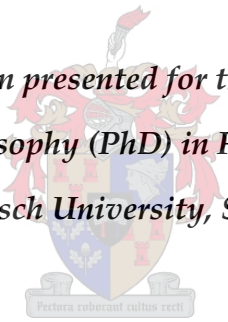
An evaluation of the quality of service delivery in private primary care facilities in Nairobi, Kenya.

By Gulnaz Mohamoud



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DECLARATION

By submitting this dissertation electronically, I declare that the entirety of the work contained therein is my own original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

The dissertation includes 2 original papers published in peer reviewed journals. Three unpublished papers are also included for submission for publication.

The development and writing of the papers (published and unpublished) were my principal responsibility. My supervisor is listed as the second author on all the articles.

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ABSTRACT

Introduction

The World Health Organization (WHO) states that well-functioning primary health care (PHC) should be the foundation of effective health systems. Primary care (PC) is a subset of PHC, and is a "key process in the health system that supports first-contact, accessible, continued, comprehensive and coordinated patient-focused care."

In sub-Saharan Africa (SSA), health systems still face many challenges and PC remains poorly functioning in many countries. Measuring the quality of PC service delivery and identifying the strengths and weaknesses will help policy makers and implementers improve PC and achieve better health outcomes.

Kenya's Health Policy 2012-2030 aims to promote higher quality and better access to services, however, "quality" remains a major challenge. The private health care system provides 52% of all health care services and may have a bigger role to play in the future. In Kenya, most of the PC in the private sector is provided by general practitioners (GPs), the majority of whom do not have specialist postgraduate training. Due to diversity and fragmentation of the private PC system, there is little data on the strengths and weaknesses of key elements of PC service delivery. Hence, the new knowledge from our study is aimed at kick-starting future evaluations leading to a long term improvement in quality in service delivery in line with the existing and new health needs that are anticipated over the next few decades.

The main aim of this study was to evaluate the quality of service delivery in PC facilities by GPs in the private sector in Nairobi, Kenya. Five studies were performed to measure the key elements of quality PC: first-contact access, coordination, continuity,

comprehensiveness and person-centredness. The abstracts for the five articles are provided below.

Article 1: Perceptions regarding the scope of practice of family doctors amongst patients in primary care settings in Nairobi.

Background

Primary care is the foundation of the Kenyan health care system, providing comprehensive care, health promotion and managing all illnesses across the lifecycle. In the private sector in Nairobi, PC is principally offered by general practitioners. Little is known about how patients perceive their capability. The aim was to assess patients' perceptions of the scope of practice of GPs working in private sector PC clinics in Nairobi and their awareness of the new discipline of family medicine.

Methods

A descriptive survey using a structured, self-administered questionnaire in eight private sector PC clinics in Nairobi. Simple random sampling was used to recruit 162 patient participants.

Results

Of the participants, only 30% knew the difference between FPs and GPs. There was a high to moderate confidence (≥60%) that GPs could treat common illnesses, provide lifestyle advice, offer family planning and childhood immunisations. In adolescents and adults, low confidence (<60%) was expressed in their ability to manage tuberculosis, human immunodeficiency virus and cancer. In the elderly, there was low confidence in their ability to manage depression, anxiety, urinary incontinence and diabetes. There was low confidence in their ability to provide antenatal care and pap smears.

Conclusion

Patients did not perceive that GPs could offer fully comprehensive PC services. These perceptions may be addressed by defining the expected package of care, designing a system that encourages the utilisation of PC and employing family physicians.

Article 2: Evaluation of the quality of service delivery in private sector, primary care clinics in Kenya.

Background

The quality of PC service delivery is an important determinant of clinical outcomes. The patients' perspective is one significant predictor of this quality. Little is known of the quality of such service delivery in the private sector in Kenya. The aim of the study was to evaluate the quality of service delivery from the patient's perspective in private sector, PC clinics in Nairobi, Kenya.

Methods

The study employed a descriptive cross-sectional survey by using the General Practice Assessment Questionnaire in 378 randomly selected patients from 13 PC clinics. Data were analysed using the Statistical Package for Social Sciences.

Results

Overall, 76% were below 45 years, 74% employed and 73% without chronic diseases. Majority (97%) were happy to see the general practitioner (GP) again, 99% were satisfied with their consultation and 83% likely to recommend the GP to others. Participants found the receptionist helpful (97%) and the majority were happy with the opening hours (73%) and waiting times (85%). Although 84% thought appointments were important, only 48% felt this was easy to make, and only 44% were able to access a

particular GP on the same day. Overall satisfaction was higher in employed (98%) versus those unemployed (95%), studying (93%) or retired (94%) ($p < 0.001$).

Conclusion

Patients reported high satisfaction with the quality of service delivery. Utilisation was skewed towards younger, employed adults, without chronic conditions, suggesting that PC was not fully comprehensive. Services were easily accessible, although with little expectation of relational continuity. Further studies should continue to evaluate the quality of service delivery from other perspectives and tools.

Article 3: Evaluation of the quality of communication in consultations by general practitioners in primary care settings, Nairobi, Kenya.

Background

Primary care is the starting point for patients seeking health care. High quality PC requires effective communication to support person-centredness, continuity and coordination of care, and better health outcomes. In Kenya, there is very scanty knowledge about the quality of communication in consultations by GPs in the private sector. Hence, the aim was to evaluate the quality of communication in consultations by GPs.

Methods

Descriptive, observational cross-sectional study of 23 GPs consultations in 13 primary care facilities in Nairobi. One consenting adult patient was randomly selected from the GP's list for an audio recording of their consultation. Audio recordings were assessed using the Stellenbosch University Observation Tool. The overall score for each consultation was obtained out of a maximum of 32. Data was analysed using the Statistical Package for Social Sciences version 25.

Results

The median age of the GPs was 30.0 years (IQR: 29-32) with a median of 3-years' experience after graduation (IQR=3-6). Median consultation time was 7.0 minutes (IQR=3-9). Median score of the consultations was 64.3% (IQR: 48.4-75.7). The GPs fully performed skills in gathering information, making a diagnosis and in its explanation and management. The GPs did not make an appropriate introduction, nor explore the family and social context or patient's perspective. Patients were not fully involved in the shared decision making process. Safety netting and closure was not fully addressed. There was a significant positive correlation between the consultation scores and duration of the consultations (r=0.680, p=0.001).

Conclusion

Consultations were brief, with low-to-moderate complexity and had a biomedical approach. Training in communication skills with the goal of providing person-centred care will result in higher quality consultations and PC.

Article 4: The quality of primary care performance in private sector facilities in Nairobi, Kenya.

Background

Integrated health services with an emphasis on PC are needed for effective primary health care and achievement of universal health coverage. The key elements of high quality PC are first-contact access, continuity, comprehensiveness, coordination, and person-centredness. In Kenya, there is little information on these key elements and such information is needed to improve service delivery. This study aimed to evaluate the quality of PC performance in a group of private sector clinics in Nairobi, Kenya.

Methods

A cross-sectional descriptive study adapted the Primary Care Assessment Tool (PCAT) for the Kenyan context and surveyed 412 systematically sampled PC users, from 13 PC clinics. Data was analysed to measure 11 domains of PC performance and two aggregated PC scores using the Statistical Package for Social Sciences.

Results

Mean primary care score was 2.64 (SD=0.23) and the mean expanded primary care score was 2.68 (SD=0.19), implying poor overall performance. The domains of first contact-utilisation, coordination (information system), family-centredness and cultural competence had mean scores of ≥3.0 (acceptable to good performance). The domains of first contact (access), coordination, comprehensiveness (provided and available), ongoing care and community-orientation had mean scores of < 3.0 (poor performance). Older respondents (p=0.05) and those with higher affiliation to the clinics (p=0.01) were more likely to rate PC as acceptable to good.

Conclusion

These private sector clinics in Nairobi had a poor overall performance. Performance could be improved by deploying family physicians, increasing the scope of practice to become more comprehensive, improving access after-hours and marketing the use of the clinics to the practice population.

Article 5: General practitioners' training and experience in the clinical skills required for comprehensive primary care, Nairobi, Kenya.

Background

Quality service delivery in primary care requires availability of motivated and competent health professionals. There is a paucity of evidence on the ability of PC providers to deliver comprehensive care and no such evidence is available for GPs practising in the private sector in Kenya. Therefore, the aim was to evaluate the GPs' training and experience in the clinical skills required for comprehensive primary care.

Methods

This was a cross-sectional descriptive survey using an adapted questionnaire, originally designed for a national survey of PC doctors in South Africa. The study evaluated self-reported clinical skills performance of all 25 GPs at the 13 PC clinics in Nairobi.

Results

GPs were mostly under 40 years with less than 10 years of experience with an almost equal gender distribution. Categories with moderate performance included adult health, emergencies, communication and consultation, child health and clinical administration skills. Whilst, weak performance included surgery, ear-nose-and-throat, eyes, women's health and orthopaedics. The GPs lacked training in specific skills related to proctoscopy, contraceptive devices, skin procedures, intra-articular injections, red reflex test and use of a genogram.

Conclusion

Majority of the GPs were young with few years of clinical experience after graduation. GPs lacked training and performed poorly in some of the essential and basic skills required in PC. The gaps highlighted the need for training and broadening the model of

care to offer a more comprehensive package. Training in family medicine can also be offered, which aims to deliver an expert generalist and attention should be given to health systems design and the necessary inputs required to support more comprehensive care.

Final conclusions

The patients visiting these private clinics consisted mostly of young to middle-aged adults, who were well-educated and employed. Most of the patients did not have any chronic conditions and reported their health status as good to excellent.

Overall ratings showed high satisfaction in relation to first-contact utilisation, services by the receptionists, the regular opening hours of the clinics and short waiting times. Even though patients expressed the desire to book appointments via the phone, access to this service was limited. Access to a particular GP by phone or for emergency consultations was also limited.

Utilisation and long-term affiliation with the practice was reported as good, suggesting reasonable longitudinal continuity. Patients expressed high satisfaction with care enablement and had confidence in the GPs' honesty and trustworthiness. Informational continuity was also strong, although relational continuity less so, as patients did not express a commitment to any particular GP.

Patients had limited expectations of the comprehensiveness of services offered by the GPs. Patients also reported low confidence in the GPs' ability to manage and provide care for many core aspects of PC. The clinics were not comprehensive in the range of services available and provided. The gaps were evident in areas such as chronic conditions, antenatal care, advice for lifestyle modifications, women's and men's health screening. The facilities did not offer a complete primary health care team such as access to a social worker, physiotherapist, counsellor or dietician. There was poor performance by the GPs in some of the essential and basic skills required to offer a more

comprehensive package of care in areas such as women's health, ear, nose and throat, ophthalmology and orthopaedics.

The information system supported care coordination and was excellent due to an integrated electronic health record system and contributed to patient satisfaction.

GPs conducted brief consultations of low-moderate complexity and showed a substantial commitment to parallel coordination of care within the clinic. However, the quality of sequential coordination was reported as borderline and patients were rarely referred to the hospital.

Patients felt confident in and satisfied with brief bio-medical consultations. GPs were able to obtain sufficient biomedical information, make an appropriate diagnosis, as well as formulate and explain an appropriate management plan. However, there were gaps in the provision of whole-person medicine related to the patient's perspectives and context, exploration of patient's psychosocial and occupational history, shared decision making process, provision of safety netting and closure. Patients, however, felt that GPs were sufficiently family-centred and culturally competent.

The combined observations of all these studies confirm that this private health care system is not offering fully accessible, continuous, coordinated, comprehensive and person-centred primary care. A number of recommendations are made to improve the quality of PC.

OPSOMMING

ABSTRAK

Inleiding

Volgens die Wêreldgesondheidsorganisasie (WGO) moet ‘n goei funksionerende primere gesondheidsorg (PGS), die fondament wees van effektiewe gesondheidstelsels. Primêre sorg (PS) is ' n deelversameling van PGS, en is 'n “sleutelproses in die gesondheidstelsel wat eerste-kontak, toeganklike, voortgesette, omvattende en gekoördineerde pasiëntgerigte sorg ondersteun”.

In sub-Saharan-Afrika (SSA), ervaar gesondheidstelsels nog baie uitdagings, en primêre sorg bly swak gefunksionerend in baie lande. Die maatstaf van gehalte primêre sorgdienslewering en die bepaling van die sterk en swak punte sal beleidmakers en implementeerders help om primêre sorg te verbeter en beter gesondheidsresultate te behaal.

Kenya se Gesonheids Beleid 2012-2030 beoog vir hoër gehalte en beter toegang tot dienste, alhoewel, " kwaliteit " bly 'n "groot uitdaging". Die private gesondheidsorg stelsel bied 52 % van alle gesondheidsorgdiens aan, en kan 'n groter rol in die toekoms speel. In Kenya, is die meeste van die Primere Sorg in die private sektor deur algemene praktisyns (AP) verskaf, die meerderheid het nie spesialis nagraadse opleiding nie. As gevolg van verskeidenheid en verswakking van die private PS stelsel, is daar min data oor die sterk- en swakpunte van sleutelelemente van PS dienslewering

Die hoof doel van hierdie studie was om die gehalte van dienslewering in PS fasiliteite deur AP in die private sektor in Nairobi, Kenya te evalueer. Vyf studies is uitgevoer om die sleutelelemente van kwaliteit PS te meet: toegang tot eerste kontak, koördinasie,

kontinuïteit, omvattendheid en persoonsgerigtheid. Die abstrakte vir die vyf artikels word hieronder gegee.

Artikel 1: Persepsies rakende die praktyk van APs onder pasiënte in primêre sorginstellings in Nairobi.

Agtergrond

Primêre sorg is die grondslag van die Keniaanse gesondheidsorgstelsel, wat omvattende sorg bied, gesondheidsbevordering en die bestuur van alle siektes gedurende die lewensiklus. In die private sektor in Nairobi word PS hoofsaaklik deur algemene praktisyns aangebied. Daar is min bekend oor hoe pasiënte hul vermoë ervaar nie. Die doel was om die persepsie van pasiënte oor die praktyk van praktisyns wat in privaat sektore in Nairobi werk, te beoordeel en hul bewustheid van die nuwe dissipline van huisartskunde.

Metodes

A beskrywende opname met behulp van 'n gestruktureerde, self toegediende vraelys in agt private sektor PS klinieke in Nairobi. Eenvoudige steekproefneming is gebruik om 162 pasiëntdeelnemers te werf.

Uitslae

Van die deelnemers het slegs 30% geweet wat die verskil was tussen FP's en AP 's. Daar was 'n hoë tot matige vertroue ($\geq$60%) dat APs algemene siektes kan behandel, lewenstyl advise kan aanbied, gesinsbeplanning en kinderjare inentings aanbied. By adolessente en volwassenes is lae selfvertroue (<60%) uitgedruk in hul vermoë om tuberkulose, menslike immuniteitsgebreksvirus en kanker te hanteer. By bejaardes was daar min vertroue in hul vermoë om depressie, angs, urinêre inkontinensie en suikersiekte te kan hanteer. Daar was 'n lae vertroue in hul vermoë om voorgeboortesorg en papsmere te voorsien.

Gevolgtrekking

Pasiënte het nie besef dat APs volledig omvattende PS dienste kon aanbied nie. Hierdie persepsies kan aangespreek word deur die verwagte pakket van sorg te definieer, 'n stelsel te ontwerp wat die gebruik van PS aanmoedig en ‘n familie geneesheer in diens te neem.

Artikel 2: Evaluering van die gehalte van dienslewering in die private sektor, primêre sorg klinieke in Kenya.

Agtergrond

Die gehalte van PS dienslewering is 'n belangrike faktor in kliniese uitkomste. Die pasiënt se perspektief is een belangrike voorspeller van hierdie kwaliteit. Daar is min kennis oor die kwaliteit van sulke dienslewering in die private sektor in Kenya. Die doel van die studie was om die kwaliteit van dienslewering te evalueer vanuit die perspektief van die pasiënt in die private sektor, PS klinieke in Nairobi, Kenya.

Metodes

Die studie het 'n beskrywende deursnee-opname gebruik deur die Algemene Praktyk Assesseringsvraelys te gebruik met 378 pasiënte wat ewekansig geselekteer is uit 13 PS klinieke. Data is geanaliseer met behulp van die Statistiese pakket vir Sosiale Wetenskappe.

