir Moosa

Introduction

Family medicine uses a concept of ecology of medical care to explore accessibility issues internationally by starting with the idea of how often people feel sick and then, when and where they access medical services. In 1961, Dr White et al (1) wrote a paper on the 'Ecology of Medical Care'. This concept is defined by how a medical practice is organised according to patient behaviour and needs. The author(s) asked the question: "Is the available quantity, quality and distribution of contemporary medical care optimum in the opinion of the consumers?''(1) In another paper White (2) outlined that although data on morbidity and mortality of a population is important and useful, further research needs to address "health problems of the living."(2) This information would allow us to find out what a specific community's need for well-being is. This is then expressed as a number out of 1000 using the "Square of White" to visually depict the breakdown of monthly prevalence estimates of illness in the community and the roles of physicians, hospitals, and university medical centres in the provision of medical care (adults 16 years of age and over).

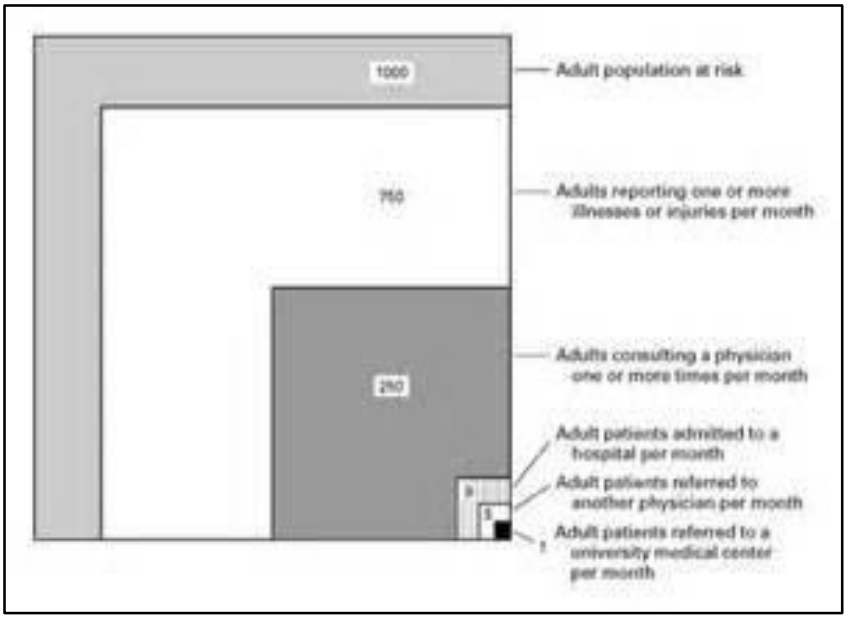


Figure 1
The "Square of White" (1) (2)

There are many different factors influencing why, how and where patients access help for their ailments. When examining the ecology of medical care, the following questions may be asked: why patients seek treatment; where patients seek help; how often they present to facilities; and how they are referred allows us to assess the care needs of a community? This would also address the question on how to reorganise resources to better fulfil the needs of the people being served? Moreover, it should direct future health promotion and research specific to that community.

The proposed National Health Insurance (NHI) policy was signed by the Minister of Health, Dr Aaron Motsoaledi, on 28 June 2017 with the aim of improving access to health care for all South Africans irrespective of socio-economic status. The plan is to improve the governance and management of clinics, districts and hospitals (3). At the time, the Chiawelo Community Practice (CCP) was developed in response to the proposed NHI policy, with the adapted concept of each primary care unit having its own catchment area and population to improve access (4).

The CCP is situated in the Chiawelo Community Health Centre (CHC) in Soweto, South Africa. Chiawelo was created in 1956 as an ethnic extension of Soweto for Tsonga and Venda speaking people. The CHC was established during the 1980's. The community practice was started by Associate Professor Shabir Moosa in February 2014 as an enhancement of the ward-based outreach teams (WBOT) (4). The construct of the community orientated practice was based on the works of Sidney and Emily Kark in Pholela, Northern Kwa-Zulu Natal in 1940 (5). Ward 11 was the initial area registered to the CCP, to date wards 12, 15, 16 and 19 are in the process of being registered with the practice. For this study, a sample of ward 11 patients made up the study population to assess whether the CCP was providing the required service for this community.

