

**REASONS FOR ENCOUNTER AND
DIAGNOSIS IN PATIENTS SEEN IN
LIMPOPO PROVINCE PRIMARY
HEALTH CARE: A PROSPECTIVE
CROSS-SECTIONAL SURVEY**

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Declaration

I, the undersigned, hereby declare that the work contained in this assignment is my original work and that I have not previously submitted it, in its entirety or in part, at any university for a degree.

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Date:.....

ABSTRACT

Introduction

Since 1994 the South African health care system has been undergoing considerable transformation as new health challenges emerges locally and globally. Limpopo and Mopani primary healthcare in particular is not an exception. The information on the reasons for encounter and diagnosis in primary care will create an opportunity to focus on proper planning for the delivery of quality health care that is relevant to the people, socially justifiable and cost effective.

The study aimed to determine the range and prevalence of reasons for encounter and diagnoses found among patients attending primary care facilities in Limpopo.

Methods

Design: A prospective cross-sectional survey

Setting: Primary health care centers, clinics and mobile clinics in Mopani district of Limpopo Province, South Africa.

Selection of facilities, primary care providers and patients: Patient encounters were obtained from twenty-nine randomly selected primary care facilities by trained primary care practitioners with data collection sheets.

Data collection: The data collection days were spread across all days of the week and across the whole period from July 2009 to March 2010.

Analysis: The international classification of primary care (ICPC-2) was used to code and analyse the data.

Results

A total of 6,666 patient encounters were recorded. Females 4598 (69%), accounted for more than two thirds of all contacts and children aged 0-4 years were the largest age group. Overall the commonest reasons for encounter were cough (13.0%), repeat family planning (8.4%) and headaches (5.7%). The commonest diagnoses were cough/upper respiratory tract infection (16.9%), hypertension (5.7%) and HIV/AIDS (2.6%). The top 20 reasons for encounter (RFE) and diagnoses are presented for all patients, men and women as well as children < 5 years.

Conclusion

Primary care nurse practitioners, clinical associates and general medical practitioners need to be competent to assess and manage the common RFE and diagnoses in order to deliver comprehensive health care at the primary level.

REASONS FOR ENCOUNTER AND DIAGNOSES IN PATIENTS SEEN IN LIMPOPO PROVINCE PRIMARY HEALTH CARE: A PROSPECTIVE CROSS-SECTIONAL SURVEY

INTRODUCTION

Since 1994 the South African health care system has been undergoing considerable transformation as new health care challenges emerge globally.¹ Limpopo province which is situated in the northern part of South Africa with a population of 5.23 million, is not an exception.² In Limpopo province, and Mopani district in particular, the primary healthcare service (PHC) is the gateway into the health care system. It consists of clinics, health centers, and mobile clinics. Problems requiring further management are referred to the district hospitals. These clinics and health centers are staffed by nurses who are currently in short supply nationally.

Despite government commitment to primary care, the health care system still labors under a quadruple burden of diseases: HIV/AIDS and tuberculosis, emerging chronic diseases, violence and trauma and maternal and child health.³

A well functioning primary health care system must balance quality, relevance, equity and cost-effectiveness.⁴ According to the World Health Organization (WHO) effective healthcare services are characterized by: adequate organization and financing; consistent service delivery, incentives that reinforce priorities, proper equipment and facilities, appropriate training and support of healthcare providers.⁵ In order to achieve this, government needs to have a clear picture of the health care needs, such as, the case-mix of diseases and conditions affecting the population especially those presenting at the primary care facilities. This information will enable a well defined and competent approach to disease management, which is needed for PHC to be effective.

Acquiring knowledge of the case mix of diseases and conditions affecting the population is key to formulating and implementing such sound management. If the provincial governments are armed with such information on the reasons for encounter and diagnosis made in primary care, this will contribute to the delivery of quality health care that is relevant to the people, socially justifiable and cost effective at the same time. As patients may present with more

than one symptom, and may have more than one diagnosis and facilities therefore need to offer comprehensive and integrated services.