Uitslae

In die algemeen was 76% onder 45 jaar, 74% werkloos en 73% sonder chroniese siektes. Meerderheid (97%) was bly om die huisarts weer te sien, 99% was tevrede met hul konsultasie en 83% sou die huisdokter waarskynlik aanbeveel. Deelnemers het die ontvangsdame behulpsaam gevind (97%) en die meerderheid was tevrede met die openingstye (73%) en die wagtyd (85%). Alhoewel 84% van die afsprake belangrik was, het slegs 48% dit maklik gevind om a afspraaf te maak, en slegs 44% kon op

dieselfde dag toegang tot 'n huisarts kry. Algehele tevredenheid was hoër in diens (98%) teenoor werklose (95%), studeer (93%) of afgetredes (94%) (p <0.001).

Gevolgtrekking

Pasiënte het hoë tevredenheid met die gehalte van dienslewering gerapporteer. Die gebruik van PS is skeef teenoor jonger, werkende volwassenes, sonder chroniese toestande, wat daarop dui dat PS nie volledig was nie. Dienste was maklik toeganklik, alhoewel daar min verwagting was van verhoudike kontinuïteit. Verdere studies moet voortgaan om die kwaliteit van dienslewering vanuit ander perspektiewe en instrumente te evalueer.

Artikel 3: Evaluering van die kwaliteit van kommunikasie in konsultasies deur algemene praktisyns in primêre sorginstellings, Nairobi, Kenya.

Agtergrond

Primêre sorg is die beginpunt vir pasiënte wat gesondheidsorg soek. Hoë-kwaliteit PS benodig effektiewe kommunikasie om persoonsgerigtheid, kontinuïteit en koördinering van sorg, en beter gesondheidsuitkomste te ondersteun. In Kenya is daar min te wete oor die kwaliteit van kommunikasie in konsultasies deur APs in die private sektor. Die doel was dus om die kwaliteit van kommunikasie in konsultasies deur APs te evalueer.

Metodes

Beskrywende, waarnemende dwarssnitstudie van 23 APs in 13 primêre sorgfasiliteite in Nairobi. Een instemmende volwasse pasiënt is ewekansig uit die lys van die APs gekies vir 'n klankopname van hul konsultasie. Klankopnames is beoordeel met behulp van die Universitieit van Stellenbos Observasie Hulpmiddel. Die totale telling vir elke konsultasie is behaal uit 'n maksimum van 32. Data is geanaliseer met behulp van die Statistiese Pakket vir Sosiale Wetenskappe weergawe 25.

Uitslae

Die gemiddelde ouderdom van die AP was 30,0 jaar (IQR: 29-32) met 'n mediaan van 3 jaar ervaring na die gradeplegtigheid (IQR = 3-6). Gemiddelde konsultasietyd was 7,0 minute (IQR = 3-9). Die gemiddelde telling van die konsultasies was 64,3% (IQR: 48,4-75,7). Die AP het ten volle hul vaardighede in die insameling van inligting, diagnosering en in sy verklaring en bestuur gehandhaf. APs het nie 'n gepaste inleiding gemaak nie en ook nie die gesin en sosiale konteks of die perspektief van die pasiënt ondersoek nie. Pasiënte was nie ten volle betrokke by die gedeelde besluitnemingsproses nie. Veiligheidsnetwerk en sluiting is nie volledig aangespreek nie. Daar was 'n beduidende positiewe korrelasie tussen die konsultasietellings en die duur van die konsultasies (r = 0,680, p = 0,001).

Gevolgtrekking

Konsultasies was kort, met lae tot matige ingewikkeldheid en het 'n biomediese benadering gehad. Opleiding in kommunikasievaardighede met die doel om persoonsgerigte sorg te bied, sal konsultasies en PS van hoër gehalte tot gevolg hê.

Artikel 4: Die gehalte van primêre sorg in private sektor- fasiliteite in Nairobi, Kenya.

Agtergrond

Geïntegreerde gesondheidsdienste met die klem op PS is nodig vir effektiewe primêre gesondheidsorg en om universele gesondheidsdekking te bewerkstellig. Die sleutelelemente van 'n hoë gehalte PS is toegang tot eerste kontak, kontinuïteit, omvattendheid, koördinasie en persoonsgerigtheid. In Kenya is daar min inligting oor hierdie sleutelelemente, en sulke inligting is nodig om dienslewering te verbeter. Hierdie studie het gepoog om die kwaliteit van PS te evalueer in 'n groep van private sector klinieke in Nairobi, Kenya.

Metodes

'n Beskrywende studie in dwarsdeursnee het die "Primary Care Assessment Tool" (PCAT) aangepas vir die Keniaanse konteks en 412 stelselmatige PS gebruikers van 13 PS klinieke ondersoek. Data was geanaliseer om 11 domeine van PS prestasie en twee saamgestelde PS tellings te meet met behulp van die Statistiese Pakket vir Sosiale Wetenskappe.

Uitslae

Gemiddelde primêre sorg telling was 2.64 (SD = 0.23) en die gemiddelde uitgebreide primêre sorg telling was 2.68 (SD = 0.19), wat bedui dat die prestasie swak was. Die domeine van eerste kontakbenutting, koördinasie (inligtingstelsel), gesinsgesentreerdheid en kulturele bekwaamheid het gemiddelde tellings van $\geq$ 3.0 (aanvaarbaar vir goeie prestasie). Die domeine van eerste kontak (toegang), koördinasie, omvattendheid (beskikbaar en beskikbaar), deurlopende sorg en gemeenskapsgerigtheid het 'n gemiddelde telling van <3,0 (swak prestasie). Ouer respondente (p = 0,0 5) en diegene met 'n hoër verbintenis tot die klinieke (p = 0,01) het PS meer as aanvaarbaar tot goed beoordeel.

Gevolgtrekking

Hierdie klinieke in Nairobi in die private sektor het 'n swak algemene prestasie behaal. Prestasie kan verbeter word deur ontploiing van familie geneeshere, verhoging van die omvang van die praktyk om dit meer omvattend te maak, die verbetering van toegang na-ure en die bemarking van die gebruik van die klinieke aan die praktyk bevolking.

Artikel 5: Algemene praktisyns se opleiding en ervaring in die kliniese vaardighede wat benodig word vir omvattende primêre sorg, Nairobi, Kenya.

Agtergrond

Gehalte dienslewering in primêre sorg vereis die beskikbaarheid van gemotiveerde en bekwame gesondheidswerkers. Daar is 'n gebrek aan bewyse oor die vermoë van PS verskaffers om omvattende sorg te verleen, en daar is geen bewyse beskikbaar vir APs wat in die private sektor in Kenya praktiseer nie. Daarom was die doel om die APs se opleiding en ervaring in die kliniese vaardighede wat benodig is vir omvattende primêre sorg te evalueer.

Metodes

Dit was 'n deursnee beskrywende opname met behulp van 'n aangepaste vraelys, oorspronklik ontwerp vir 'n nasionale opname onder primêre sorgartse in Suid-Afrika. In die studie is die optrede van al 25 APs by die 13 primêre sorgklinieke in Nairobi geëvalueer.

Uitslae

APs was meestal jonger as 40 jaar met minder as tien jaar ervaring met 'n byna gelyke geslagsverdeling. Kategorieë met matige prestasies het gesondheid van volwassenes, noodgevalle, kommunikasie en konsultasie, gesondheid van kinders en kliniese administrasievaardighede, ingesluit. Terwyl swak prestasies inslitend was van chirurgie, oor-neus-en-keel, oë, vrouegesondheid en ortopedie. Die APs het nie opleiding in spesifieke vaardighede rakende proktoskopie, voorbehoedmiddels, velprosedures, intra-artikulêre inspuitings, rooi reflekstoets en die gebruik van 'n genogram gehad nie.

Gevolgtrekking

Die meerderheid van die huisdokters was jonk met 'n paar jaar kliniese ervaring na die gradeplegtigheid. Huisartse het nie opleiding gehad nie en het swak presteer in sommige van die noodsaaklike en basiese vaardighede wat vereis word in PS. Die leemtes het die behoefte aan opleiding beklemtoon en die versorgingsmodel uitgebrei om 'n meer omvattende pakket aan te bied. Daar kan ook opleiding aangebied word in Huisartskunde, wat 'n kundige algemene praktisyn wil lewer 'en daar moet aandag gegee word aan die ontwerp van gesondheidstelsels en die nodige insette wat nodig is om meer omvattende sorg te bied.

Gevolgtrekkings

Die pasiënte wat hierdie private klinieke besoek het, bestaan hoofsaaklik uit jong tot middeljarige ouderdom volwassenes, wie goed opgeleid en in diens op geneem was. Die meeste pasiënte het geen chroniese toestande gehad nie en het hul gesondheidstoestand as goed tot uitstekend gerapporteer.

Algehele graderings het 'n hoë satisfaksie in verband met eerste - kontak benutting, dienste deur die ontvangsdame, die gereelde ure van die klinieke en kort wagtye. Alhoewel pasiënte die begeerte uitgespreek het om afsprake via die telefoon te bespreek, was toegang tot hierdie diens beperk. Toegang tot 'n bepaalde AP deur telefoon of vir 'n noodgeval konsultasies is ook beperk.

Die gebruik en langdurige aansluiting by die praktyk is as goed beskou, wat dui op 'n redelike longitudinale kontinuïteit. Pasiënte het groot tevredenheid uitgespreek oor die versorging en vertroue in die eerlikheid en betroubaarheid van die APs. Inligtingskontinuïteit was ook sterk, alhoewel verhoudingskontinuïteit minder was, aangesien pasiënte nie 'n verbintenis met 'n spesifieke AP uitgespreek het nie.

Pasiënte het beperkte verwagtings van die omvattendheid van dienste wat aangebied word deur die APs. Pasiënte het ook 'n lae vertroue in die praktisyns se vermoë om baie kernaspekte van die PS te bestuur en te versorg, gerapporteer. Die klinieke was nie omvattend in die verskeidenheid dienste wat beskikbaar en gelewer was nie. Die gapings van APs was duidelik in gebiede soos chroniese toestande, voorgeboortesorg, advies vir lewenstyl veranderings, vroue en mansgesondheid. Die fasiliteite bied nie 'n volledige primêre gesondheidsorgspan soos toegang tot 'n maatskaplike werker, fisioterapeut, berader of dieetkundige nie. Daar was swak vertoning deur die APs in 'n paar van die noodsaaklike en basiese vaardighede wat nodig is om 'n meer omvattende packet aan te bied van sorg in gebiede soos vroue se gesondheid, oor-, neus- en keel, oogheelkunde en ortopedie.

Die inligtingstelsel ondersteun sorgkoördinasie en was uitstekend as gevolg van ‘n geïntegreerde elektroniese gesondheidsrekordstelsel wat bygedra het tot pasiënt tevredenheid.

Huisdokters het kort konsultasies van lae-matige kompleksiteit gehou en 'n wesenlike verbintenis getoon met die parallelle koördinering van sorg binne die klinie. Die kwaliteit van opeenvolgende koördinasie is egter as grenslyn aangegee en pasiënte word selde na die hospitaal verwys.

Pasiënte het vertroue en tevredenheid gehad met kort bio-mediese konsultasies. APs kon voldoende biomediese inligting bekom, 'n toepaslike diagnose maak en 'n toepaslike bestuursplan formuleer en verduidelik. Maar daar was gapings in die voorsiening van die hele persoon medisyne wat verband hou met die pasiënt se perspektief en konteks, eksplorasie van pasiënt's psigososiale en beroeps-geskiedenis, gedeel besluitnemingsproses, voorsiening van veiligheid, netting en

sluiting. Pasiënte het egter gevoel dat APs voldoende gesinsgesentreerde en kulturele bekwaamd was.

Die gesamnetlike waarnemings van al hierdie studies bevestig dat hierdie privaat gesondheidsorgstelsel nie ten volle toeganklike, deurlopende, gekoördineerde, omvattende en persoonsgerigte primêre sorg bied nie. 'n Aantal aanbevelings word gemaak om die kwaliteit van PS te verbeter.

DEDICATION

I dedicate this work to my husband, our parents and children.

I also dedicate this achievement to all primary care physicians. Your show of courage, dedication and continued determination especially in the midst the COVID-19 pandemic has inspired my resolve and commitment to improving the roles, contribution and quality of care in service delivery in primary care in Kenya.

It is my hope that the outcome from this research will provide all primary care providers with motivation to increase knowledge, add to their skillset, and renew hope.

30th July 2021

Date

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I would like to thank the director, Khurram Jamal, all the managers, in particular Mr. Martin Mburu as well as all the doctors and staff at the primary care facilities for permitting the data collection at their facilities, taking into account the necessary protocols required during the Covid-19 pandemic. I trust that this research will contribute to enhancing the quality of service delivery in primary care.

I am grateful for the ongoing support from the colleagues in South Africa for their help with the various administrative tasks during this study. Darcelle Schouw, thank you for assisting with the translation of the abstract into Afrikaans and Yusuf Ras for your assistance in sorting out the challenges in the referencing tools.

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In conclusion, I would like to thank my husband, sons and daughter, siblings, parents and friends for their unwavering support, sacrifice and love.

All success is due to the Almighty whose light showed me the way.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Chapter 2

Chapter 3

Article 1

Article 2

Article 3

Article 4

LIST OF ABBREVIATIONS

AFRIWON	Africa Wonca
AKUH	Aga Khan University Hospital
ANOVA	Analysis of Variance
CO	Clinical Officers
COPC	Community Oriented Primary Care
COVID-19	Coronavirus Disease 2019
ENT	Ear-nose-throat
FM	Family Medicine
FP	Family Physician
GPs	General Practitioners
GPAQ-R2	General Practitioner's Assessment Questionnaire
HIV	Human Immunodeficiency Virus
HREC	Health Research & Ethics Committee of Stellenbosch University
IoM	Institute of Medicine
IREC	Institutional Ethics and Review Committee
ICPC	International Classification of Primary Care
IQR	Inter quantile Range
KAFP	Kenya Association of Family Physicians
KDHS	Kenya Demographic and Health Survey
KE-PCAT	Kenya-Primary Care Assessment Tool
Kshs.	Kenya Shillings
NACOSTI	National Commission for Science, Technology and Innovation
NCDs	Non-Communicable Diseases
NHIF	National Hospital Insurance Fund

NGOs	Non-Governmental Organisations
PCC	Person-Centred Care
PC	Primary Care
PCAT	Primary Care Assessment Tool
PRIMAFAMED	Primary Care & Family Medicine Education Network (Africa)
PHC	Primary Health Care
PHCPI	Primary Health Care Performance Initiative
REC	Research and Ethics Committee
RCGP	Royal College of General Practitioners
SA	South Africa
SD	Standard Deviation
SPSS	Statistical Package for Social Science
SUOT	Stellenbosch University Observation Tool
SSA	Sub-Saharan Africa
TB	Tuberculosis
UHC	Universal Health Coverage
WHO	World Health Organisation
WONCA	World Organisation of Family Doctors
ZA PCAT	South African Primary Care Assessment Tool
ZAR	South African Rand

CHAPTER 1

INTRODUCTION AND OVERVIEW OF THE THESIS

1.1 INTRODUCTION

This chapter presents the rationale as well as the argument for the social value of evaluating the quality of the service delivery in the primary care facilities in the private sector in Nairobi, Kenya. It outlines the study setting and depicts an overview of the thesis and the ethics committee approval.