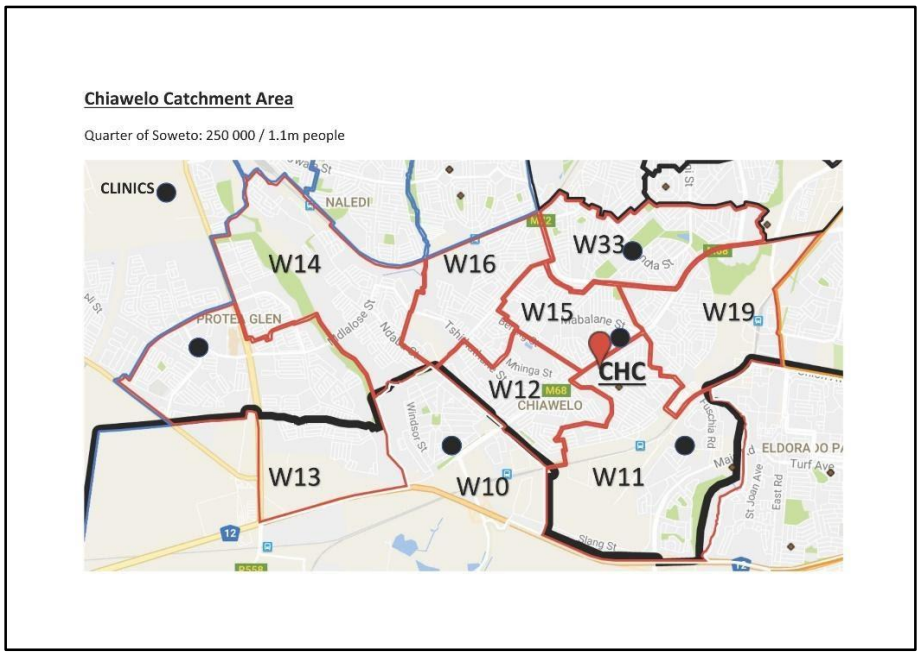


Figure 2
Wards around Chiawelo (4)

During 1989, Levenstein (6) wrote an article on the ecology of general practice in South Africa but it focused mainly on how the medical curricula were taught. He called for a move from hospital-based teaching to community-based teaching. This however echoes the call from primary care practitioners to focus on patient and community needs as opposed to neatly packed specialties with reference to both medical education and research (6-7). In a paper written in 2009, Frenk (8) further highlights the need for integrating services based on the social determinants of health in community-based care.

Other similar studies looking at the ecology of a population or group have been conducted throughout the world. As mentioned previously many studies on the ecology of medical care based on Dr White's (1) original works have been conducted throughout the world. The use of the ecology model was to focus and re-organise the health services to their respective populations investigated. During 2010, a Swedish study conducted by Ferro et al (9) focused purely on a publicly funded health system which differed from the original study. They fortunately have an established system where all citizen usage of health services can be tracked

by a specific number assigned to them for life (9). During 2012, a similar Norwegian study was conducted. They also have a large registered population and participants were invited to fill out questionnaires on symptoms experienced and services used. Despite their well-functioning primary care system, they found that the good use of this system did not affect admissions when compared with comparative Asian studies (10).

During 2011, a Taiwanese study found a good use of their national health system with a majority of their patients still seeking help at a hospital level (11). They also chose to include home-based care which the researcher, in this study, similarly included in his evaluation of ward 11. Community Health Workers (CHWs) with the help of the team leader Sister Yvonne were able to provide this service to the community.

Studies conducted in Hong Kong (12) and Japan (13) during 2002 and 2005 respectively, chose to include consults with traditional Chinese medicine practitioners and alternate practice practitioners in their questionnaires. Similarly, the researcher, in this study, chose to include consults with traditional healers in the evaluation. In a Singaporean study, Wee et al (14) found that their community initially sought help from traditional practitioners before contacting Western-trained allopathic doctors. This is widely known to be true in our population group.