Reasons for encounter (RFE) are the reason(s) why a patient enters the health care system, representing the demand for care by that person. These may be symptoms or complaints (headache or fear of cancer), known disease (diabetes), requests for preventive or diagnostic services (a blood pressure check or an ECG), a request for treatment (repeat prescription), to get test results, or administrative (a medical certificate) or patient is asked to return.⁶ The term “reason for encounter” is therefore broader than just symptoms or complaints of ill health and is more inclusive of all the possible reasons for attending primary care facilities.

Practitioners, health system managers, educators and guideline developers and policy makers ought to have such information in order to plan for health services, train competent primary care providers and develop evidence based integrated approaches to these symptoms and diagnoses.

Medical graduates and nurses who were previously trained in traditional curricula and in the context of tertiary hospitals were often unfamiliar and ill-equipped to deal with the novel and often complex complaints seen at the primary care level, where the majority of the population meets the health care system for the first time.⁷ More information on the challenges faced in primary care can therefore be used to better prepare health workers at an undergraduate level.

The members of the Family Medicine Education Consortium (FAMEC), comprising all 8 University Departments that offer family medicine, are involved in the training of doctors, at undergraduate and post graduate levels, as well as primary care nurses. They have expressed a need for a survey of reasons for encounter and diagnosis in primary care to guide the development of training programs for clinical associates, doctors and nurses.

The Knowledge Translation Unit (KTU) of the University of Cape Town Lung Institute is implementing the PALS PLUS (Practical Approach to Lung Health and HIV/AIDS in South Africa) project in public primary care facilities in the Western Cape and Free State provinces. The National Department of Health is also interested in a wider scale implementation. PALS PLUS aims to improve the quality and efficiency of primary care service delivery for adults with respiratory diseases, including Tuberculosis, HIV/AIDS and Sexually Transmitted Diseases. It combines symptoms and sign-based management

guidelines with education outreach for front line health workers. The guidelines are currently being expanded at the request of the nurses and nurse trainers, and with permission from the provincial government of the Western Cape and Free State. The guidelines developers have identified 47 common presenting symptoms and 10 chronic conditions which would merit dedicated management pages (diabetes, hypertension, and ischemic heart diseases, Asthma, COPD, Tuberculosis, HIV/AIDS, Epilepsy, Arthritis and Mental Health). The results of this study have been specifically requested by the PALSA Plus team

In developing the PALSA guidelines, knowledge of the reasons for encounter and diagnoses in public primary care facilities are very important since the guidelines are mostly syndromic. The guidelines will be better accepted and more relevant if there are inputs from various geographical locations around the country with respect to the range and prevalence of typical or common symptoms in primary care. PALSA

The knowledge of such common RFE and diagnoses will also inform planning of comprehensive patient management by facilities as well as assist district health service managers have a clearer picture of the burden of diseases for planning of human resources, infrastructure and the provision of in-service training. The planning of the essential medicines list for primary care may also benefit.

In establishing the burden of diseases presenting to primary care, the WHO approved classification is the International Classification of Primary Care (ICPC2). Before the mid 1970s, most morbidity data collected in primary care research were classified using the International Classification of Diseases (ICD) which made many symptoms and non-disease conditions in primary care difficult to code. Saddled with this challenge WONCA designed the International Classification of Health Problems in Primary Care (ICHPPC) which only partly resolved the difficulties noted with ICD as they were closely related. The ICPC, which was developed by the ICPC working party, broke new ground in the world of classification when it was first published by WONCA (World Organization of Family Doctors) in 1987. This system enabled health care providers to classify three important elements of the health care encounter: the reason for encounter (RFE), diagnoses or problems and the process of care. Linkage of encounters over time permits the classification of a disease episode from the beginning to the end, starting with the RFE, to its conclusion with a more defined problems or definitive diagnosis.⁶

The new classification system departed from the traditional format of the International Classification of Diseases (ICD) in which the axes of the chapter vary from body system to etiology and others.⁶ Instead the ICPC chapters are all based on body systems following the principle that localization has precedence over etiology. The components that are part of each chapter permit considerable specificity for all three elements of the encounter, yet their symmetrical structure and frequently uniform numbering across all chapters facilitate usage even in manual recording systems. The rational and comprehensive structure of the ICPC is a compelling reason to consider the classification as a model for future international classifications.⁶ It has gradually gained ground and is now used extensively in some parts of the world, mostly in Europe and Australia, but also in China and Norway. It was revised in 1998, referred as ICPC-2. ICPC-2-E refers to its electronic version in 2000.