1.2 THE SOCIAL VALUE OF THE STUDY

1.2.1 Primary health care

The World Health Organization (WHO) states that the fundamental right of every human being should be quality health care that is accessible, affordable and acceptable.(1) The WHO (2020) defines primary health care (PHC) a "a whole-of-society approach to health that aims to maximize the level and distribution of health and well-being through three components: (a) primary care (PC) and essential public health functions as the core of integrated health services; (b) multi-sectoral policy and action; and (c) empowered people and communities".(2) Primary health care, outlined in the Alma-Ata Declaration (1978), is built on the principles of participation in community, equity, responding to the social and environmental causes of health, use of adequate technology and plays a focal role for PC in the health system.(3)(4) This forms the foundation of the 'Health for All' concept.(1) This declaration was further affirmed with

the signing of the Astana Declaration in 2018 that affirmed commitment towards making people's health a priority whilst promoting and safe-guarding health and well-being.(5) This will be achieved through accessible health care that is of high quality and safe, delivered comprehensively, in an integrated and cost effective manner.(5)

Primary health care systems are fundamental to respond to changing health needs, as seen with the coronavirus pandemic, as they address the basic health needs of populations and include the provision of essential services.(6)(7)(8) Investment in health care based on the principles of PHC, where prevention, promotion, curative care, appropriate referrals to specialist care with prominence placed on PC, produce better results in terms of health outcomes.(9)(10)(11) Interestingly, PHC was identified as a high priority around the world but unfortunately comprehensive data was absent to identify certain weaknesses in order to have strategic plans and resources to direct towards it.(12) The World Health Assembly (2019) also realised the role of PHC in achieving universal health coverage (UHC).(8)However, due to weaknesses in PHC systems, gaps were identified in the low-and middle-income countries (LMICs) in the provision of high quality, comprehensive and person-centred care.(8)

1.2.2 Primary care

Primary care is a subset of PHC, representing first-contact access for all the new health problems, sustained person-centred care which must be coordinated and comprehensive even when it must be sought elsewhere.(3) According to the WHO 2020, PC is a "key process in the health system that supports first-contact, accessible, continued, comprehensive and coordinated patient-focused care."(2) Therefore, PC can be simplified as first-contact care for individual patients, which includes emergency visits.(3) In some health systems, PC acts as a gatekeeper to other levels of care and patients must be referred by their PC providers.(13)(14) Primary care may be delivered by family physicians (FPs), general practitioners (GPs), or non-physician practitioners

such as nurses, clinical officers and community health workers.(3) The quality of PC correlates with the extent to which health services appropriately address patients' needs and achieve high standards of service delivery.(14) Countries that prioritise their health systems towards PC as opposed to hospitals will be more likely to achieve their sustainable developmental goals.(15)

1.2.3 Primary care in sub-Saharan Africa

Primary care in sub-Saharan Africa (SSA) faces difficulties such as hospital-centred health priorities, fragmentation of healthcare caused by vertical programmes, misappropriation of finances and the dual burdens of communicable and non-communicable diseases.(1)(16) Yet, PC is still the main starting point for most people seeking healthcare and this becomes a key strength as a large part of the population can be reached for disease prevention and health promotion programmes.(16) Despite efforts made to improve the provision of healthcare, PC in Africa lacks the ability to provide high quality care that is comprehensive, accessible, continuous, coordinated, efficient, with a person-centred biopsychosocial approach.(17) A comprehensive, integrated, person-centred and high quality PC approach will serve to avoid a fragmented approach to care in the era of emerging health challenges such as the coronavirus pandemic.(18)(19)(20) Furthermore, to strengthen PHC systems; "the 30 by 2030 campaign" launched by major health stakeholders in 2020 is seeking government and donor commitment to allocate 30% of their budgets towards community-based PHC that is integrated and horizontal for the goal of UHC.(21) However, this goal cannot be achieved without incorporating the key elements of high quality PC such as accessibility, continuity, coordination and person-centredness.(21) Therefore, there is a need to redirect attention to PC for greater health outcomes using "people-centred health systems".(15)

1.2.4 Health systems in Kenya

Kenya is considered to be the business hub of East and Central Africa, and consists of a well-educated population, with English being one of the national languages besides Kiswahili.(22) As the economy grows and urbanises, there is a higher demand for quality healthcare.(23) The last Kenya Demographic and Health Survey (KDHS), carried out in 2014, categorised the burden of disease into communicable diseases and non-communicable diseases (NCDs), maternal/child health and trauma/violence.(24) Kenya's Health Policy 2014-2030 aims to eradicate communicable conditions, slow down the rising burden of NCDs, decrease domestic violence; provide necessary healthcare, reduce risk factors exposure and increase partnerships with other organisations. The policy also promotes higher quality and better access to services, based on the aim of improved health and well-being.(25)

A case study highlighting the PHC system in Kenya was carried out in conjunction with the WHO in 2017. Service delivery in PHC was one of the strategic areas that was identified as needing to be strengthened. However, they focussed on the areas of resource restructuring and commodity security.(26) Sadly, the study lacked a focus on the core elements of high quality PC in service delivery; first-contact accessibility, continuity, coordination, comprehensiveness and person-centred care.(27)(28)

The majority of Kenyans living in rural communities and urban slums have limited access to the most basic healthcare services and experience financial barriers to care.(29)(30) Numerous efforts have been made in Kenya to achieve UHC by increasing access to free PC services such as immunisations, family planning, ante-natal and post-natal services, Tuberculosis (TB) and human immunodeficiency virus (HIV) care and through health insurance subsidies.(29)(30) Universal health coverage implies affordable access to high quality PC for all, however, with the increase in demand and

usage of these services, the quality of services being provided in Kenya remains a major challenge.(29)

The public health system in Kenya is made up of national and county-level referral hospitals, PC facilities and community-based health services. National referral hospitals (Tier 4), lie at the top of the hierarchy (four public hospitals) and provide advanced diagnostic, therapeutic and rehabilitative services.(23)(31) County hospitals (Tier 3) are operated and managed by the counties. PC facilities (Tier 2) include dispensaries, health centres and maternity homes. They offer curative care, disease prevention and health promotion adapted to the identified requirements of the community. The network of community-based services (Tier 1) identify cases that require referral to other tiers.(25) All officially registered health facilities in the country fall under three categories of service providers. From the 9,696 health facilities in the country 4,616 (48%) of these facilities fall within the public service providers, 3,696 (38%) are from the private sector (for profit) and 1,384 (14%) are managed by the private not-for-profit organisations (faith-based, non-government or community based).(23) In Kenya, the public sector serves the majority of the population, through health centres and dispensaries, although the proportion of the services provided by private organisations is steadily increasing.(23) Various private clinics exist in urban centres, although due to diversity and fragmentation of the private PC system, data on them is lacking and difficult to consolidate.(23)(32)(33) The Aga Khan University (AKUH) is a tertiary care hospital in Nairobi (level 4) with an associated PC platform. It is part of the not-for profit private sector and forms the organisational context for this dissertation.(23)(32)

1.2.5 Primary care providers in Kenya

Nairobi, the capital of Kenya, has a population of about 4.9 million.(34) PC is delivered by nurses, clinical officers (COs) and doctors, supported by other health care

workers.(30) The COs (also known elsewhere as physician assistants or clinical associates) provide most of the PC services in the public sector and in some private care facilities. The GPs comprise over 50% of the registered doctors, offer services mostly in the private sector, and the majority do not have any postgraduate training in family medicine (FM).(32) The nurses work at health centres and dispensaries in the public sector and their scope of practice includes well-baby clinics, ante-natal services and treatment of common ailments.(33)

1.2.6 General practitioners in Kenya

In our context a GP has been defined as "a doctor who has studied for a medical degree and passed their internship, but has not specialised in any field".(35) However, from an international perspective in other parts of the world such as UK, Australia and New Zealand, GPs do have specialist training, but that is not the case in Kenya.

In Kenya, a doctor who has specialised in family medicine is referred to as a family physician.(36) The GPs usually work with a team of nurses or COs to collectively provide first-contact PC, ideally in a community-orientated approach.(37)(38) Therefore, the GPs require clinical competence, critical thinking, the ability to improve quality of care and should have the ability to build capacity among the PC team, as well as support community-based services.(37) General practitioners may not necessarily have been trained in all the competencies expected or required in PC.(37) As elsewhere in Africa, primary care doctors in Kenya should have a major role in building and supporting the PHC system, both in the public and private sector.(37) It is unfortunate, however, that this is not the current situation.

The Royal College of General Practitioners (RCGP), defines medical generalism as "an approach to the delivery of health care that routinely applies a broad and holistic perspective to the patient's problems."(39) The RCGP further talks about competencies

required for medical generalism. A GP who is a competent medical generalist should be able to routinely apply a broad and holistic biopsychosocial approach to the care of patients throughout the lifecycle and across the burden of disease.(39) They should consciously practice care continuity over frequent illnesses and coordinate patient care with other levels of providers. They should be able to support comprehensive care throughout the life course.(39) These components reflect high quality PC.(27) However, there are significant gaps between the competencies required and actual performance of GPs.(40)

Furthermore, as of 2019 there was only a handful of trained FPs in Kenya (42 in number), which are not enough to make an impact on the delivery of health care and therefore, the bulk of health services continue to be delivered by the GPs in the private sector.(41) Hence, there is a need to evaluate the GPs' performance as a means of identifying and understanding the gaps in delivering high quality PC in service delivery.

1.2.7 Family Medicine in Kenya

Kenya offers several training programs in family medicine(42) and FPs could narrow the current gaps in the provision of quality PC, but the availability of FPs in Kenya and most of SSA is very limited.(36)(43)(44)(45)(46) Family Medicine is a fairly recent and developing clinical discipline in SSA and Kenya, and is focused on strengthening the PHC system.(47)(48) Family Medicine is based on the principles of accessible, continuous, coordinated, comprehensive, person-centred, quality care, that is cost-effective and integrated, not only for individuals, but also for families and communities at large.(47)(48) Family Physicians are defined by the WHO as "the physician who is primarily responsible for providing first contact and comprehensive health care to every individual seeking medical care and advice, and arranging for other health

personnel to provide services as necessary."(47) There is ample global evidence that FM delivers cost-effective and high quality care resulting in better health outcomes.(47)(49)

1.2.8 Service delivery in primary care

A good service delivery is an essential element of any health system.(50) Starfield outlined five pillars that form the foundation of PC in the domain of service delivery: first-contact care, continuity, comprehensiveness, coordination and person-centeredness.(51) These elements are seen as the building blocks of high performing PC aimed at achieving better health, improved patients experience and affordable cost.(52) Strengthening service delivery with a particular focus on high quality PC is crucial towards the attainment of sustainable development goals and UHC.(50)(53)

Improved service delivery performance requires support from a competent and available workforce, as well as adequate infrastructure, equipment, supplies and medications.(54) These resources are necessary, but not sufficient enough to ensure quality service delivery as it is also necessary to monitor, evaluate and improve the key domains of service delivery itself, to ensure these resources are translated into performance.(28)(54)

Therefore, progress towards the achievement of UHC and sustainable development goals can be made possible through integrated, coordinated, continuous, accessible and equitable PC, delivered through a person-centred approach.(8) These strategies will help to address the complex health care challenges faced, such as those seen in the Coronavirus Disease 2019 (COVID-19) era, especially in LMICs.(8)

1.2.9 Measuring high quality primary care performance in service delivery

In most of Africa, life expectancy has been gradually increasing, yet the health systems are still facing challenges and remain weak.(18) Besides the existing challenges of women's and children's health, infectious diseases, there is also an increase in mental

illness, chronic diseases and worsening health problems with environmental changes.(18) In addition, there has been tremendous urbanisation in the African sub-continent with the emergence of mega-cities that has further increased the utilisation of health facilities and demand for quality health care.(55)(56) Although some health indicators in Africa have improved such as maternal and child health and treatment of HIV, major gaps remain.(18) Therefore, a focus on improving the performance indicators for service delivery is needed in order to achieve better health outcomes.(27) People-centred strategies will be needed to address the deficiencies in performance and meet the increasing health needs.(18) Furthermore, indicators to measure the performance of PC should focus on access, continuity, coordination, comprehensiveness, person-centredness, community-orientation and the PHC team.(1)(12)(50)(57)

According to the WHO, in most countries, the private sector provides between 40% and 70% of health care.(2) Many of the health professionals practice both in the public and private sector and a large majority of patients seek services from both. Hence, there are important connections between public and private services, which highlights the significant roles and responsibilities of the private sector in overall service delivery.(2)

In Kenya, as reiterated earlier, the utilisation of the private healthcare services are expected to increase even more in the future. This will increase their role significantly in the provision of service delivery, thereby influencing the health outcomes in the region.(56)(58) The private health sector in Kenya faces many challenges that need significant changes and actions by the policy makers and organisational leaders in order to deliver high quality PC.(59) Kenya is no different from most LMICs in terms of having limited data on the performance of key elements of high quality PC in the service delivery domain, especially in the private sector.(27)(29)(60)(61)

Strengthening PC is a "hard grind" challenge, though major reforms in the health systems have been made during the recent pandemics. In spite of all that has been done, change can be temporary if the foundational reasons which contribute to the gaps in service delivery in PC are not tackled.(19) Narrowing the identified gaps will raise the standards of PC in the areas of access, continuity, coordination, person-centeredness and overall comprehensiveness of service delivery.

1.3 SETTING

Kenya is made up of 47 counties with a population of 47.5 million, split 25% in urban and 75% in rural locations. Nairobi is home to approximately 4.4 million people and is the fastest growing, and largest city in Kenya.(34)(62)(63) Over the last several decades, there has been immense urbanisation caused by industrialisation and employment opportunities.(64) Nairobi has a relatively young population with 1.8 million in employment and 1.6 million that are economically inactive, made up of the aged, stay-at-home and full-time students. Most of those employed also maintain and support their family members living in their rural homes.(63) Almost 90% of the population in Nairobi live in rented accommodation with about 50% of these living in semi-slum and slum dwellings.(64)

There are several private healthcare organisations located in Nairobi that serve the community.(32) This study is based in one such private and not-for-profit health care service provider that operates hospitals and PC health centres throughout Kenya known as the Aga Khan Health Services. The Aga Khan Health Services include several hospitals within Kenya, Tanzania, India, Pakistan, Bangladesh, Afghanistan, Uzbekistan and Tajikistan.(65)(66)

The Aga Khan University Hospital in Nairobi provides care from an additional 13 PC clinics located in the Nairobi County. The majority of the clinics are located around the

environs of Nairobi serving an employed and insured population.(62)(63) This study was carried out in all 13 clinics within the city of Nairobi, which were run by the GPs (Figure 1.1).

Every month, these clinics serve approximately 15275 patients that have the benefit of choice due to their medical insurance. The organisation provides PC and the majority of the patients are well educated, employed and have medical insurance either by virtue of their employment or through their own insurance. The medical insurance cover is also available for the family members of the employees. However, the practice population is not registered with the Aga Khan University Hospital as the medical cover can be used in any other private care clinics and hospitals in Kenya.

Some insurance providers levy a co-payment fee that is paid directly by the patients accessing services at tertiary care facilities. Self-paying patients seeking healthcare are relatively few in comparison due to the high cost of private medical care, which becomes a barrier for patients to access these facilities. Some of the employed and those contributing privately, also benefit from the state run National Hospital Insurance Fund (NHIF), which is a medical insurance that provides some level of benefit by obtaining health care services from the public and selected private providers.

These PC facilities, offer ambulatory services to all age groups in urban, semi and peri-urban areas in Nairobi. Majority of the clinics operated during the week and were open at suitable hours for the employed population. The other clinic staff included receptionists, registered nurses, laboratory technicians, radiographers and pharmacy technicians. The facilities provided health promotion, preventative and treatment services for all age groups. They had a pharmacy and laboratory, and could refer patients to specialist clinics (including family medicine) at the tertiary hospital. There were 25 GPs working in these facilities on a shift basis depending on the workload and

opening schedules. An electronic health record allowed clinicians to access the patients' information at any of the facilities associated with this organisation. Consultations were routinely conducted in English, which is one of the two official languages in Kenya.(22)

The tertiary hospital in Nairobi had a Department of Family Medicine, offering out-patient family medicine services by specialist FPs. The GPs at the PC clinics were easily able to refer the patients to the emergency department, to the specialist and the family medicine clinics at the tertiary hospital.