To my knowledge there have not been any studies conducted in South Africa that solely evaluate the ecology of medical care of a group. Lalloo et al (15) focus on accessibility based on race and class whereas Kalipeni (16) investigates healthcare among vulnerable groups. During 2001, Tanser et al (17) conducted a study relating to proximity of health care centres to usage based on the "distance usage index."(17)

The Kaiser Family Foundation conducted two household surveys in South Africa. The second survey published in 1999 aimed at documenting public perception with regard to their own health and how they accessed and used the services available to them. Although no formal use

of the ecology model was made here, there is overlap of the kind of information found and its implications for resource distribution in health care (18).

During 2011, Harris et al (19) undertook a national household survey to investigate health care accessibility barriers. Common reasons for delays in seeking treatment were: believing that a symptom was not serious enough; a desire to be treated with respect; a dissatisfaction with the treatment they had received previously; general issues of privacy, confidentiality; and the cleanliness of a facility (19). My questionnaire did not explore these barriers. The researcher hopes that based on his findings of utilisation and satisfaction, further study can be done into exploring barriers to accessing healthcare services of ward 11 patients.

During 2010, Nteta et al (20) conducted a cross-sectional study of self-administered questionnaires in the Tshwane region. Again, no formal use of the ecology principles was applied but the same information regarding utilisation of services was examined. The researchers in that study chose to gather data on patients with specific diseases experienced as opposed to a subjective experience of being unwell and also took into consideration travel distance and modes of transport. They found a relative effective utilisation of the services during their investigation (20).

The abovementioned team at the CCP have been providing a service to 17 505 individuals. CHWs deployed to this community - screen, educate and support intersectoral health action. The team has been trying to develop and empower this resource-limited community of ward 11 through well-structured stakeholder engagement and community-based health promotion interventions. The CCP functions as part of the CHC and is seen as a model for general practitioner contracts in the NHI.

At the time of this study, despite satisfactory reports from the CCP patient base there was only one visit per person per year as compared to the expected utilisation of three visits per person

annually in the District Health Barometer (21). We would like to believe that health education and improved access changed utilisation patterns for the better but the reason for this low usage might be due to residents using other services instead of the CCP. Another reason may be accessibility challenges and dissatisfaction. Since its inception until now the data collected on the actual utilisation of services would allow a restructuring or refocusing of service based on the community's needs and perceptions.

In this study, the researcher examined the ecology of the medical care of the ward11 community registered with the CCP. Since the inception of the CCP CHWs register all members of the ward 11 community wishing to be registered there on a voluntary basis. At the clinic, each household has a file containing subfolders of individual household members who have registered. The researcher focussed on the utilisation, accessibility and satisfaction reported by the ward 11 sample.

Aim:

To describe the ecology of medical services of ward 11 residents registered with the CCP.

Objectives:

1. To describe and compare the use of health services by ward 11 registered residents in relation to their perceived needs;
2. To describe and compare the services used by the ward 11 registered residents.
3. To describe and compare how accessible the ward 11 registered residents find the CCP and the CHC;
4. To describe and compare the ease of use and satisfaction of the ward 11 registered residents with the services supplied by the CCP and the CHC; and

5. To describe factors influencing the ward 11 registered resident's use of services at the CCP.

Methods

Study Design

Cross-sectional descriptive study using a questionnaire to evaluate the utilisation on medical and alternate care available to the ward 11 sample of residents registered with the CCP.

Site of study

Ward 11 in Chiawelo, Soweto, Johannesburg, Gauteng, South Africa.

The CCP is situated in the CHC in Soweto, Johannesburg, South Africa. Chiawelo was created in 1956 as an ethnic extension Soweto for Tsonga and Venda speaking people. The CHC was established in the 1980's. During February 2014, the community practice was founded by Associate Professor Shabir Moosa as an enhancement of the ward-based outreach teams (WBOT) (4). Ward 11 was the initial area registered to the CCP, to date wards 12, 15, 16 and 19 are in the process of being registered with the practice. For this study, a sample of ward 11 patients made up the study population to assess whether the CCP was providing the service that community required. The team, at the time of this study, supporting this group was composed of two family physicians, a clinical associate, seven clinic support staff, eighteen CHWs and Sister Yvonne as the team leader of the outreach team.