It is based on a simple bi-axial structure: 17 chapters based on body systems on one axis, each with an alpha code, and seven identical components with rubrics bearing a two-digit numeric code as the second axis.⁶

In Africa ICPC has not been widely used. One study from West Africa used ICPC-2 to define patterns of illness in a practice based research network in an urban region. The study was done by doctors in a practice-setting that is different from the setting in South Africa.¹² Another published study from Tunisia in North Africa used the ICPC to illustrate the patterns of morbidity in general practice. The study was limited to a province and it did not take into account prevention activities such as; immunization, antenatal and family planning. The data was also collected 8 years prior to publication.¹⁷

There is a shortage of published data on the reasons for encounter and diagnoses in South African primary care. One recently published study done in the Eastern Cape described the spectrum of clinical problems encountered at a new health center in an area of high economic deprivation and compared this with an adjacent community clinic and district hospital.⁸ This study however is limited to the Eastern Cape and presents data which was collected 10-years previously.

Other studies in Gauteng (unpublished) and three others in Cape Town are outdated (more than 16 years now), and also focused on large urban areas such as Gauteng or Cape Town, on only one or two facilities or only on doctors.^{9, 10, 24,25.}

Other studies have explored the burden of diseases in South Africa based on mortality register data and extrapolation from other studies. Although this work has been instrumental in defining the challenges facing the health care system. It doesn't shed light on how these diseases present at the primary care level and how primary care providers should be best trained to assess and diagnose them.^{3, 11}

Of all the studies that were done in South Africa none were performed in Limpopo province.

AIM AND OBJECTIVES

To determine the range and prevalence of reasons for encounter and diagnoses found among patients attending public primary care facilities in Limpopo.

Primary objectives

- To enumerate all reasons for encounter in patients seen at primary level facilities over the period of the study.
- To enumerate provider-reported diagnoses of patients seen at primary care level facilities.

METHOD

Study design

The study was a prospective cross-sectional survey performed in Mopani district of Limpopo province. Mopani district was selected for practical reasons as the researcher had easy access to this district.

Setting

Mopani is one of the six districts of Limpopo with a population of 1,07million with a male: female ratio of 1:1.2. It is made up of five sub-districts out of which Greater Giyani was purposively not included for practical reasons, while the other four were further stratified into urban and rural sub-districts. Sub-districts that had a population greater than two hundred thousand (indicating a large town or urban center) were regarded as urban and those that were less were regarded as rural. Therefore Greater Tzaneen and Greater Letaba were urban while Ba-phalaborwa and Maruleng sub-districts were rural.

Sample size

The biostatistics unit at the Medical Research Council recommended a sample size of 6000 encounters for the province.

Selection of facilities, primary care providers and patients

A list of all 97 health centers, fixed clinics, and mobile clinics in all four sub-districts was made and twenty-nine (29) primary care facilities randomly selected by a statistician. The selection was weighted in terms of the relative populations of the sub-districts and the number of staff likely to collect data (health centre, clinic or mobile) and on the assumption that each facility would collect data on 5-days spread over the year.

Clinical Nurse practitioners were recruited from each facility. Practitioners needed to be willing and motivated to join in the project as well as available over the period of the study. They needed to be seeing general ambulatory patients and not involved in a specialized service. Emergency patients attending dedicated trauma or emergency units and those practitioners who were unwilling were excluded from the study.

Data collection

Clinical Nurse practitioners were trained to collect data by the use of a data collection sheet with spaces for recording age, sex, reasons for encounter and diagnosis-, a maximum of five RFE and diagnoses was allowed.

All patients seen at the facility by those practitioners selected from 07hr00 to 19hr00 or by the close of the clinic excluding those needing emergency/trauma care were recorded in the data collection sheets. Data was collected on a specified day every 2 months to allow for

seasonality and on a different day of the week each time accounting for any day-to-day variation. Data was collected for a 9 month period between July 2009 and March 2010.