Those who could not afford the services of this private health facilities, or those who were not insured would attend the public sector health facilities.(29) There were other special services such as CT scan, MRI which could be accessed at these private facilities with the approval from the NHIF. In addition, access to free PC services such as immunisations, family planning, ante-natal and post-natal services, Tuberculosis (TB) and human immunodeficiency virus (HIV) care could be obtained at selected public health facilities.(29)(30)

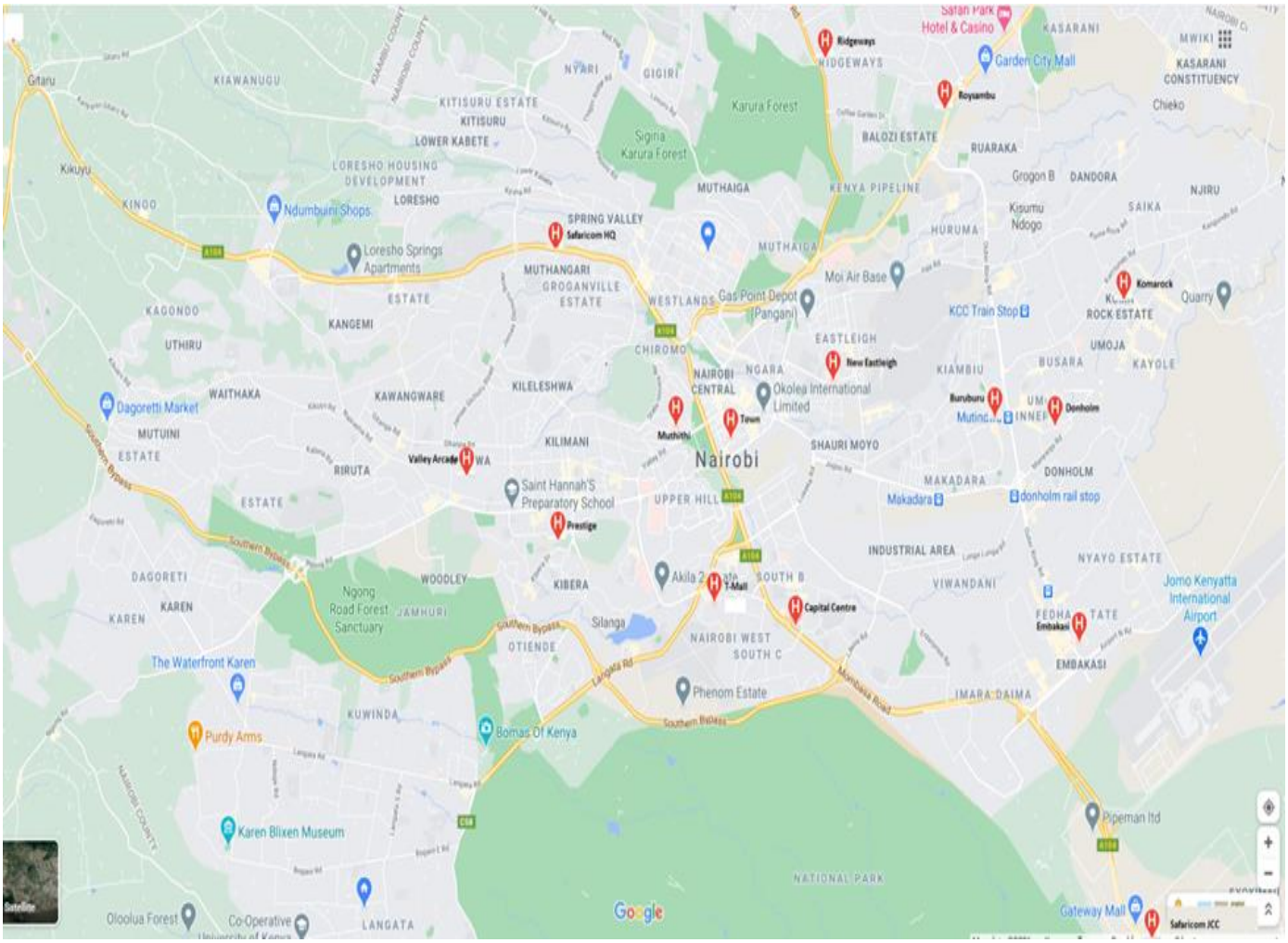

Figure 1.1 Primary care clinics in Nairobi County

1.4 OVERVIEW OF THE THESIS

The overview of the thesis is presented in Figure 1.2. This is based on an adapted conceptual model of the doctoral research process that was developed by Leshem and Trafford and was then further modified by Scheffler.(67)(68) The model shows a logical framework for the presentation of the information and the thesis.

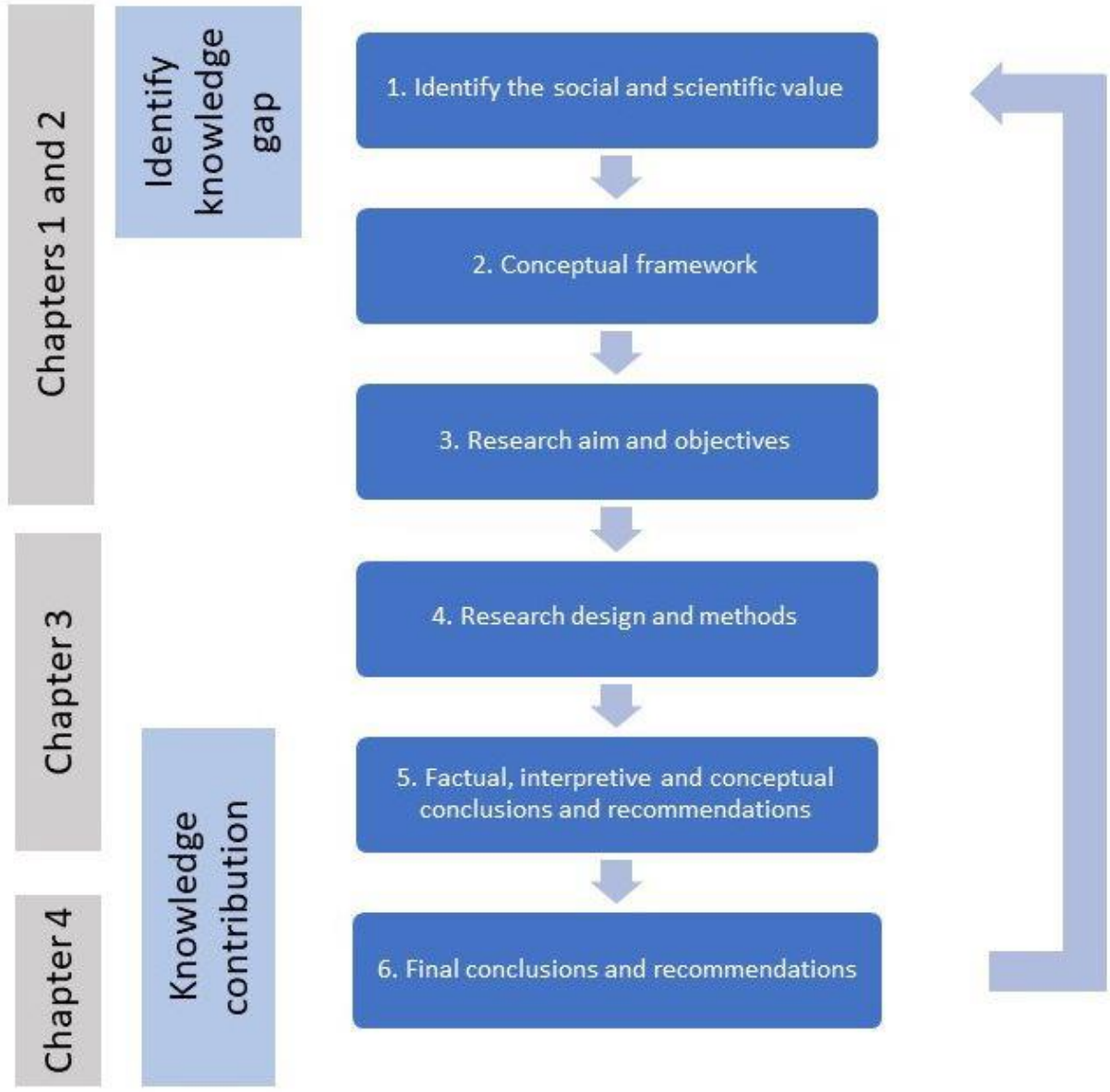

Figure 1.2: Structure of the dissertation

The six steps in the diagram (Figure 1.2) are represented in the following separate chapters:

Chapter 1: Chapter 1 outlines the social value and setting of the study. (Step 1, Figure 1.2).

Chapter 2: Chapter 2 presents a conceptual framework for high quality PC. (Step 2, Figure 1.2). It also outlines the scientific value of the study and identifies the knowledge gap (Step 1, Figure 1.2). Chapter 2 finishes with the research aim and objectives (Step 3, Figure 1.2).

Chapter 3: Chapter 3 includes five original research articles and represents Steps 4 and 5 (Figure 1.2) of the process. The articles describe the introduction, aim and objectives, methods, discussion and conclusion for that particular study. Two articles have been published, and three articles are presented as 'submission ready'.

Chapter 4: Chapter 4 outlines the conclusions of the dissertation and makes recommendations on how to improve the performance of PC. It also outlines the plans for dissemination and knowledge translation. (Step 6, Figure 1.2)

1.5 ETHICS APPROVAL

The dissertation was approved by the Health Research Ethics Committee (HREC) of Stellenbosch University (S20/07/167) and the Aga Khan University Hospital Nairobi.

Study 1. Approval was granted by the Research and Ethics Committee (REC) of the Aga Khan University Hospital, research protocol no. 2014/REC-50(v3) and the National Commission for Science, Technology and Innovation permit no: NACOSTI/P/15/1304/5166).

Studies 2 and 3. Approval was granted by the Research and Ethics Committee (REC) of the Aga Khan University Hospital, Nairobi reference no: 2018/REC-137[v2]).

Studies 4 and 5. Approval was granted by the Institutional Ethics and Review Committee (IERC) of the Aga Khan University Hospital, reference no: 2020/IREC-119 (v2) and by the National Commission for Science, Technology and Innovation permit no: NACOSTI/P/20/7046

1.6 CONCLUSION

This chapter described the social value of the study and also presented the study setting and thesis overview. The next chapter presents the conceptual framework, the scientific value of the study, the knowledge gap, and the aim and objectives.

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CHAPTER 2

CONCEPTUAL FRAMEWORK, SCIENTIFIC VALUE OF THE STUDY AND KNOWLEDGE GAP

2.1 INTRODUCTION

The chapter starts with the development of the conceptual framework. This is followed by the argument for the scientific value of the study by exploring what is already known about high quality PC service delivery as outlined in the Primary Health Care Performance Initiative.(1) The chapter then defines the knowledge gap addressed in the dissertation, leading to the aim and objectives.

2.2 SUMMARY OF LITERATURE SEARCH

The literature search included the aim of the dissertation and the search terms were based on the various objectives. However, this was not intended to be a scoping review or systematic review.

The databases for the search included Google Scholar; Pubmed; ResearchGate; and HINARI. All the following relevant keywords and MeSH terms were used for searching: Primary Health Care; Primary Care; Service delivery; Quality primary care; Health care quality; Kenya; Private sector; Patient satisfaction; Primary Care Assessment Tool (PCAT); First-contact access; Comprehensiveness; Continuity; Coordination; Person-Centred Care; Quality of primary care Africa; The Astana Declaration; Primary care in sub-Saharan Africa; Medical Generalism; Family medicine

in Africa; Quality of service delivery in primary care; Quality of communication in primary care; Alma Ata Declaration; Ministry of Health Kenya; Kenya Demographic and Health Survey; General Practice Assessment Questionnaire; Stellenbosch University Observation Tool; primary health care frameworks; primary care framework; Aga Khan University Hospital, and Aga Khan Health Services. Searches were supplemented by manual retrieval of any additional articles meeting eligibility criteria that were cited in reference lists. The search for published studies was mainly focused in the previous 10-years and only articles in English. Boolean operators "OR" and "AND" were used in the search.

2.3 CONCEPTUAL FRAMEWORK

Having established the need to measure the quality of PC service delivery in Kenya, particularly in the private sector, there is also a need to conceptualise a framework for this measurement

Several conceptual frameworks are in existence that aim to measure PC performance and guide policy makers, health system managers and funders.

European Primary Care Monitor Framework

This framework was developed by Kringos et al, and the framework consisted of structure (governance, economic conditions and primary care workforce development), service delivery (accessibility, comprehensiveness, continuity, and coordination) and outcome (quality, efficiency and equity).(2) The 'European Primary Care Monitor', consists of 99 indicators, which are evaluated as weak, medium or strong.(3) The data was collected from 31 European countries and found better PC was related to reduced hospitalisations and a healthier population which was achieved at an increased cost.(4)(5) In addition, no correlation was found between the performance of the

different dimensions of service delivery.(2) The framework was based on the performance of PC in only high income countries of Europe.(5)

Primary Care Assessment Tool

The Primary Care Assessment Tool (PCAT) was originally developed in 1990 and then further validated by Barbara Starfield et al. at the Johns Hopkins Populations Care Policy Centre for underserved populations in USA.(6) It was cross-culturally validated and first adapted for the African context in South Africa,(7)(8) and has also been used in other LMICs.(9)(10)(11) The principal use of the PCAT is to evaluate the extent and quality of the PC services from the perspective of the patients and the service providers.(5)

This tool implies an underlying framework through the constructs that are measured. The PCAT enables an evaluation of PC performance in terms of access, comprehensiveness, continuity, coordination, community orientation, family-centredness, cultural competence and (added in South Africa) the primary health care team.(8)(12) The tool places more focus on the service delivery processes of PC, is appropriate for use in LMICs and provides data on PC performance in an area that often lacks information.(5)

Quality and Outcomes Framework

The Quality and Outcomes framework was introduced by the United Kingdom National Health Service as an incentive scheme for GPs. It involved the introduction of an electronic health record system and organized management of chronic diseases.(11)(13) This resulted in more equitable delivery of quality of care in the treatment of chronic diseases across socio-economic groups.(14) It also decreased admissions to the emergency department, although mortality rates remained the

same.(14) Patients had to access their own GP practice and the focus on many clinical guidelines led to issues of over management in the elderly with multimorbidity.(15) Furthermore, the framework was unable to address several aspects of care and these limitations raised concerns about the quality of care, and Scotland stopped using this framework altogether in 2017.(15)

Person-Centered Primary Care Measure

This newly developed framework for measuring PC particularly focuses on whole person medicine.(16) It takes into account what matters most according to the patient and the patient's perspective.(5) The framework was developed in stages that culminated in 18 indicators, which were further reduced to 11 important areas: accessibility, comprehensiveness, continuity, integration, coordination, relationship, advocacy, family context, community context, health promotion, and goal-oriented primary care.(16) A 2019 study showed the framework to have good construct validity and reliability.(16) Although the framework has a broad range of measures, there are some areas of overlap, is still under development and would need adaptation to the African context.(5)(16)

Primary Health Care Performance Initiative

The Primary Health Care Performance Initiative (PHCPI) framework (Figure 2.1) was developed after analysing the available global literature and through an intensive consultative process with relevant policy makers, health system advocates and managers.(1) The PHCPI framework is based on the definition of PHC outlined by the WHO.(17)(18)(19) The WHO describes PHC as an approach to well-being and good health, focussed on the needs and circumstances of individuals, family units and the community.(20) The WHO emphasises, that the qualitative health services across the globe must be safe, effective, efficient, timely, integrated and person-centred.(19) An

operational framework by the WHO outlines the relationship between quality PHC, UHC and the environment of the health system. Interestingly, this relationship includes the domain of "high performing primary care" focussed on providing care that is "people's first-contact, comprehensive, coordinated, people-centred, continuous and accessible."(19)

The PHCPI provides the opportunity for global stakeholders and decision makers at the national level, to speed up improvement in performance through better measurement.(21) The PHCPI framework took into account over 40 existing frameworks on health systems performance, specifically used in the developing world. The PHCPI framework identifies the "critical components" of "a high-functioning" PHC system in order to highlight the domains that are crucial for achieving strong performance.(22)(23) Hence, the PHCPI works to improve quality PHC in order to achieve UHC in LMICs through strategies based on evidence, by better measurement and reporting.(21)(23) PHCPI anchors its focus on PHC in the domain of integrated health service delivery.(21) There is evidence that the PHCPI conceptual framework covers important questions in relation to service delivery, applicable to the public as well as the private sectors.(23)(24)

The PHCPI framework is a logic model, with a unidirectional format, whereby the systems domain impacts upon the inputs domain, which then affects service delivery, outputs and outcomes.(22) Most of the data available on PHC and previous frameworks focussed more on inputs such as the number of health care providers, the availability of medicines, and gave much less attention to service delivery.(22)(25) The service delivery domain has been described as the "black box" because it was not previously unpacked and yet this is where the necessary inputs are converted to the required outputs and outcomes. Thus, these service delivery processes are therefore at the heart of the framework and their description makes the PHCPI framework unique.(22)