Study population

Since May 2017, some 17505 people from ward 11 had been registered with the CCP. This was composed of 4257 households. All adults (>18 years old) from each household who were registered residents with the CCP were asked to participate in the survey. Using the survey monkey sample size calculator (95% confidence interval, 5% margin of error) a sample size of 350 households was calculated.

Sampling

A random selection of 350 households from the 4257 registered households with the CCP was made. All adults (>18years old) in the household were invited to complete the questionnaire. If there were no eligible adults, the house next door was used. The study was conducted during normal working hours (08:00 to 16:00) and weekdays (Monday to Friday).

Instrument:

- Questionnaire in English (Appendix I);
- Questionnaire in Xitsonga (Appendix II);
- Questionnaire in Tshivenda (Appendix III);
- Participant information sheet in English (Appendix IV);
- Participant information sheet in Xitsonga (Appendix V);
- Participant information sheet in Tshivenda (Appendix VI);
- Consent form in English (Appendix VII);
- Consent form in Xitsonga (Appendix VIII);
- Consent form in Tshivenda (Appendix IX);
- Letter from Wits Language School confirming back translation (Appendix X);
- Letter from District Research Committee (Appendix XI);
- Consent form (Appendix XII); and
- Log sheet (Appendix XIII).

The questionnaire has been developed in relation to the objectives of the study.

The researcher arranged a training session with the field workers prior to them collecting the data, to talk through the information sheet that had to be left at every home, the consent form and the questionnaire. Hard copies of the consent forms and information sheets were made available in English, Xitsonga and Tshivenda. Moreover, an information sheet had to be left in

each household. The questionnaire also was made available in all three languages and loaded on electronic tablets via the Redcap programme. A hard copy of the consent form was signed by the participant and the field worker administering the questionnaire as a show of confidence to keep all information confidential. A log sheet documenting each day was completed by each field worker and collected by the researcher every day. Each field worker was assigned to a letter of the alphabet. Furthermore, each household was assigned to a number noting the date, time, address and number of people in the household interviewed. Each participant was assigned to a number that correlated with a name that did not appear on the questionnaire. English was neither the first language of the field workers nor that of the registered residents. However, both field workers were fluent in English and this allowed the researcher to train them in administering the information sheets, consent forms and questionnaires. The questionnaire, consent form and information sheets were also translated (and back translated for validation) into Tshivenda and Xitsonga by the Wits Language School, University of the Witwatersrand, Johannesburg.

Data collection

At the time of this study, the field workers were under the supervision of Associate Professor Moosa as volunteers at the CCP; and had been employed for this field work. Electronic tablets owned and insured by Jozi Family Medicine and the Wits Health Consortium, were supplied to the field workers. The questionnaire was loaded via the Redcap program onto each tablet. They received training from the researcher on how to use the questionnaire prior to data collection. The information sheets were available in all three languages in hard copy and left in each household; this too was explained and discussed. The consent form was available in hard copy in all three languages, signed (or thumb printed) by each participant and the field worker as a show of confidence to keep all information confidential. Each correlated with the

log sheet. The data were collected during normal working hours from Monday to Friday. If there was no adult available to answer the questionnaire then the field worker moved on to the house next door. If an adult agreed to participate in the study, a signed informed consent form was signed by the participant. The field worker also signed in the presence of the participant as a show of commitment to maintain confidentiality of the information supplied. The participant's information sheet remained in each household in the preferred language. This outlined the aim of this study at improving service (delivery) of the CCP to the community and that all information remained confidential. The questionnaire, information sheet and consent form was available in English, Tshivenda and Xitsonga. The data from the field workers' tablets were captured and uploaded to the Cloud using the Redcap system.

Data analysis

Microsoft Excel and STATA programmes were used to describe categorical and numerical data. To describe the first objective outlining the utilisation of services by the sample, data were converted into ratios per 1000 people in order to compare with other studies done on the ecology of medical care in other international communities. These ratios were represented in the "Square of White" diagram. To explore data for the second, third and fourth objectives, describing and comparing services used, accessibility and satisfaction of services between the CCP and the CHC graphs and tables were used. There was a thematic content analysis of the last open-ended question.