Data analysis

The information entered into the data sheets were coded using the ICPC-2 system by the researcher and then captured in an excel spreadsheet. The researcher was trained in ICPC coding at a workshop held at Stellenbosch University and supported during the coding process by the supervisor and other students involved with similar projects in other Provinces. The data was then analyzed by the Centre for Statistical Consultation at Stellenbosch University for simple frequencies in the RFE and diagnoses. These were further analyzed according to sex and age.

Ethical Considerations

Ethical approval for the study was obtained from the Human Research Ethics Committee of the Faculty of Health Sciences, Stellenbosch University and the Ethics Committee of the Limpopo Provincial Department of Health. Permission was also obtained from the district and facility managers as well as consent from the participating nursing staff. In order to protect patient confidentiality no identifying information were collected nor reported in the findings. As such permission from patients was not obtained.

RESULTS

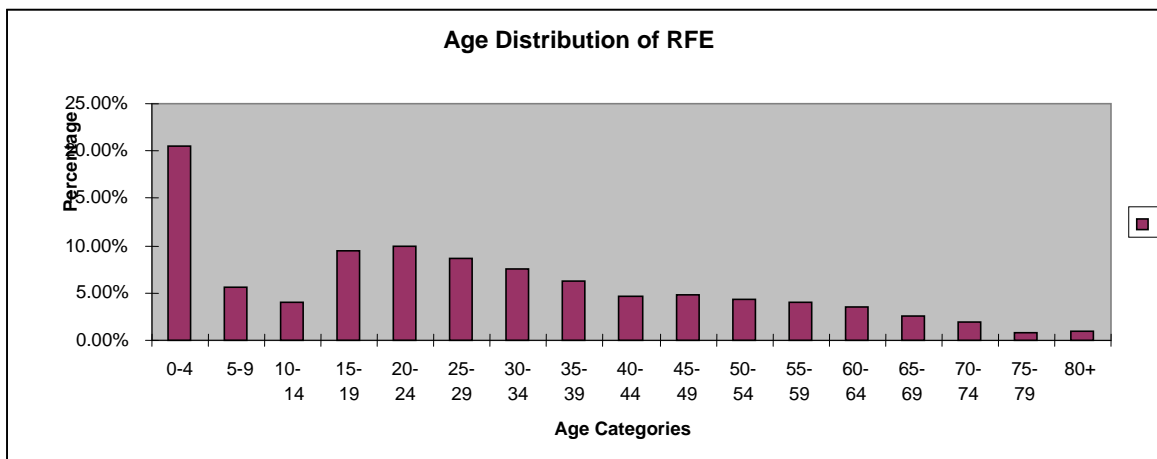
A total of 6,666 patient encounters were recorded and 2069 (31.0%) were male and 4598 (69.0%) were females with a male/female ratio of 1:2.2.

The highest frequency of reasons for encounter were in children aged 0-9 years (26.2%) and young people (10-24years) 23.5%, followed by 25-39year olds (22.5%), with the lowest category being the older patients(60 years and older) 9.7%. See Table I and Figure1.

TABLE I: AGE DISTRIBUTION OF RFE

Order	Age	Frequency	Percentage
1	0-4	2247	20.5
2	5-9	622	5.7
3	10-14	472	4.0
4	15-19	1041	9.5
5	20-24	1103	10.0
6	25-29	956	8.7
7	30-34	829	7.6
8	35-39	689	6.3
9	40-44	511	4.7
10	45-49	524	4.8
11	50-54	483	4.4
12	55-59	439	4.0
13	60-64	386	3.5
14	65-69	274	2.5
15	70-74	220	2.0
16	75-79	89	0.8
17	80+	95	0.9

Figure 1: Age distribution of RFE



Most Common RFE and Diagnoses

There were 10,993 RFEs (1.6 on average per encounter) and 7795 diagnoses (1.2 on average per encounter). In 51.1% of the patients one reason for encounter was identified while 85.7% of patients had one diagnosis. There was a descending pattern of the number of patients with increasing number of RFE and diagnoses. (See Table II).