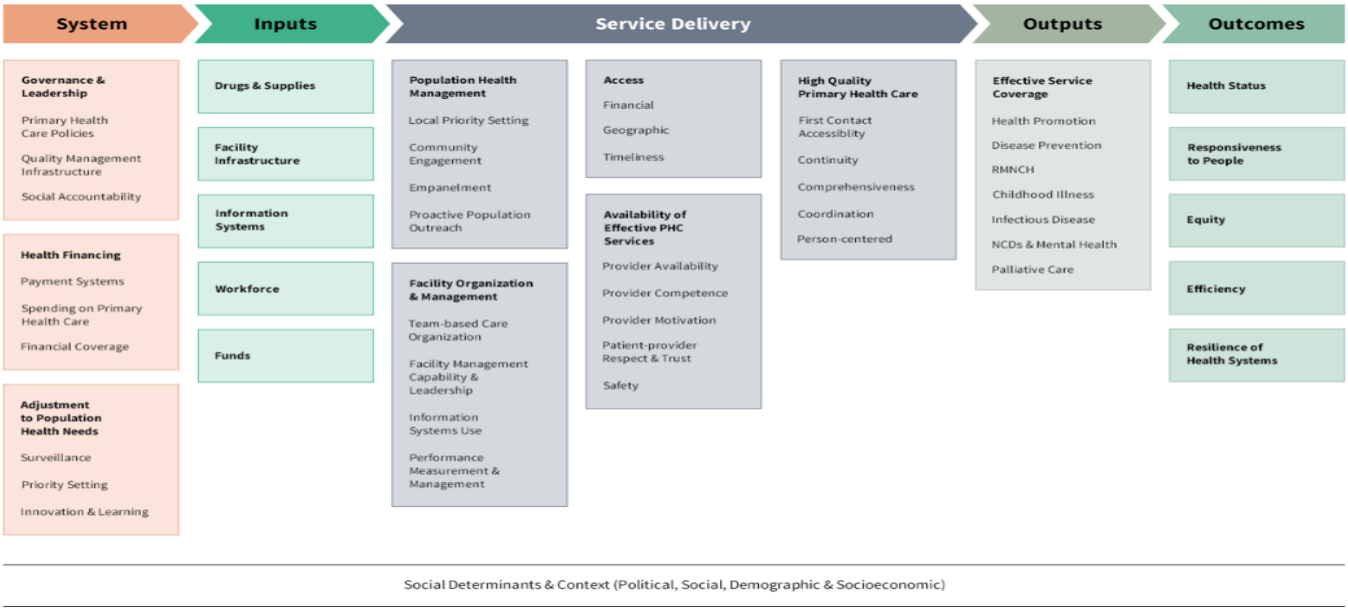

Figure 2.1: Primary Health Care Performance Initiative Framework.(22)

Underpinning the logic model shown in Figure 2.1, is a cross-cutting domain that focuses on the context and the social and the environmental determinants of health in the local community. The framework, however, appears to focus more on the WHO component, defined as the health services that is integrated, with significance placed more on PC and important public health functions.(19) Nevertheless, the framework is well aligned with the focus of the dissertation on measuring the quality of PC service delivery. Each of the five domains in the logic model are deconstructed into a number of sub-domains and specific items that can be measured (Figure 2).(22)

A. **System domain**: Supports the system through governance, leadership, financing and monitoring of health needs of the population that it is meant to serve.

B. **Inputs domain:** Ensures that drugs, supplies, infrastructure, information systems, workforce and funds are provided.

C. **Service delivery domain**: Focuses on population health management, facility organisation and management, availability of effective PHC, access and high quality PHC. High quality PHC has five items related to first-contact accessibility, continuity, comprehensiveness, coordination and person-centredness.

D. **Outputs domain:** Entails effective service coverage in the areas of health promotion, disease prevention, maternal and child health, childhood illnesses, infectious diseases, non-communicable diseases, mental health and palliative care.

E. **Outcomes domain:** These include health status, responsiveness to people, efficiency, resilience and equity of the health system.

The final sub-domain within the service delivery domain, which is high quality PHC, is the key to high performance and the other sub-domains lead to and support it.(22) High quality PHC is dependent on population health management, good organisational leadership and management, access, and the availability of effective providers within a particular context. Thus the domain on population health management relates to a community-orientated approach and community-based services, which may need to be integrated with facility-based PC.(22)

The PHCPI framework was developed to measure PHC as a whole. In my dissertation I am focusing on facility based PC performance. Therefore, in order to measure the quality of PC performance, the focus in this dissertation is on the items within the sub-domain of high quality PHC; first-contact accessibility, continuity, comprehensiveness,

coordination and person-centred care. These items are discussed further in the next section.

2.4 THE SCIENTIFIC VALUE OF THE STUDY

2.4.1 High quality primary care in service delivery

The Director-General of the WHO remarked; "how could health care be anything other than high quality".(26) The provision of high quality health care should be the norm.(26) However, a scoping review of PC system performance in LMICs, found gaps in social accountability, information systems and variability in service delivery, thereby emphasising the need for "rigorous evaluation and measurement".(23) The measurement of PC performance will help to identify gaps aimed at identifying effective ways of ensuring quality service delivery.(23) Accountability for PC performance is important in attaining "high-quality and high-value care".(21)(27) Monitoring the performance of the key characteristics of high quality PC is essential to achieve a well-functioning health system.(28)(29)

2.4.2 Key elements of high quality primary care in service delivery

The principle elements of high quality PC in service delivery can be evaluated by focusing on first-contact accessibility, continuity of care, comprehensiveness, coordination and person-centredness.(24) The discipline of Family Medicine also embraces these principles as fundamental to expert medical generalism and the training of family physicians.(30)(31) The key elements of high quality PC are:

First-contact accessibility

The measurement of first-contact accessibility will ascertain whether patients are provided with timely and affordable access to a PC facility within their reach.(24)(32) Access also entails the level to which PC services are acceptable to and actually utilised

by the patients when required.(8) Therefore, access is the outcome of the interaction between the patients and the health care system in a particular geographical area.(33)

The WHO stipulates the provision of UHC, which implies easy access for all without financial or other barriers to high quality PC.(34) Access to PC services is first on the list of importance, followed by comprehensiveness, continuity and coordination.(35) Patients who have access to a regular physician demonstrate high levels of confidence in relation to coordination and comprehensive care.(36)

Access to healthcare is a critical factor in PC besides other factors contributing to health outcomes such as affordability, comprehensiveness, scope of services as well as safe mobility.(37)(38) An expansive multi-country study, carried out in 2018 in developed countries, emphasised that access is specifically related to how easily the nearest and most suitable PC facility can be accessed in a time of need.(37) In addition, access is multidimensional since it is often dependent upon gender, age, mental health challenges, and specific needs.(37) Also staffing, infrastructure, availability of resources and facility management can make a difference in the timeliness of access.(38)

In a study carried out in Europe, only 10 countries out of 31 had a relatively high accessibility score.(2) The variance was related to geography, access to practitioners outside of normal working hours and the affordability by the patients.(2) However, prolonged waiting times to obtain an appointment and being able to see their regular doctor were also flagged as important in Canada.(36)

A review carried out in SSA identified the main contributors to patient satisfaction, which was related to the areas of access, cost of care, the doctor-patient relationship, and resources for healthcare.(39) Several studies reported in PC in South Africa, Malawi, and Nigeria found low levels of satisfaction in the public sector with access; where operating hours may not be convenient, dysfunctional appointment systems

exist and patients experience extended waiting times.(8)(9)(40) In the assessment of PC in South Africa, first-contact access was rated poor by the patients, whilst first contact utilisation scored highly due to strong affiliation with PC facilities and probably due to lack of alternatives.(8) In addition, a study carried out in Malawi reported most health indicators as poor, which included access to even the most basic health services as a major challenge due to long travel distances.(9)

In order to achieve UHC in Kenya, access to PC becomes critically important.(41) The public health sector in Kenya is under financed, in addition to the perception of being unfriendly, and access for citizens, especially those living in the urban slums, is severely limited.(41) Hence, the need to measure and improve the quality of services delivered in PC.(41) Another study in Kenya, showed that the lack of access to the public health facilities for maternal health care, resulted in women utilising privately owned, low-standard, non-licenced clinics within their community.(42) In addition, access to telephone consultations, which are a norm in high income countries, are a major challenge in LMICs due to resource restrictions.(43) Telephone consultations are also not a chargeable service.(44)

Furthermore, a recent multi-country study showed a distinct decrease in accessibility for patients seeking health care due to COVID-19 pandemic conditions.(45) Therefore, it was recommended, as part of a public-private partnership, that the government should embrace private health facilities to offer services, as they have also gained the confidence and trust of patients.(42)

Hence, the key first step towards evaluating the performance of service delivery should be to assess access to PC services.(29)(41)

Continuity

Care continuity is a distinctive feature of PC,(24) and refers to a relationship built on confidence and trust in the PC provider over a period of time, which may be with or without illness.(8) It is built on three core dimensions: longitudinal, relational, and informational continuity.(46) Longitudinal continuity refers to the extent that someone attends the same facility, team or provider over a time. Relational continuity is based on the development of a relationship with an individual provider, or team of providers, who know and respect you and are also known and trusted, whilst, informational continuity refers to the availability of the up-to-date medical record at each visit.(47) Furthermore, managerial continuity implies that, where providers are more than one, they all follow a particular pathway, which in turn provides consistency in services, which complement one another.(46)(48)

Evidence shows the association of continuity with enhanced patient satisfaction, fewer visits to the emergency and reduced hospitalisations.(10)(49)(50) In addition, it plays a key role in managing chronic diseases, hence uplifting the quality of care.(49)(51)(52) Continuity of care is enabled by good access as shown in a study from Vietnam.(10) Hence, health systems have better health outcomes and are more cost-effective when care continuity is practiced in PC.(8)(50)

An important aspect in the evaluation of the quality of PC is the satisfaction patients obtain when they receive continuity in the management of their chronic conditions.(53) A Norwegian study conducted on a large cohort of patients attending general practice, indicated that a good doctor-patient relationship increased the odds of the patients feeling satisfied by seven-fold as opposed to consultations without this relationship.(54) In the Western world, patients expect to have relational continuity with their GP, because are they registered with them specifically, and often complain of not having an

easy access to their own GP.(55) On the other hand, in Japan, the patients do not require to be registered with a particular provider and continuity can be challenging, leading to fragmentation of care.(56)

Interestingly, a study carried out in Germany reported that good relationships amongst the care providers was needed for collaboration and the flow of information, aiming to achieve management continuity.(57) Whilst, a study by Price and Lau emphasised the importance of communication as a "glue" to facilitate care continuity.(58) In addition, studies by Jacob and Maeseneer showed that continuity of care in various dimensions resulted in a significant decrease in cost and repeated clinic visits with improved health outcomes.(59)(60)

In Africa, a challenge can exist between balancing patients' accessibility to health care services and continuity of care.(61) Thus, in an attempt to serve large numbers of patients, especially in the public and in some private health care systems, continuity can be compromised in the name of achieving better access.(61) Similar perspectives have been reported in studies carried out in Southern Malawi, South Africa and Brazil that showed lower performance in relational continuity.(8)(62)(63) Another study in South Africa showed gaps in relational continuity, exacerbated by poor record keeping.(64) Low ratings for continuity were also found in community health centres in South Africa and in rural Malawi related to scarcity and lack of resources.(62)(65) It is well documented that opportunities to enhance patient-provider relationships can be missed through a lack of continuity, thus leading to fragmentation of care.(8)(47)

In the Kenyan context, a study in the private health sector on the management of chronic disease, showed that lack of access to the patient's files affected both informational continuity and coordination as well, and suggested the need for electronic health records.(66) Stakeholders need to prioritise their resources in

improving access as that can ensure continuity of care for the community in PC facilities, therefore leading to a reduction in referral to tertiary and specialist care.(67) In conclusion, despite the compelling amount of evidence regarding the significance of care continuity, few studies in the private sector have addressed this key element of PC service delivery in Kenya. Measuring continuity would lead to improvement in providing high quality PC in Kenya as it moves towards UHC.(61)

Comprehensiveness

Comprehensive care is a key component of high quality PC, and correlates with the Alma Ata and Astana Declarations and the principles of family medicine.(68) Comprehensive care implies that a broad range of promotive, preventive, curative, rehabilitative and palliative services should be available and appropriately delivered across the life course of an individual.(24) It entails a personalised approach from the time of diagnosis, management and referral if the need arises.(8) Comprehensiveness also requires a broad range of competencies, supported by appropriate infrastructure, adequate medical supplies and training, for the PC provider to be comprehensive.(69) Comprehensive care is important in decreasing the disease burden through timely screening, prevention of disease and promotion of health.(22)(68) This further emphasises that a comprehensive approach for all common conditions and undifferentiated problems is better than selective PC in attending to the needs of people and leads to sustainable health for all.(70) Selective PC for a single disease, such as HIV, can increase the comprehensiveness of care for that one disease through the availability of more resources,(71) but often at the expense of a lack of comprehensiveness in the entire PC system.(20)

Care comprehensiveness is unique to PC and FM, as most other levels of the health system and hospital specialists pay attention to particular aspects of the burden of

disease or life course and are more treatment focused.(8) A study measuring comprehensiveness of PC physicians in America demonstrated that providing comprehensive PC resulted in fewer emergency visits, lower rates of hospital admissions and more cost-effective care.(72) Continuity of care and comprehensiveness are related, since good continuity of care with a regular physician leads to better provision of health promotion and disease prevention.(36) However, a study in Canada noted that despite having a high relational continuity with the providers, comprehensive services in relation to prevention and health promotion were not fully addressed.(36) When patients are able to attend multiple PC facilities and are not registered with a single practice, then care may be fragmented between different facilities and providers, and the comprehensiveness of care for an individual person becomes difficult to determine.(56)

The comprehensiveness of care is often rated as poor in LMICs, in both public (e.g. Brazil, South Africa, Malawi) and private sectors (e.g. Vietnam).(8)(10)(62)(73) Interestingly, a review by Obimbo in Kenya, opined that comprehensiveness in the developing world is difficult to implement and sustain due to resource limitations.(70) However, even PC that has a more treatment oriented approach provides the opportunity for more comprehensive care over time as people make multiple visits.(70) Therefore, continuity of care facilitates a more comprehensive approach over time if the multiple opportunities or encounters are used for health promotion and disease prevention and not just treatment.(74) Hence, poor continuity of care will make it more difficult to offer a comprehensive service.(74)

Coordination

Coordination is another hallmark of PC and it means that care should be coordinated for a person, throughout the treatment process of a particular condition amongst the

different specialists and other practitioners involved.(24) Hence, improvement in coordination of care needs to be assessed as a means of improving services.(24)

Care may be coordinated between services within PC, between PC facilities and community-based health and social services and also between PC and other health care levels.(24) Care between teams working in the same place and at the same time for a patient (e.g. between the team responsible for HIV care and team for antenatal care) engage in parallel coordination.(75) When one team hands over responsibility to another team (e.g. referral from PC to the hospital) then they engage in sequential coordination.(75)

Coordination can improve continuity of care and decrease potential for mistakes or avoidable complications.(24) The lack of coordination can lead to missed information about patients, repeated investigations, higher costs, inappropriate management and poorer health outcomes.(66) Coordination relies on transfer of information between teams, and thus an efficient, reliable, accessible and integrated information system is key to good coordination.(8)(76)

In many health systems PC providers have a gate keeping role, that implies patients can only access other levels of the health system by referral from their PC provider.(8) The gate keeping role also implies that the provider should coordinate the different inputs into the patients' care, and the PC provider has a unique role as a coordinator of patients care over time.(76) Gate keeping is also facilitated by the registration of patients with a regular PC provider who gets to know them well over time.(76)

However, in many health systems, particularly in LMICs, the gatekeeping role is not enforced and patients can bypass PC to attend other local hospitals directly.(77) In countries, such as Nigeria, patients may attend multiple practitioners in the public, private and faith-based sectors.(77) Likewise PC providers do not conceptualise that

they have a particular responsibility to coordinate care for the patient, furthermore, the ability to bypass PC is also a feature of health insurance, where patients are covered to present directly to hospital specialists.(56)

Poor coordination of care and communication between PC providers and hospital-based specialists is reported as a problem by both high-income (e.g. Canada, Japan) and LMICs (e.g. China, Vietnam).(27)(36)(10)(56) Coordinating care across the public-private sector boundary also adds further difficulties.(10)

Hence, lack of care coordination can lead to fragmentation of care and poor health outcomes.(56) The Lancet Commission regarding the future of health care in SSA emphasises the need for better coordination and continuity with the increase in the burden of chronic illnesses.(24)(78) It is realised that the transfer of information and good medical records contributes towards the development of an appropriate management plan.(8) A South African study in the public sector, showed that loss of information due to poor documentation can lead to care fragmentation and weak coordination.(8) Thus, poor informational continuity, impacts on the ability to coordinate care effectively.(8)

Despite there being very few studies in East Africa regarding care coordination, a study carried out in Tanzania showed that lack of coordination in care of women attending the ante-natal clinics, resulted in ineffective interventions and loss of life.(79) A Kenyan study reported fragmentation of care in a private facility due to difficulties accessing the patients' health records and non-transfer of information in cases of referral to other institutions.(66) This emphasises the importance of the relationship between informational continuity and coordination.