Pilot study

The pilot study to test the questionnaire was conducted in May 2018. Two field workers were each asked to collect data on five randomly selected people

Sources of bias

The field workers were volunteers at the CCP and participants might have felt pressurized to alter their answers to be in favour of the CCP. The participants might not have felt that the confidentiality of their responses would be honoured and thereby influence their treatment at the CCP.

Primary information was collected from the registered residents aged 18 years or older who were present at home during the data collection period. The data were collected from 08:00 to 16:00, Monday to Friday. Many adults were away at work during that time of day and excluded from the data collection.

No participants younger than 18 years old were included in the data collection although they were included among the 17505 registered residents at the CCP from ward 11 at the time.

Limitations

Language

English was neither the first language of the field workers nor that of the registered residents. However, the field workers were fluent in English and received a training session from the researcher on the participant's information sheet, the consent form and questionnaire prior to them collecting data. The questionnaire, participant's information sheet and consent form were available in Tshivenda and Xitsonga and back translated into English for validation by the Wits Language School.

Time of data collection

Data were collected by asking the patients to reflect over the previous month. This did not take into account the seasonal variations in illnesses or the fact that the data collected were from subjective memory.

Subjective history

Data were collected based on the patients' own memory of their own state of health during the previous month.

Spectrum of age of participants

Data were collected during normal working hours (08:00 to 16:00 - Monday to Friday). Many adults were away at work during that time, leaving a large proportion of elderly and unemployed participants.

Ethical considerations

Each participant signed a consent form to participate in the study. The field workers counter signed as witnesses and to show a commitment to keep all the information confidential.

A letter of support was obtained from the facility manager at the CCH and the District Manager (Appendix XI). Ethical approval was obtained from Human Research Ethics Committee (Medical), University of the Witwatersrand, Johannesburg. Approval was also granted by the Johannesburg Health District Research Committee (DRC 2018-05-007) and the National Health Research District Committee (GP_201805_037).

Time frame

	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017
Literature review								
Protocol preparation								
Protocol assessment					30th supervisor submission		17th submission to PG office	1st assessor group 17th submission to PG office

	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018
Protocol preparation								
Protocol assessment	5th assessor group 18th submit PG office							
Ethical application								

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018
Pilot study								
Data collection								
Data analysis								
Report write-up								

Budget

Parameter	Estimated cost
Translation of questionnaire, consent form and participant information sheet	R4899,49 (paid)
Field workers	R2500 for 2 months (Assoc. Professor Moosa's research budget)
Information sheet per household (50c/page)	350 English R175 50 Tshivenda R25 50 Xitsonga R25
Consent forms (50c/page)	350 English R175 50 Tshivenda R25 50 Xitsonga R 25
Accessories (tote bags, stamp pads and stamp ink)	R500
Data	Wifi available at Chiawelo Community Practice for employees
Tablets	Owned and insured by Jozi Family Medicine and Wits Health Consortium, already in use for routine data collection at Chiawelo Community Practice
Redcap	Free via Wits, course attended by myself R600 (paid)
Literature review, editing (approx. R10/page)	20 R200
Statistician	Use of university services
Log sheet printing (50c/page)	500 R250
Approximate total	R6899,49

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Amendments to MMED protocol M180222

Title: Ecology of medical care of the ward 11 community registered to the Chiawelo Community Practice

Researcher: Dr Santhuri Pillay

Supervisor: Associate Professor Shabir Moosa

Department: Family Medicine

Amendments:

1.) 2 signed copies of declaration

2.) The community health workers are currently negotiating with District regarding their pay, for this reason two volunteers at the Community Practice have been employed as field workers to undertake the field work. They will be payed from Prof Moosa's research budget.

3.) Hard copies of the consent forms will be available in all 3 languages and will be signed (or thumb-printed) by each participant. The field worker administering the questionnaire will counter-sign the form as a witness and as a show of confidence that all information will remain confidential. An extra line has been added in English to each consent form as the cost of translation at the language school is high and the process takes a long time.

4.) Adjustments have been made to section 5 outlining the hard copies of the consent forms that will be available.

5.) Adjustments have been made to section 6 outlining the field workers.