TABLE II: NUMBER OF RFE AND DIAGNOSES FOR EACH ENCOUNTER

Number per encounter	RFE N=6666	Percentage	Diagnoses N=6666	Percentage
1	3406	51.1	5711	85.7
2	2420	36.3	811	12.1
3	660	9.9	131	2.0
4	150	2.2	12	0.2
5	30	0.5	1	0.1

Table III shows how the RFE and diagnoses were distributed across the different chapters (body systems) in the ICPC. The twenty commonest RFEs and diagnoses are shown in Table IV. The top twenty RFEs and diagnoses in children<5years are shown in Table V and the twenty commonest diagnoses among males and females are in Table VI.

The commonest RFE was cough (1426-13.0%), followed by request for family planning (933-8.4%), headaches (623-5.7%) and immunization (508-4.6%). The commonest diagnoses were family planning (861-11.0%), cough/upper respiratory tract infection (16.9%), health maintenance (486-6.2%) and uncomplicated hypertension (442-5.7%).

Among the < 5year olds, immunization (479-21.0%), cough (383-17%), fever (173-7.7), diarrhea (107-4.8%) and vomiting (64-2.8%) were the commonest RFE and the commonest diagnoses were health maintenance (459-31.8%), upper respiratory tract infection (186-12.9%), gastro-enteritis (44-3.1%) and pneumonia (33-3.3%). Less common RFE included earache, skin symptoms, eye symptoms and throat symptoms.

Chronic diseases; hypertension (210-30.1%) and diabetes (57-8.2%) accounted for more of the RFE amongst patients >60 years.

With regards to diagnostic differences between males and females the commonest diagnoses in males were upper respiratory tract infections (260-10.5%), cough, health maintenance/prevention (244-9.8%), uncomplicated hypertension (96-3.9%), tuberculosis (74-3.0%) and HIV/AIDS (65-2.6%). In women family planning was the most common diagnosis, followed by cough (408-7.7%), upper respiratory tract infection (397-7.5%), uncomplicated hypertension (344-6.5%), pregnancy (291-5.5%) with HIV/AIDS ranked seventh.

The diagnosis of malaria was not in the top 20 and accounted for 0.3% of all diagnoses.

TABLE III: REASONS FOR ENCOUNTER AND DIAGNOSES USING THE SYSTEM
CODES all ages

Order	RFE N= 10993	%	Diagnoses N=7795	%
1	R Respiratory	18.9	R Respiratory	22.5
2	A General	18.7	A General	18.9
3	W Pregnancy, Childbirth & Family planning	13.7	W Pregnancy, Childbirth & Family planning	17.4
4	D Digestive	9.3	D Digestive	8.7
5	K Cardiovascular	7.1	K Cardiovascular	6.5
6	N Neurological	6.9	L Musculoskeletal	5.6
7	L Musculoskeletal	6.2	S Skin	4.7
8	F Female genitals	3.9	N Neurological	3.1
9	S Skin	3.8	B Blood	2.8
10	T Endocrine and Metabolic	3.2	X Female genitals	2.4
11	F Eye	1.9	T Endocrine and Metabolic	2.3

12	U Urological	1.9	F Eye	1.5
13	B Blood	1.9	H Ear	1.4
14	H Ear	1.2	U Urological	1.2
15	Y Male genitals	0.8	P Psychological	1.2
16	P Psychological	0.8	Y Male genitals	0.4
17	Z Social Problems	0.2	Z Social Problems	0.2