Person-centredness

Person-centred care (PCC) is defined as care that respects and responds to patients' expectations, needs and values, and ensures that all clinical decisions take into account the patients' wishes and beliefs'.(80)(81) Person-centred care is a systematic process to engage patients in their decisions about their health care, which contributes towards the delivery of high quality care.(39)(82) Person-centred care involves different processes of "facilitation, clinical reasoning and collaboration".(83) The facilitation process gives attention to the patient's perspective, which may include their experience of illness, beliefs, concerns, expectations, preferences and choices.(83) Clinical reasoning is required throughout the consultation, and integrates the clinician's expertise with the patient's perspective.(83) The collaboration process implies power sharing and finding common ground to make mutually acceptable decisions.(83) The two features that distinguish PCC from a traditional biomedical approach, are exploration of the patient's perspective and shared control of the consultation.(24)

The PCC also takes into account the patient's context, which includes their cultural, environmental, physical, work and family context.(24)(27)(28) Person-centred care also enables the patients to obtain a deeper understanding of their health problems which helps them to comply with their management plan.(84)(85)(86) In addition, the PCC approach is significant for building confidence and trust in the healthcare provider.(24)(32)(47) Therefore, the process of "whole-person medicine" requires a mutually acceptable interaction and effective communication between the patients and their PC providers.(83)

The WHO also endorses a need for a person-centred approach as opposed to one that is disease-focused or purely biomedical.(25) Furthermore, the Institute of Medicine has incorporated PCC as one of the six domains of quality health care in their guideline of

principles that provide direction for the future health care system.(26) Interestingly, a commentary from Botswana discussed whether PCC was an individualistic Western concept that needed to be adapted to the more communitarian African context.(28) However, this could be a matter of perspective since PCC already incorporates the persons culture, values and beliefs within it.(81)

It is well known that effective communication by the physician, results in better adherence to the management plan, increased patients' and clinicians' satisfaction as well as higher tolerance of any shortcomings or errors.(87)(88)(89) Many studies have demonstrated that communicating in a person-centred manner is an important factor that contributes towards patient satisfaction.(84)(85)(90) Other studies also concur that regardless of the community and race, patients cited doctor-patient communication as the most important contributor towards satisfaction and making informed decisions.(84)(90)

Even though the immense benefits of effective communication underlying PCC are well known globally,(91) there is less evidence of its use in Africa.(82) Studies in Africa have shown gaps in the ability of PC providers to communicate effectively and to provide PCC.(33) Patients can be highly satisfied with consultations that are devoid of person-centredness, which could be due to patients' previous experience with the facilities, low expectations and their gratefulness in being able to see a health professional at all.(92)(93)(94) However, involving the patients in shared decision making, can contribute significantly towards patient's satisfaction.(95)

The implementation of PCC in LMICs (e.g. Kenya) has challenges such as mistrust and negative past experiences, lack of respectful communication and autonomy, low expectations, also patients are accustomed to biomedical and doctor-centred approaches.(82)(92)(96)(97) In addition, high patient volumes and relatively scarce

health care workers pushes the consultation towards a shorter, less personal and more biomedical approach.(92) The tendency of PCC to take longer is often cited as a reason not to adopt this approach in this context.(92)(96) The longer term implications of the lack of PCC on patient satisfaction, missed diagnoses, poor adherence, repeated consultations and health outcomes is rarely documented. Little is known about the PCC offered by GPs in PC in Kenya in both the public and private sectors.

2.5 KNOWLEDGE GAP

The quality of service delivery in PC is a significant issue in public and private sectors, and the performance of PC needs to be measured,(24)(50) as the evaluation and assessment of PC performance worldwide, guides and informs the strengthening of the PHC system.(68) Unfortunately, in SSA there is a dearth of information on the quality and performance of PC especially in the private sector.(68)

The absence of such information impedes the ability of policymakers and implementers to identify areas that need improvement as well as prioritise the use of resources.(24)

Countries around the world have their own ways and methods to measure the performance of service delivery in PC.(68) Measuring PC service delivery in the African context has been identified as a knowledge gap.(2)(12)

Furthermore, a survey of the assessment of quality in PC in 10 African countries, including Kenya, found major gaps in the measurement of PC indicators.(98) In addition, the survey did not evaluate the measurement of high quality PC as per the PHCPI service delivery domain.(98)

Although Kenya is one of the "trail blazer" countries that are participating in the evaluation of PC performance with the PHCPI, evaluation was not possible in the

domains of first-contact accessibility, continuity, comprehensiveness, coordination and person-centredness.(1) This was because of the absence of data on the routinely collected indicators chosen by the PHCPI.(1)

Governments typically focus their attention in the public sector regarding the quality of services, and the measurement of quality in the private sector may be neglected.(99) In addition, private sector PC is diverse in terms of geographical location, types of practice and organisation, making measurement of quality complex and difficult.(99) Therefore, the data is crucial and important in order to assess performance in PC, in particular, the experience of the patient and quality of care in service delivery.(21)

No previous study in Kenya has evaluated the key elements of high quality PC in service delivery in the public nor the private health care sector. This dissertation is a first attempt in addressing this knowledge gap in the private sector and may serve as a guide to evaluating PC in the private sector within the region.

Hence, the new knowledge from our study is aimed at kick-starting future evaluations leading to a long term improvement in quality in service delivery in line with the existing and new health needs that are visualised over the next few decades.(100)(101)

2.6 AIM AND OBJECTIVES

To evaluate the quality of service delivery in primary care facilities in the private sector in Nairobi, Kenya.

Objectives include:

1. To evaluate the accessibility of PC services.
2. To evaluate the continuity of care in PC services.

3. To evaluate the comprehensiveness of care in PC services.
4. To evaluate the coordination of care in PC services.
5. To evaluate the person-centredness of PC services.

2.7 OVERVIEW OF STUDY DESIGN

The study design consists of five descriptive cross-sectional studies within a network of private PC clinics in Nairobi, that together measure the key items contained in the sub-domain of high quality PC in the domain of service delivery of the PHCPI conceptual framework.

There are few validated tools to measure the objectives and no studies have established which of these are most suited in the African context.(33) The WHO in their Handbook for National Quality Policy and Strategy, recognises that interventions aimed at improving quality, can be built on the patient's experience and perceptions of care.(42) In addition, patient-reported measures are significant, and patients with better experiences are more involved in their care management, which may lead to better health outcomes.(42) This is in addition to measures of clinical performance and from the perspective of health care professionals. The study design therefore makes use of a variety of tools that have been developed locally or used within the region to evaluate the objectives, which combine observations, as well as the perspectives of both GPs and their patients.

The five studies and their relationship to the objectives are described below and presented in Chapter 3.

Study 1: Perceptions regarding the scope of practice of family doctors amongst patients in PC settings in Nairobi. This study was a cross-sectional descriptive survey using a self-administered questionnaire. Data were collected between July and August 2015.

Study 2: Evaluation of the quality of service delivery in private sector, primary care clinics in Kenya: A descriptive patient survey using the General Practice Assessment Questionnaire (GPAQ-R2). Data were collected between April and May 2019.

Study 3: Evaluation of the quality of communication in consultations by General Practitioners in primary care settings, Nairobi, Kenya: A descriptive observational cross-sectional study using the Stellenbosch University Observation Tool (SUOT).

Data were collected between June and July 2019.

Study 4: The quality of primary care performance in private sector facilities in Nairobi, Kenya: A cross-sectional descriptive survey of primary care users, using the Primary Care Assessment Tool (PCAT). Data were collected between December 2020 to February 2021

Study 5: General practitioners' training and experience in the clinical skills required for comprehensive primary care in Nairobi, Kenya: A cross-sectional descriptive study using a South African tool designed for a national survey of primary care doctors. Data were collected between October to November 2020.

Table 2.1 presents the relationship between the five studies and the research objectives, and shows that each objective is evaluated by at least two of the studies.

Table 2.1: Relationship of studies to the research objectives.

Objectives	Study 1	Study 2	Study 3	Study 4	Study 5
First-contact accessibility		Yes		Yes	
Continuity		Yes	Yes	Yes	
Comprehensiveness	Yes			Yes	Yes
Coordination			Yes	Yes	
Person-centredness		Yes	Yes		

2.8 CONCLUSION

This chapter outlined the conceptual framework and the scientific value of the study. It identified and highlighted the knowledge gap in the quality of service delivery in PC, followed by the aim and objectives. This chapter concluded with an overview of the study design before the presentation of the individual studies in Chapter 3.

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CHAPTER 3

ORIGINAL RESEARCH ARTICLES

INTRODUCTION

This chapter includes five original research articles. Each article describes the introduction, aim and objectives, methods, discussion and conclusions for the particular study. Two articles have been published, and three articles are presented as 'submission ready'.

3.1 Article 1

Perceptions regarding the scope of practice of family doctors amongst patients in primary care settings in Nairobi.

This article was published online in the African Journal of Primary Health Care & Family Medicine.

Afr J Prm Health Care Fam Med. 2018;10(1), a1818. https://doi.org/10.4102/ phcfm.v10i1.1818

Authors: Mohamoud G, Mash B, Merali M, Orwa J, Mahoney M.

3.2 Article 2

Evaluation of the quality of service delivery in private sector, primary care clinics in Kenya: A descriptive patient survey

This article was published on line in South African Family Practice Journal.

S Afr Fam Pract. 2020;62(1), a5148. https:// doi.org/10.4102/safp. v62i1.5148

Authors: Mohamoud G, Mash B

3.3 Article 3

Evaluation of the quality of communication in consultations by general practitioners in primary care settings, Nairobi, Kenya: Descriptive observational cross-sectional study.

This article is ready for submission.

Authors: Mohamoud G, Mash B

3.4 Article 4

The quality of primary care performance in private sector facilities in Nairobi, Kenya: A cross-sectional descriptive survey.

This article has been submitted for publication.

Authors: Mohamoud G, Mash B

3.5 Article 5

General practitioners' training and experience in the clinical skills required for comprehensive primary care in Nairobi, Kenya: A cross-sectional descriptive study.

This article is ready for submission.

Authors: Mohamoud G, Mash B

3.1 ARTICLE 1: Perceptions regarding the scope of practice of family doctors amongst patients in primary care settings in Nairobi.

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Perceptions regarding the scope of practice of family doctors amongst patients in primary care settings in Nairobi

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Background: Primary care (PC) is the foundation of the Kenyan health care system, providing comprehensive care, health promotion and managing all illnesses across the lifecycle. In the private sector in Nairobi, PC is principally offered by the general practitioners, also known as family doctors (FDs). The majority have no postgraduate training. Little is known about how patients perceive their capability.

Aim: To assess patients' perceptions of the scope of practice of FDs working in private sector PC clinics in Nairobi and their awareness of the new category of family physicians (FPs) and the discipline of family medicine.

Setting: Private sector PC clinics in Nairobi.

Methods: A descriptive survey using a structured, self-administered questionnaire. Simple random sampling was used to recruit 162 patient participants.

Results: Of the participants, 30% knew the difference between FPs and FDs. There was a high to moderate confidence that FDs could treat common illnesses; provide lifestyle advice; family planning (66%) and childhood immunisations (64%). In adolescents and adults, low confidence was expressed in their ability to manage tuberculosis (58%), human immunodeficiency virus (55%) and cancer (33%). In the elderly, there was low confidence in their ability to manage depression (55%), anxiety (57%), urinary incontinence (57%) and diabetes (59%). There was low confidence in their ability to provide antenatal care (55%) and Pap smears (42%).

Conclusion: Patients did not perceive that FDs could offer fully comprehensive PC services. These perceptions may be addressed by defining the expected package of care, designing a system that encourages the utilisation of PC and employing FPs.

Introduction

Background

Forty years after the Alma-Ata Declaration that launched the primary health care (PHC) movement and which committed the World Health Organization (WHO) to tackle 'politically, socially and economically unacceptable' health inequities,[1] major health inequities remain. According to a 2008 WHO report:

> ... it is necessary to invest in and renew the commitment to primary health care not only to promote health equity in developing countries, but also help to address the Millennium Development Goals, and now Sustainable Development Goals, at a population level.[2]

Primary health care has been defined as the sum of all elements of a health system meant to address basic health needs, including preventive care.[3] The WHO further subdivides PHC into four main areas, that together, ensure a strong PHC system: universal health coverage, policy, leadership and governance, and primary care (PC).[3,4] Health systems that effectively implement PHC achieve better results in comparison to those that focus more on a biomedical and hospital-based approach.[5]

Primary care is defined as the first contact with the health system and needs to be as accessible as possible. Primary care is characterised as being long-term and patient-centred; that is, both comprehensive and coordinated with other levels of care in the context of both family and community.[6]

In European countries, most reforms aim to create health care systems with efficiently organised PC services as their foundation. In the Netherlands and the United Kingdom, general practitioners (GPs) function as the PC providers and gatekeepers to the health system.[7]

Primary care delivery in sub-Saharan Africa (SSA) has delivered selected programmes for diseases such as human immunodeficiency virus (HIV), tuberculosis (TB) and malaria, but has been criticised for not being comprehensive and being poorly resourced in terms of equipment, medications and delivered by low-level and poorly trained health care workers.[2,8,9] Sub-Saharan Africa countries face many challenges with regards to the accessibility and affordability of high-quality PC. Whilst the WHO encourages the promotion of comprehensive PC, it is still an emerging concept in SSA.[10]

A sustained focus on and attention to PC in the public sector in Kenya has resulted in a doubling of utilisation over a 10-year period.[11] This was achieved through increased staffing, provision of essential commodities, elimination of cash payments and introduction of free maternal services.[11] Two-thirds of all consultations in PC now occur in the public health care sector and health equity has improved.[11] Clinical officers (mid-level clinicians) and GPs are the main PC providers in both the private and public sector. Doctors are essential contributors to strengthening the PHC system in both the public and private sectors.[12]

Little is known in Kenya about the performance of PC, particularly in terms of access, comprehensiveness, continuity, coordination, people-centeredness and quality of care. Health information systems struggle to collect, analyse, interpret and use data for improvement.[5] Most studies have focused on hospital-based care in the public sector.[13]

Nairobi, the capital city of Kenya, is home to approximately 3 million people and is the largest city in Kenya.[14] Primary care in the private sector is provided mainly by GPs, hereafter referred to as family doctors (FDs), most of whom have not received postgraduate training in family medicine (FM).

Family medicine trains doctors to work in PC and the broader district health services, but in Kenya is still in its nascent stage with no more than 100 registered family physicians (FPs). In contrast, the number of GPs total around 3400. As FPs, with four years of postgraduate training, enter the health system, there may be a mismatch between their more comprehensive competencies and public expectations of the scope of PC practice based on untrained FDs. Little is known about how the patients view the competence of the existing FDs in private practice, the range of services that they offer and whether they are aware of the new discipline of FM and how this could further benefit services.

A pilot study carried out in Nairobi demonstrated a higher recognition of the term 'family doctor', amongst patients attending a PC clinic, which led to the use of this term in this study. However, there was less understanding of what FDs do, what conditions they could treat or procedures they could perform. There is very little research on the services offered by the FDs in the private sector in PC in Kenya and even less from the patient's perspective. Understanding the current perceptions of patients regarding the scope of services offered by the FDs in Kenya, is a crucial step in promoting, marketing and planning the delivery of PC services.

This study aimed to assess patient's perceptions of the scope of practice of FDs working in private sector PC clinics in Nairobi and their awareness of the new category of FPs and the discipline of FM.

Methods

Study design

This was a cross-sectional descriptive survey using a structured self-administered questionnaire.

Setting

The Kenyan health system consists of three main categories of service providers: public, private non-profit and private for-profit organisations. The government operates 41% of health facilities in the public sector, whilst the private for-profit sector operates 43% of health facilities and is becoming more prominent. Private clinics of varying complexity exist in most major urban centres.[15]

There were 13 PC clinics associated with the tertiary care private hospital within the city of Nairobi at the time of the study. These clinics were run by FDs and offered health promotion, preventive and curative services to all age groups. The staff in each clinic included a FD, registered nurse, laboratory technician and pharmacist. On an average, 35 patients were seen at these clinics per day. Almost all of them were covered by private medical insurance.

Study population and sampling strategy

A non-stratified Fisher's sample size calculation was based on: an expected proportion of 50%, as there was no previous data to estimate the expected proportions across multiple variables, a margin of error of 5% and a study population of 280 which was the sum of the daily average number of patients seen in the eight selected facilities. This resulted in a minimum sample size of 162 participants.