6.) Adjustments have been made under section 8 regarding the timing of the pilot study.

7.) Adjustments have been made under section 9 regarding bias due to the project now using field workers instead of community health workers.

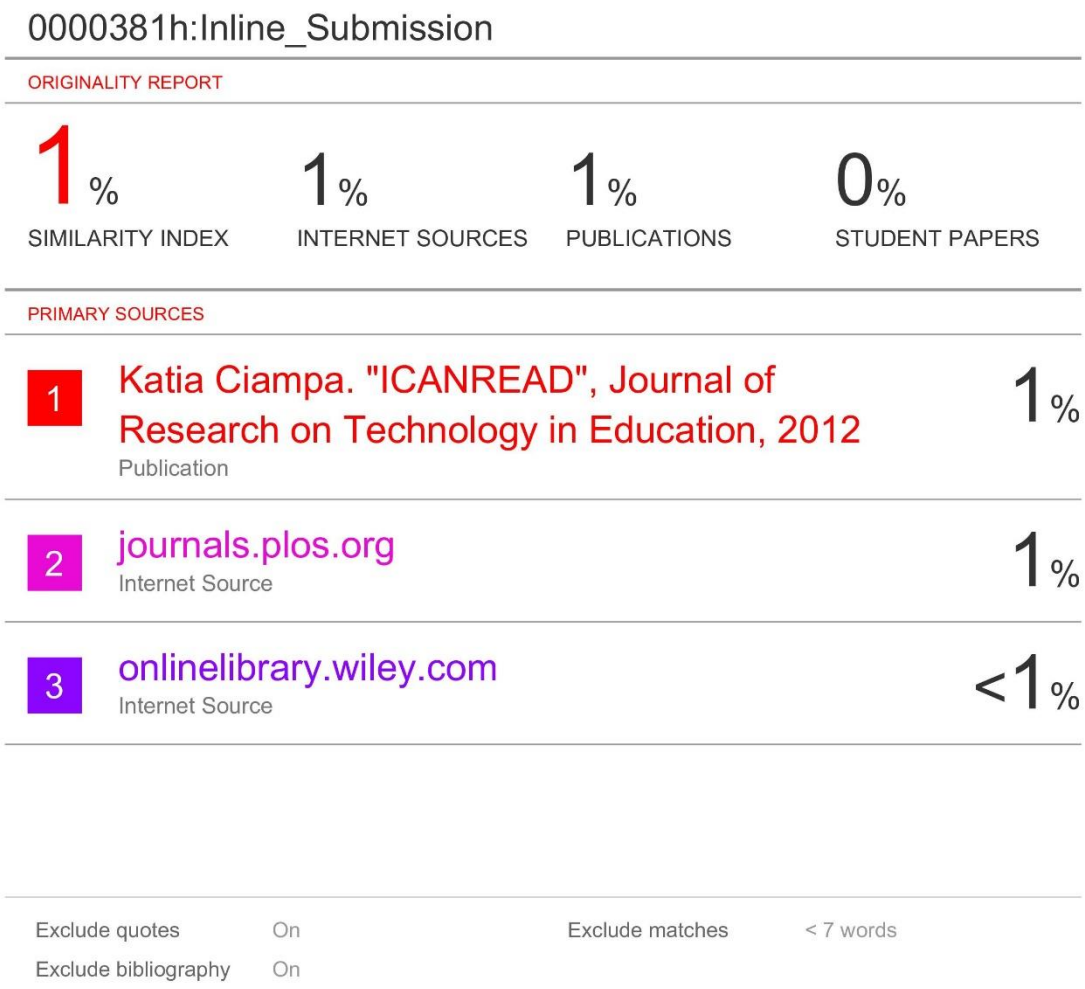
8.) Adjustments have been made under section 10 regarding the language of the field workers and not the community health workers as previously stated.

9.) Under ethical considerations it now states the field workers and not community health workers will counter sign as a commitment to keep all information confidential.

10.) The budget has been adjusted to account for the pay of the field workers and the extra hard copies that will be made.

11.) An added statement has been added onto the consent forms in English stating to keep all information confidential.

Turnitin report



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