TABLE IV: THE TOP 20 RFE AND DIAGNOSES ACCORDING TO ICPC all ages

Order	ICPC RFE N=10993	%	ICPC Diagnoses N= 7795	%
1	R05 Cough	13.0	W14 Contraception	11.1
2	W50 Family planning renewal	8.4	R05 Cough	8.5
3	N01 Headache	5.7	R74 URTI	8.4
4	A44 Immunization	4.6	A98 Health Maintenance	6.2
5	A64 Encounter initiated by provider	4.3	K86 Uncomplicated Hypertension	5.7
6	K50 Renewal of treatment (CVS)	3.6	W78 Pregnancy	3.8
7	A03 Fever	3.1	B90 HIV-infection/AIDS	2.6
8	W64 Pregnancy, Childbearing encounter initiated by Provider	2.7	A01 General Pain/Multiple sites	2.5
9	K31 Partial Exam	2.7	A78 Sexually transmitted infections / Infectious disease other	2.4
10	A01 General Pain/ multiple sites	2.7	N01 Headache	1.9
11	D11 Diarrhoea	2.5	A70 Tuberculosis	1.9
12	D01 Abdominal pain/cramps general	2.3	D11 Diarrhea	1.9
13	R21 Throat symptom/complain	1.8	R76 Acute Tonsillitis	1.6
14	T03 Loss of appetite	1.4	T90 Diabetes Type 2	1.6
15	D10 Vomiting	1.4	A92 Allergy/Allergic reaction	1.6
16	U01 Dysuria/painful micturition	1.4	D73 Presumed Gastroenteritis	1.5
17	R07 Sneezing/nasal congestion	1.3	W90 Uncomplicated Labour	1.2
18	W31 Partial exam. Preg, Delivery	1.1	D01 Abdominal pain/cramps	1.1
19	L02 Back symptoms	1.1	A03 Fever	1.1
20	A11 Chest pain	1.0	R96 Asthma	0.9

TABLE V: THE TOP 20 RFE AND DIAGNOSES IN CHILDREN <5 years

Order	RFE N= 2247	%	Diagnoses N=1442	%
1	Preventive Immunization/Medication(A44)	21.3	Health maintenance / prevention (A98)	31.8
2	Encounter initiated by provider(A64)	19.1	URTI (R74)	12.9
3	Cough(R05)	17.0	Cough (R05)	12.7
4	Fever(A03)	7.7	Diarrhoea(D11)	4.4
5	Diarrhoea(D11)	4.8	Gastroenteritis (D73)	3.1
6	Vomiting(D10)	2.8	Fever (A03)	2.7
7	Loss of appetite(T03)	2.3	Pneumonia (R81)	2.3
8	Sneezing/Nasal congestion(R07)	1.6	Allergy/Allergic reaction (A92)	2.1
9	Abdominal pain/Cramps(D01)	1.4	No disease (A97)	2.1
10	Growth monitoring (A45)	1.3	HIV infection/AIDS (B90)	1.9
11	Nose symptom/complaint other(R08)	1.0	Mouth/Tongue/Lip disease (D83)	1.7
12	Mouth/tongue/lip symptom/complaint(D20)	0.8	Impetigo (S84)	1.0
13	Rash Localised(S06)	0.8	Abdominal pain/Cramps general(D01)	1.0
14	Rash generalised(S07)	0.8	Vomiting(D10)	0.8
15	Ear pain/Earache(H01)	0.7	Acute otitis media/Myringitis (H71)	0.8
16	Skin symptom/complaint Other(S29)	0.7	Tonsillitis acute (R76)	0.8
17	Eye discharge(F03)	0.6	Dermatophytosis (S74)	0.8
18	Throat symptom/Complaint(R21)	0.6	Worms/Other parasites (D96)	0.7
19	Eye pain(F01)	0.5	Boil/Carbuncle (S10)	0.7
20	Breathing problems(R04)	0.5	Tuberculosis(A70)	0.5

TABLE VI: THE TOP 20 DIAGNOSES AMONG MALES AND FEMALES all ages

Order	Male N= 2480	%	Females N=5315	%
1	R74 URTI	10.5	W14 Contraception, Others	16.2
2	R05 Cough	10.2	R05 Cough	7.7
3	A98 Health Maintenance	9.8	R74 URTI	7.5
4	K86 Hypertension	3.9	K86 Hypertension	6.5
5	A70 Tuberculosis	3.0	W78 Pregnancy	5.5
6	B90 HIV-infection/AIDS	2.6	A98 Health Maintenance	4.5
7	A78 Sexually transmitted infections / Infectious disease other	2.5	B90 HIV-infection/AIDS	2.5
8	D11 Diarrhoea	2.4	A01 General Pain	2.5
9	A01 General Pain	2.3	A78 Sexually transmitted infections / Infectious disease other	2.4
10	N01 Headache	2.2	N01 Headache	1.8
11	D73 Gastroenteritis	2.1	D11 Diarrhea	1.7
12	T90 Diabetes Type 2	1.9	R76 Acute Tonsillitis	1.7
13	A92 Allergy/Allergic reaction	1.7	W90 Uncomplicated Labour/Delivery	1.6
14	D01 Abdominal pain/cramps	1.6	A92 Allergy/Allergic reaction	1.5
15	R76 Acute Tonsillitis	1.5	A70 Tuberculosis	1.4
16	R81 Pneumonia	1.5	T90 Diabetes Type 2	1.4
17	A03 Fever	1.5	W11 Contraception Oral	1.3
18	S74 Dermatophytosis	1.2	D73 Gastroenteritis	1.2
19	A80 Trauma/injury	1.2	A03 Fever	0.5
20	N88 Epilepsy	1.1	D01 Abdominal pain/cramps general	0.5