The study included eight clinics with the highest workload, of which three clinics were located in the centre of Nairobi and five in the broader metropolitan area.

The proportion of the sample selected from each clinic was based on the proportion of the total workload (average daily headcount) seen in each clinic in the study. In each clinic, simple random sampling was used to recruit the participants. The study population consisted of adult

patients (18 years and above) attending the clinics. Those who were too sick or those who could not provide their own consent were excluded from the study.

Data collection

Data were collected using a structured self-administered questionnaire. The questionnaire was developed by the researcher, based on the common conditions seen in the Nairobi context and services usually provided by PC. As there was no defined package of care for the PC services offered in the private sector, items were generated by G.M. (an experienced FP) and M.M. (head of the FM department) and the content and construct of the questionnaire was further validated by a FD and a medical psychologist, all of whom had research expertise and work experience in PC. The questionnaire was piloted in a PC clinic also associated with the same tertiary care hospital to assess its acceptability, feasibility and ease of understanding in the study population. This clinic did not form part of the main study. The feedback from the pilot was used to adjust the final questionnaire.

All the patients attending the clinic spoke English and consultations and treatment at all the chosen clinics were conducted in English, hence the choice of language. Literacy level in Nairobi is measured at 85%.[14]

The questionnaire captured information on demographics and patients' perceptions of whether FDs could offer clinical services for different age groups, acute and chronic conditions, disease prevention and health promotion.

As a secondary objective, patients were also asked about their awareness of FM and the new cadre of FPs. Patient perception was defined as patient's awareness of the conditions, preventive health care services and life style advice that the FD could treat or carry out.

Data analysis

Data were captured in MS Excel, checked for errors or omissions and then analysed in Strata version 12. All variables were categorical and were analysed descriptively using frequencies and percentages. The patients' perception as to whether the FD could offer a service was categorised into high (≥ 80%), moderate (60% – 79%) and low (< 60%).

Ethical consideration

The study was approved by the tertiary care hospital's Research and Ethics Committee (research protocol no. 2014/REC-50(v3)) and by the National Commission for Science, Technology and Innovation (permit no. NACOSTI/P/15/1304/5166).

Results

Demographics

The socio-demographic characteristics of the 162 participants are presented in Table 1. Overall, there were 75 (46%) men and 87 (54%) women. The majority were married, had children, were of working age, employed, with tertiary education (83%) and lived in Nairobi.

TABLE 1: Socio-demographic characteristics of participants.

Characteristics	Male N = 75		Female N = 87		Total N = 162	
	n	%	n	%	n	%
Clinic						
Buruburu	12	16.0	8	9.2	20	12.3
Doonholm	8	10.7	7	8.0	15	9.3
Kikuyu	15	20.0	15	17.2	30	18.5
Ongata Rongai	5	6.7	10	11.5	15	9.3
Ridgeways	7	9.3	6	6.9	13	8.0
Ruaka	7	9.3	14	16.1	21	13.0
Syokimau	18	24.0	23	26.4	41	25.3
T-mall	3	4.0	4	4.6	7	4.3
Age (years)						
18–30	28	37.3	44	50.6	72	44.4
31–45	35	46.7	37	42.5	72	44.4
46–60	11	14.7	5	5.7	16	9.9
> 60	1	1.3	1	1.1	2	1.2
Occupation						
Self-employed	10	13.3	23	26.4	33	20.4
Employed	51	68.0	47	54.0	98	60.5
Student	10	13.3	13	14.9	23	14.2
Retired	4	5.3	4	4.6	8	4.9
Education						
O-level	7	9.3	6	6.9	13	8.0
A-level	4	5.3	10	11.5	14	8.6
University and/or college	64	85.3	71	81.6	135	83.3
Marital status						
Single	21	28.0	29	33.3	50	30.9
Married	50	66.7	57	65.5	107	66.0
Other	4	5.3	1	1.1	5	3.1
Residential area						
Nairobi	52	69.3	55	63.2	107	66.0
Nairobi metropolitan	23	30.7	32	36.8	55	34.0

T-Mall, tuskys mall; O-level, ordinary level; A-level, advanced level.

Difference in perception between family doctor and family physician

Most respondents had heard of the terms FP, FD and FM (Figure 1). In all, 49 (30%) stated that there was a difference between a FD and a FP (Figure 2).

Perceptions regarding the scope of practice of a family doctor

Most respondents believed that FDs were able to treat people across the lifecycle, although the perception was slightly less for small babies and the elderly (Table 2). Table 2 also presents the patients' perceptions regarding the different diseases a FD could treat across different age groups.

In children below 12 years, patients expressed high confidence in the FDs' ability to treat diarrhoea and upper respiratory tract infection; moderate confidence in their ability to manage lower respiratory tract infections, asthma, ear and eye infections, and low confidence to treat dermatological problems.

In adolescents, there was a high level of confidence that FDs were able to treat cough, malaria, diarrhoea, headache,

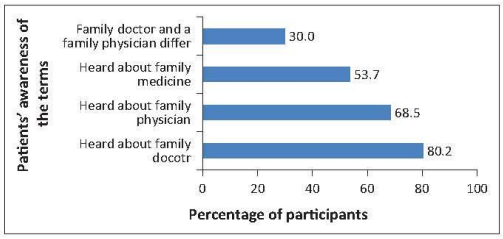
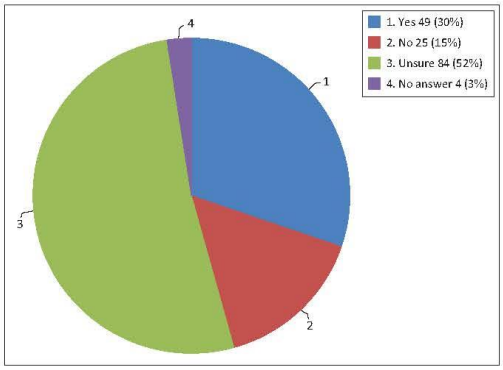


FIGURE 1: Patients' awareness of family physicians, family doctors and family medicine.



N = 162

FIGURE 2: Patients understanding that a family doctor and a family physician differ.

upper respiratory tract infections and injuries. There was moderate confidence in the treatment of skin diseases, diabetes, sexually transmitted infections (STIs) and asthma. There was a low level of confidence for the treatment of HIV, TB and cancer.

In adults, there was a high level of confidence that a FD could treat common conditions such as cough, malaria, diarrhoea, headache, upper respiratory tract infections and injuries; a moderate level of confidence was expressed regarding the treatment of chronic conditions such as diabetes, high blood pressure, asthma as well as STIs. There was low confidence expressed in their ability to treat HIV, TB, chest pain, cancer and thyroid disease.

Regarding the elderly, patients had moderate level of confidence that FDs could treat joint pains and/or stiffness, injuries from falls, high blood pressure, sleep problems, asthma and skin diseases, but low level of confidence in treating depression, anxiety, urinary incontinence, diabetes and thyroid problems.

The patients had moderate confidence that the FD could offer services like childhood immunisation, adult vaccination and family planning and low levels of confidence in antenatal care, cervical cancer screening and circumcision (Table 3).

Regarding lifestyle issues, patient's had moderate confidence that a FD could advise on obesity and weight loss, on nutrition in general, behaviour change counselling for tobacco smoking and alcohol and low level of confidence was expressed regarding end-of-life issues (Table 4).

TABLE 2: Perception of the diseases a family doctor can treat across different age groups.

Type of disease	Male		Female		Total	
	n	(%)	*n*	(%)	*n*	(%)
Babies and children ≤ 12 years						
Diarrhoea	61	81.3	72	82.8	133	82.1
Fever	68	90.7	76	87.4	144	88.9
Cough	67	89.3	76	87.4	143	88.3
Flu	66	88.0	74	85.1	140	86.4
Vomiting	66	88.0	74	85.1	140	86.4
Sore throat	59	78.7	71	81.6	130	80.2
Pneumonia	55	74.3	61	70.1	116	72.0
Ear infections	50	66.7	60	69.0	110	67.9
Eye infections	45	60.0	58	67.4	103	64.0
Asthma	48	64.0	57	65.5	105	68.0
Skin diseases	43	61.4	48	57.8	91	59.5
Adolescents 13 years–17 years						
Cough	70	93.3	79	91.9	149	92.5
Malaria	67	89.3	78	90.7	145	90.1
Diarrhoea	68	90.7	79	91.9	147	91.3
Headache	70	93.3	80	93.0	150	93.2
Flu and cold	68	90.7	78	90.7	146	90.7
Skin diseases	48	64.0	61	70.9	109	67.7
Diabetes	44	58.7	52	61.9	96	60.4
HIV infection	41	54.7	45	52.9	86	53.8
TB infection	44	58.7	47	54.7	91	56.5
STI	50	66.7	56	65.1	106	65.8
Asthma	49	65.3	59	69.4	108	67.5
Injuries	63	84.0	70	82.4	133	83.1
Cancer	24	32.0	27	31.4	51	31.7
Adults 18–60 years						
Cough	70	93.3	81	93.1	151	93.2
Malaria	67	89.3	80	93.0	147	91.3
Diarrhoea	68	90.7	80	92.0	148	91.4
Headache	70	93.3	81	93.1	151	93.2
Flu and cold	69	92.0	82	94.3	151	93.2
Diabetes	53	70.7	58	68.2	111	69.4
High blood pressure	53	70.7	64	4.4	117	72.7
HIV infection	40	53.3	50	58.8	90	56.3
TB infection	43	57.3	52	60.5	95	59.0
STI	54	54.0	63	73.3	117	72.7
Asthma	50	67.6	63	73.3	113	70.6
Injuries	64	85.3	67	77.9	131	81.4
Chest pain	37	49.3	46	54.1	83	51.9
Cancer	24	32.0	32	37.6	56	35.0
Thyroid problems	36	48.0	43	50.0	79	49.1
Elderly ≥ 61 years						
Arthritis	43	59.7	52	59.8	95	59.7
Joint pains and/or stiffness	47	66.2	61	70.1	108	68.4
Injuries from falling	52	73.2	62	71.3	114	72.2
Depression	41	56.9	47	54.0	88	55.3
Anxiety	41	56.9	49	56.3	90	56.6
Urinary incontinence	36	50.0	54	62.1	90	56.6
Diabetes	41	56.9	52	60.5	93	58.9
High blood pressure	48	66.7	60	69.8	108	68.4
Sleep problems	43	59.7	54	62.1	97	61.0
Asthma	43	59.7	58	67.4	101	63.9
Skin diseases	46	63.9	59	67.8	105	66.0
Thyroid problems	35	48.6	43	49.4	78	49.1

HIV, human immunodeficiency virus; STI, sexually transmitted infections; TB, tuberculosis.

TABLE 3: Perception of family doctors offering preventative health care services (*N* = 162).

Variables	Total	
Type of specialised services	**#**	**(%)**
Antenatal care	88	55.0
Carry out Pap smear tests	67	41.9
Family planning services	105	65.6
Childhood immunisation	103	64.0
Adult vaccinations	108	67.0
Circumcision	92	57.1

TABLE 4: Perception of family doctors offering lifestyle advice and counselling (*N* = 162).

Variables	Total	
Type of lifestyle	**#**	**%**
Healthy diet for chronic diseases	128	80.0
Childhood nutrition	125	78.1
Obesity and weight loss	116	72.5
Psychosocial counselling	121	76.1
End-of-life issues	89	56.3
Alcohol and smoking	103	64.4

Discussion

This study showed that patients had limited expectations of the services offered by FDs in the private sector PC in Nairobi. They had confidence in the FDs' ability to treat common minor illnesses and non-communicable diseases, as well as underlying risky behaviours such as tobacco smoking and harmful alcohol use. They were not fully convinced by the FDs' ability to treat communicable diseases, emergencies, pregnant women, skin conditions, cancer or to provide preventive care such as cervical cancer screening and immunisations. They also lacked confidence in the FDs' ability to treat small babies and the elderly.

Whilst our study showed positive confidence in FDs' abilities to treat common illnesses, there were gaps that indicated the need for more awareness on the role of FDs, as well as empowerment of the FDs to reduce them. Studies elsewhere concur that the ability of FDs to treat common conditions and to counsel patients on lifestyle issues are important in saving patients' time, cost and in preventing disease. However, their results also showed gaps in the patient's perception of what FDs could deliver in this context compared to what would be expected elsewhere.[16]

The patients' perceptions of the scope of practice may have been influenced, not only by the capability of the FDs, but also by the private medical system itself, which does not automatically offer all the PC services. Medical insurance may enable direct access to general specialists such as paediatricians and obstetricians for common illnesses or routine antenatal care that could be competently provided by FDs in PC. Patients may also prefer care offered by a specialist with regards to non-communicable diseases and specialists may resist their business being taken over by PC. This emphasises the need for the FDs and the specialists to work together not only to maximise efficiency of care but also for the benefit of the patient.[17]

There may not be an incentive for PC to act as a gatekeeper to the health system in the private sector, whilst in the public sector; gatekeeping is needed to make the system more efficient and equitable. Health systems that allow patients to directly access specialist care may be less efficient in the use of resources, cause more harm and patients can be less satisfied.[18,19] A study by Starfield et al. showed that 'the supply of PC physicians was significantly associated with lower all-cause mortality, whereas a greater supply of speciality physicians was associated with higher mortality'.[6] However, in a system with untrained FDs, a lack of trust in their capabilities might drive patients to consult hospital specialists.[17,19]

The lack of confidence in FDs' ability to manage children could be explained by the fact that specialist paediatric care is initiated in all private hospitals immediately from the time of birth. The general tendency is for the parents to continue with this care from a paediatrician along with childhood immunisation. A study also confirmed the tendency by FDs in private practice to refer patients to the public sector for immunisation because of the high costs involved, thereby diminishing their role in this important activity.[20] In the public sector in Kenya, antenatal services, delivery, postnatal care and childhood immunisations are all provided free of cost. In addition, private insurance does not usually fully cover costs related to these areas of health need. Hence, there is fairly high usage of these services from the public health facilities which may explain our findings whereby patient's expressed low confidence in FDs' ability to manage women's health.

A similar situation exists with regard to care for HIV, TB and STIs. Care is provided free for these conditions in the public sector; hence, most patients are managed in this setting. Family doctors, therefore, may become deskilled in managing these conditions. In addition, patients can also access care from infectious disease specialists in the private sector and bypass PC.

Emergency care is usually provided at emergency centres within the hospital environment. This could have contributed to the low perception about FDs treating emergencies such as chest pain.

Cancer treatment is typically within the domain of the oncologist, although shared care with a FD is recommended to bring a more holistic and family-orientated approach.[21,22] Not surprisingly, therefore, the perception in this study is similar to others that FDs were not very capable at end-of-life counselling and cancer care.[23,24] FM and palliative care have been intimately linked in many health systems.

The perception that FDs were less capable at managing the elderly could be because of the complexity of multi-morbidity in the elderly, and the challenges of multiple cognitive, medical and social issues. Also, reliance on specialist care, along with a gap in the training of the FDs in elderly care could have contributed to this perception. In addition, the

number of elderly patients seen in PC in Nairobi are few, as most of them reside in their rural homes. In this study, only two of the respondents were above the age of 60 years. Although caring for the elderly in PC can be fulfilling and rewarding, it is also complex, difficult, heart breaking and time-consuming, more so with the addition of geriatric mental disorders.[25,26]

Although the scope of practice of FDs in the private sector may be shaped by the private health system itself, there may also be issues with the capability of FDs. Doctors with a basic medical degree often have gaps in their undergraduate training that reflects the tertiary hospital teaching setting. Care of common conditions seen in general practice may be omitted, particularly skin, eye, ear and nose problems, which are sub-specialities in the tertiary hospital environment.

Tertiary hospital training may also reduce exposure to undifferentiated problems, psychosocial issues and the health needs of the community. Hence, graduates may not be well prepared for PC.

Postgraduate training in FM is a recent initiative in Kenya, and there are now five training programmes (four in the public sector and one in the private sector). Postgraduate training in FM prepares doctors to become FPs with a more comprehensive set of competencies for PC and district hospital settings.[10] Family physicians are also trained to support the development of comprehensive PC that is equitable, accessible, continuous, patient-centred and holistic.[10] The number of FPs in the health system of Kenya is still very low, therefore, it was not surprising to find that patients were not fully aware of this new cadre of specialists.