DISCUSSION

Main findings of this study

This survey looked at the RFE and diagnoses in primary care in Limpopo province particularly in Mopani district using ICPC 2. It was the first of its kind in the province. The survey identified the high attendance of females compared to males and of children less than 5 years.

The importance of non-communicable chronic diseases, even in this relatively rural province, is clearly demonstrated as hypertension, diabetes and asthma all appear in the top 20 diagnoses. Not surprisingly HIV/AIDs and TB were included in the top 20 diagnoses and maternal and child health was strongly represented in demands for family planning, immunizations, pregnancy-related care and acute illness.

Other important areas that must be mentioned are eyes, ENT, and dermatology diseases which clearly featured in the top 20 RFEs and diagnoses especially in child <5 years. Trauma was among the less common diagnoses among males and was not in the top twenty diagnoses in female.

ICPC 2 was noted to be practical and useable in the primary care.

Comparison to the literature

More than half of all contacts were women and this female predominance is widely reported in studies in both developed and developing countries.^{8, 12, 13-17} Their high attendance may be attributed to a demand for birth control and pregnancy advice.⁸ In addition, there higher population in Mopani may account for there higher attendance of primary care facilities than men or may be they are more able to manage the long waiting time at the primary care facilities.^{13, 14} The high patronage of primary care by women for pregnancy, childbearing and family planning was also reported in other studies.^{12, 13}

The commonest diagnoses in males and females were found to be similar to the findings in Gauteng. Asthma, diabetes, hypertension clearly featured strongly as non-communicable diseases.¹⁶

Age distribution showed children aged 0-4 years (20.5%) formed the biggest group attending PHC services and the main RFEs corroborated the findings of other studies in Gauteng¹⁶, Mthatha⁸ and West Africa.¹²

Although only 9.7% of RFEs were from the older adults (>60years) this was aligned with the population profile for Mopani in which 8.6% of the population are >60years.

This suggests access is relatively good for the older group and may even be better than primary care attendance in other countries.^{12,13}

The commonest RFE and diagnoses were from the respiratory system and this corroborates findings in similar studies in Soweto¹⁶, Mthatha⁸, Tunisia¹⁷ and other countries in Asia^{13,14,15} In Seychelles however, which is also in the African continent, hypertension was the commonest illness.¹⁸

In this study, upper respiratory tract infection, pneumonia, and tuberculosis were among the twenty top diagnoses. The 1.9% of contacts with a confirmed diagnosis of tuberculosis is lower than expected, but may be because many patients with cough were not yet fully investigated and those on treatment may be attending dedicated TB clinics. Similar findings were reported in Soweto¹⁶ and Mthatha.⁸

Malaria accounted for 0.3% of all contacts and was not in the top 20 diagnosis. This was also lower than expected and may reflect the seasonal nature of malaria as well as under diagnosis. Mopani district ranks second in Limpopo province in terms of malaria endemicity.²⁰

HIV/AIDS (2.6%) ranked seventh in the order of the twenty commonest diagnoses which is similar to studies in Gauteng and Mthatha. This clearly demonstrates the importance of HIV with a prevalence rate of 18.8% in the region among the 15-49 year olds.²¹ Very closely ranked with HIV is sexually transmitted diseases which is also common and similar among males and females. Many other diagnoses may also be HIV –related such as cough, tuberculosis, gastroenteritis and fever.

However the focus on HIV clearly also needs to be balanced with attention to chronic diseases (eg.hypertension, diabetes), maternal activities (e.g. pregnancy, child bearing), acute illness (e.g.URTI), health maintenance and preventative activities (e.g. family planning)

The least common RFE and diagnoses in the study were psychological (1.2%), and social problems (0.2%) in descending order. That these did not emerge either as common RFE or diagnosis was also shown in other studies.^{8, 12, 13-17} Also surveys on psychiatric morbidity worldwide have shown that psychological problems, which accounted for a third of all general practice consultations were often missed by general practitioners. Patients often somatize their illness and express non-specific complaints which would be classified under other organic ICPC chapters and rubrics.¹³

Trauma was the least common among the top twenty diagnoses in male and was not found in the top twenty common diagnosis in female patients and children (<5years).

This is probably the case because most cases of trauma from road traffic accidents and assaults are referred or are directly transported by the emergency medical services to the hospital. They were excluded from this study.

Strengths and limitation of the study design and methods

One of the strengths of this survey was the large sample size and the fact that the survey also covered all the seasons of the year. However, the study did not make use of doctors as most primary care facilities were only visited by doctors on dedicated days or on an ad hoc basis. Also the survey did not include contacts from private primary care. Although there were more RFE than diagnoses, which was also reported in another study, this analysis did not look at the relationship between RFE and diagnoses.¹⁴ Patients who are non-emergency who are seen in casualty during after hours in the hospital were not included in this study.

Implications for future researchers, educators, health managers, policy makers

Primary care providers need to be fully competent in assessing patients who present with the most common symptoms: cough, headaches, fever, general body pains, diarrhea and vomiting, abdominal pain, sore throat, rhinitis, anorexia, dysuria, chest pain and back pain. The learning outcomes and training curricula for clinical associates, primary care nurses, doctors and family physicians should ensure that they adequately prepare students for the diagnostic reasoning that these presentations require.

Chronic diseases place a heavy burden of care on the health services and the chronic care model needs to be implemented more widely in terms of training and health systems. Issues

such as continuity of care and information, task sharing and substitution, effective health education and empowerment of self-care, quality improvement audits and clinical guidelines need to be addressed.²² Primary care providers should be experts in managing the common chronic disorders such as asthma, hypertension and diabetes. HIV/AIDS can also be included as a chronic disease.

Pregnancy related care and problems also form a significant part of the picture and in view of the poor maternal and child health indicators in South Africa²³ training of primary care providers should ensure a high level of competency in this area.

Health maintenance and preventative activities should not be forgotten as key reasons for encounter and important interventions. This survey highlights the need to be up to date and competent in offering immunizations and family planning services.

Other areas that featured in the study that needs more attention in training of doctors, family physicians include eye, ear, nose and throat, and dermatology.

There may be the need to do another survey which includes non-urgent problems seen in hospital emergency departments during after hours.

In order to keep up with the reasons for encounter and diagnosis in the different districts primary care there is need to do regular surveys of such nature.

CONCLUSION

With this survey we were able to identify the main RFE and diagnoses in primary care in Mopani. This information can be used to plan the training of primary care providers and for policy makers to ensure that services are well equipped and resourced appropriately to respond to the health seeking behavior of the community. Psychological, social and trauma related diagnoses were under-represented in the survey suggesting that they are often missed or that training may be inadequate for the diagnosis and management of such common problems in primary care. ICPC-2 was shown to be a practical and useful tool for coding South African primary care. There may be the need to do another survey which includes non-urgent problems seen in hospital emergency departments during after hours.

In order to keep up with the reasons for encounter and diagnosis in the different districts primary care there is need to do regular surveys of such nature.

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Appendix

DATA CAPTURE SHEET

SYMPTOMS AND DIAGNOSES SURVEY

Captured by (*please tick*): A Doctor

A Nurse

Name of facility _____

Date _____

Patient	Age	Sex	Reasons for encounter(max 5)	Diagnosis(es) (maximum 5)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

ELECTRONIC CODING SHEET (Microsoft Excel)

Facility	Patient	Age	Sex	Reason for encounter	CODE	Diagnosis	CODE
X	1						
X	2						
X	3						
X	4						
X	5						
Y	6						
Y	7						
Y	8						
Y	9						
Y	10						