Patients' perceptions on the scope of practice may be shaped, not only by their experience, but also by shared beliefs in their families or communities on the services offered by the PC clinics. This may be based on past or other experiences of the health system, media stories or other factors. This may merit further studies.

Strengths and limitations of the study

Because of the absence of a defined package of care, some diseases or services may not have been fully captured in the questionnaire. It is likely that the patients attending the eight clinics shared similar socio-economic and demographic characteristics to patients seen in the other PC clinics of the same hospital. Hence, the findings could be generalised to include patients attending all the PC clinics associated with this particular private tertiary care hospital, but cannot be generalised to other private and public health facilities.

Implications or recommendations

The FDs need to upgrade their skills for the management of different conditions, which will help them to improve the care provision. This will positively affect patient's perceptions regarding their capabilities in handling various conditions and performing certain procedures.

With the development of FM in Kenya, the FDs could be promoted to FPs after 4 years of postgraduate training. The FPs would bring a more consistent and comprehensive set of competencies to the practice. Patients, however, are not yet aware of the new speciality and might not change their perceptions or behaviour easily in a system that incentivises access to specialists. If patients have low expectations of PC, then the tendency to bypass clinics for anything but minor illness will be high.

The beliefs of patient's in this study are consistent with this type of health-seeking behaviour, which may change over time as the patients become more aware of the scope and services provided by the FPs.

The health system provision would need to be changed and reorganised if highly trained and competent FPs are to be placed in the PC clinics in order for the patients to fully benefit.

Here the managed care organisations might encourage patients to access specialist care through FPs because it is more cost-effective, accessible, comprehensive and patient-centred.

Patients' lack of confidence in a comprehensive PC service could also be addressed by clearly defining the expected package of care and ensuring that patients' expectations and health-seeking behaviour are modified through effective communication strategies. The findings of the study may have been different if it had been carried out in the rural setting where access to specialist care is more difficult. Patients' ideas could also be further explored in qualitative studies.

Conclusion

Patients did not perceive that FDs could offer a fully comprehensive PC service and were not very clear about the difference between a FD and a FP.

They believed that FDs could handle common illnesses, common chronic conditions and counsel on lifestyle change. They were less convinced that FDs could offer care for communicable diseases, such as HIV and TB, to pregnant women, small babies, the elderly, manage skin problems and offer some forms of prevention such as immunisations and cervical cancer screening. Perceptions may be addressed by defining the expected package of care, designing a system that encourages utilisation of PC and ensuring that care is offered by competent generalists. One way of ensuring this is to employ FPs in the PC clinics.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

G.M. is the principal investigator of this study and assumed primary responsibility for writing the article. B.M. provided guidance, supervision and input into the analysis and report writing. M.M. provided input into the design and validation of the questionnaire and assisted in proofreading the article as well as contributed to general study oversight. J.O. oversaw the statistical elements of the methodology and the analysis of the article. M.M. provided assistance in the design and provided input into the write-up of the study article.

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3.2 ARTICLE 2: Evaluation of the quality of service delivery in private sector, primary care clinics in Kenya: A descriptive patient survey

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AOSIS

Page 1 of 12 Original Research

Evaluation of the quality of service delivery in private sector, primary care clinics in Kenya: A descriptive patient survey

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Background: The quality of service delivery in primary care (PC) is an important determinant of clinical outcomes. The patients' perspective is one significant predictor of this quality. Little is known of the quality of such service delivery in the private sector in Kenya. The aim of the study was to evaluate the quality of service delivery in private sector, PC clinics in Nairobi, Kenya.

Methods: The study employed a descriptive cross-sectional survey by using the General Practice Assessment Questionnaire in 378 randomly selected patients from 13 PC clinics. Data were analysed using the Statistical Package for Social Sciences.

Results: Overall, 76% were below 45 years, 74% employed and 73% without chronic diseases. Majority (97%) were happy to see the general practitioner (GP) again, 99% were satisfied with their consultation and 83% likely to recommend the GP to others. Participants (97%) found in receptionist helpful and the majority were happy with the opening hours (73%) and waiting times (85%). Although 84% thought appointments were important, only 48% felt this was easy to make, and only 44% were able to access a particular GP on the same day. Overall satisfaction was higher in employed (98%) versus those unemployed (95%), studying (93%) or retired (94%) ($p < 0.001$).

Conclusion: Patients reported a high quality of service delivery. Utilisation was skewed towards younger, employed adults, without chronic conditions, suggesting that PC was not fully comprehensive. Services were easily accessible, although with little expectation of relational continuity. Further studies should continue to evaluate the quality of service delivery from other perspectives and tools.

Keywords: consultation; General Practice Assessment Questionnaire (GPAQ); health care quality; Kenya; patient satisfaction; primary care; private sector; service delivery.

Background

The World Health Organization (WHO) asserts that 'access to timely, acceptable, affordable, and high quality health care is a fundamental right of every human being'.[1] Health care systems have better health outcomes when built on primary health care (PHC), where prevention and promotion are in balance with curative interventions and 'appropriate referral to higher levels of care'.[2,3,4] World Health Organization subdivides the PHC approach into four main areas: universal health coverage (UHC), sound policies, governance and leadership and primary care (PC).[5]

Primary care is defined in terms of its 'four functions which are, first contact access for every health need; long-term person-focussed care, comprehensive and coordinated care that is measurable and its quality assessed'.[6,7] Therefore, there is a need to measure the quality of service delivery so that strategies can be put in place to further improve and strengthen PC.[6] One way of evaluating the quality of PC is by obtaining feedback from the patients regarding the practice, their consultations and practitioners.[8] Satisfaction of patients is a key predictor of the quality of service delivery.[8,9] Hence, identifying the gaps in quality of PC service delivery will help to achieve the goals of PHC.[6]

In PC, communication skills are as critical as the generalists' clinical competency for an effective and satisfactory consultation.[10] Several studies have shown that communication is one of the most important factors contributing towards overall satisfaction.[11,12,13] The degree to which patients' expectations of their consultations are fulfilled has a strong bearing on their satisfaction and the

perceived quality of service delivery.[14] Consultations should enable patients to understand their health problems, adhere to their management plan and take control of their illness.[15,16,17] Communication skills should support a broad and wholistic bio-psycho-social or person-centred approach to the consultation to deliver high-quality PC.[18] Communication and consultation skills are also important for the trust and confidence that patients have in their PC provider.[7,19,20]

Easy access to care is another important factor that impacts on satisfaction separately from the consultation itself.[21] High-quality service delivery in PC should also enable continuity of care over multiple illness episodes and coordinate care for the individual between different teams and levels of care.[7,20] Primary care should also deliver a comprehensive package of care from conception to end-of-life care and across the burden of disease.[7]

The quality of service delivery can, therefore, be assessed by attention to the quality of the consultation and person-centredness, access to care, continuity of care, coordination of care and comprehensiveness.[7] A systematic review in sub-Saharan Africa (SSA) listed 'access and cost of care, doctor-patient relationship, and healthcare resources as main contributors to patient satisfaction'.[22] Studies conducted within East Africa have linked satisfaction to communication, empathy, cleanliness, adequacy of medical supplies, technical equipment and staff attitudes.[23,24,25] These studies show consistently high levels of satisfaction despite well-documented inadequacies, such as lack of essential resources, medication, equipment and shortages of personnel.[23]

The relationship between patient satisfaction and quality of care is complex because other factors such as expectations play an important role.[26] Nevertheless, patient satisfaction remains a significant aspect of understanding the quality of care in service delivery because patients are ultimately the clients.

In addition to expectations, socio-demographic factors may also predict patient satisfaction, although results are not consistent.[24,27] A study at a district hospital in the public sector of Kenya found that older married men were more satisfied, whereas a study from a family medicine clinic in a Nigerian teaching hospital found no such relationship.[13,24]

The health system in Kenya has three categories of service providers: public sector services (48%), not-for-profit private organisations (14%) that includes religious, mission hospitals and non-governmental organisations [NGOs] and private-for-profit providers (38%).[28] Therefore, the private sector provides 52% of health services in Kenya and this proportion is growing.[28] Understanding the quality of service delivery in the private sector is important.

A few studies in Africa have evaluated the quality of service delivery from the patient's perspective and no studies were identified from the private sector in Kenyan PC.[22] This study therefore will bridge the gap in our knowledge of PC in the African context and should help to identify ways of improving service delivery in this context. The aim of this study was to evaluate the quality of service delivery from the patients' perspective in private sector, PC clinics in Nairobi, Kenya.

Methods

Study design

This was a descriptive cross-sectional survey, using the General Practice Assessment Questionnaire revalidated version 2 (GPAQ-R2).

Setting

Nairobi, the capital city of Kenya is home to approximately 3.5 million people, which is almost 10% of the country's population.[29] A private tertiary care hospital was linked with 13 PC clinics in Nairobi County, which were run by general practitioners (GPs). These ambulatory PC facilities offered services in semi-urban, urban and peri-urban areas of Nairobi. Most of the clinics were operational throughout the week and were open at times suited to an employed population. They catered for all age groups and services included health promotion, disease prevention and curative treatment. The clinics also included registered nurses, pharmacy technicians, laboratory technicians, radiographers and receptionists. On an average, 35 patients were seen at these clinics per day, and most of them were covered by private medical insurance by virtue of their employment.

The tertiary hospital associated with these PC clinics also had a Department of Family Medicine, which was run by specialist family physicians. They offered out-patient family medicine services alongside the usual hospital specialists and sub-specialists and received referrals from the PC clinics. The PC clinics had easy access to refer patients to family medicine, the accident and emergency centre or other specialities at the tertiary hospital. There was no compulsory gatekeeping at the PC level, and patients could choose to access care via the PC clinics or the hospital.

Study population and sample size calculation

The study population included all consenting adult patients (>18 years) attending these 13 PC clinics in Nairobi County. The family medicine department at the hospital was excluded. Children and those who were too sick or unable to participate were also excluded from the study. Every month, approximately 15 300 patients were seen across all the clinics. The sample size calculation was, therefore, based on a population of 20 000 patients, as sample size calculations do not change markedly in populations over this size. Patient satisfaction was assumed to be 70%,[10,29,30] confidence intervals 95% and margin of error 5%. Using these assumptions in Fischer's formula for one proportion, the minimum sample size was 318 patients. The final sample size required was 350 after an adjustment of 10% for incomplete responses.

Sampling strategy

The number of patients selected per clinic was proportional to the clinic's workload, as measured by the monthly headcount by using the daily register as a master frame. Consenting participants were randomly selected by using computer-generated random numbers until the required sample was obtained. It took a period of 2 months to collect the data from all 13 PC clinics, which were spread all over Nairobi.

Data collection tool

The GPAQ-R2 tool is a validated tool that is used worldwide for quality assessment of PC service delivery.[31,32] The GPAQ-R2 tool consists of 46 multiple choice and Likert-scale questions (Appendix 1). The Likert scales are all scored differently depending on the type of questions asked. To adapt this already validated tool to the local context, three family medicine experts validated the content. They were asked to give feedback on whether the questions were relevant to the local context and phrased appropriately. The questionnaire was then piloted in a similar PC clinic, which was not included in the study, with a group of 35 patients to assess its face validity, acceptability and feasibility. No changes were made to the GPAQ-R2 questionnaire as a result of the validation and piloting.

Data collection process

Data was collected by trained research assistants in the PC clinics who provided the consenting patients with the self-administered questionnaire after their consultation. All the requested participants completed the survey in English. A recent study carried out at the same PC clinics revealed that the majority of patients were English speaking, and consultations were also conducted in English.[33] The research assistant was available to provide help and clarification in Swahili if needed.

Data analysis

The researchers aligned the GPAQ-R2 questions with key domains of PC service delivery as shown in Table 1.

The literature on GPAQ-R2 does not calculate composite scores for different domains or constructs. The questions therefore are reported and interpreted individually in the results, but grouped together into the domains described in Table 1.

Data was entered into an Excel spreadsheet and analysed by using the Statistical Package for Social Sciences (SPSS version 25). All data were categorical, and therefore descriptive analysis was reported as frequencies and percentages. Three variables that measured overall satisfaction with the quality of service delivery were compared with the demographic variables by using Pearson's Chi Square test. These variables were: 'Would you be completely happy to see this GP again?' 'Overall, how would you describe your experience of your GP surgery?' and 'How likely are you to recommend your GP surgery to friends and family if they need similar care or treatment?'

TABLE 1: Relationship of General Practice Assessment Questionnaire questions to key domains of service delivery.

Domains	Number of items	GPAQ questions
Socio-demographics	5	42–46
Access to the practice	10	12–19, 22–23
Consultation with the GP	8	1–8
Confidence in the patient – GP relationship	2	9–10
Care enablement	3	37–39
Care continuity	4	20, 21, 28, 29
Overall satisfaction with the GP and practice	3	11, 40, 41

GP, general practitioner; GPAQ, General Practice Assessment Questionnaire.

Ethical consideration

The study was approved by the Research and Ethics Committee (REC) of the Aga Khan University Hospital, Nairobi (reference number: 2018/REC-137[v2]), and complied with the ethical guidelines.

Results

Table 2 shows the socio-demographic characteristics of the 378 respondents. In the category on employment status, the item 'others' refers to respondents who stayed at home because they were retired, homemakers or chronically ill.

The majority of participants were under 45 years of age (289, 76.4%), women (232, 61.4%), employed (280, 74.1%) and without chronic diseases (275, 72.7%).

The majority (367, 97.1%) would be happy to see the GP again and were satisfied (373, 98.6%) with their overall experience of the practice. They were also very likely to recommend the practice to friends or family (311, 83.0%).

TABLE 2: Socio-demographic characteristics and health status of the patients (N = 378).

Variables	Total	
	n	%
Gender		
Male	146	38.6
Female	232	61.4
Age in years		
18–44	289	76.4
45–64	82	21.7
65 and over	7	1.9
Employment status		
Employed	280	74.1
Unemployed	20	5.3
Studying	28	7.4
Others	50	13.2
Long-standing health condition		
Yes	69	18.3
No	275	72.7
Don't know/can't say	34	9.0

TABLE 3a: Patients' perspective on the consultation, relationship with the general practitioner and care enablement ($N = 378$).

Consultation with the GP	Very good		Satisfactory		Poor		Does not apply	
	n	%	*n*	%	*n*	%	*n*	%
Putting you at ease	325	86.0	50	13.2	2	0.5	1	0.3
Being polite and considerate	343	90.7	35	9.3	0	0.0	0	0.0
Listening to you	339	89.6	38	10.1	1	0.3	0	0.0
Giving you enough time	338	89.5	38	10.1	1	0.2	1	0.2
Assessing your medical condition	338	89.5	33	9.1	4	1.3	3	0.8
Explaining your condition and treatment	327	86.5	43	11.4	4	1.1	3	1.0
Involving you in decisions about your care	322	85.2	44	11.6	6	1.6	6	1.6
Providing or arranging treatment for you	331	88.0	40	10.5	2	0.5	5	1.0

GP, general practitioner

TABLE 3b: Patients' perspective on the consultation, relationship with the general practitioner and care enablement ($N = 378$).

Confidence in the patient–GP relationship	Definitely		To some extent		None		Don't know/can't say	
	n	%	*n*	%	*n*	%	*n*	%
Confidence in GPs' honesty and trustworthiness	283	74.9	79	20.9	4	1.0	12	3.2
Confidence in GPs' commitment to confidentiality	295	78.0	58	15.3	1	0.3	24	6.4

GP, general practitioner

TABLE 3c: Patients' perspective on the consultation, relationship with the general practitioner and care enablement ($N = 378$).

Care enablement – how well the GP enabled the patient to:	Very well		Unsure		Not very well		Does not apply	
	n	%	*n*	%	*n*	%	*n*	%
Understand your health problems	289	76.5	53	14.0	14	3.7	22	5.8
Cope with your health problems	288	76.2	51	13.5	11	2.9	28	7.4
Keep yourself healthy	288	76.2	47	12.4	13	3.4	30	8.0

GP, general practitioner

Table 3 shows high levels of satisfaction with the consultation, confidence in the provider–patient relationship and care enablement. High level of confidence was expressed (283, 74.9%) with the GPs 'honesty and trustworthiness'. On the other hand, 58 (15.3%) patients showed some doubt about the GPs' ability to maintain confidentiality. High proportions of patients felt the GP enabled them to understand (289, 76.5%) and cope with their health problems (288, 76.2%) and guided them in lifestyle changes (288, 76.2%).

Table 4 presents the results for access and support of continuity of care. The majority (366, 96.8%) found the receptionist helpful and the clinic opening hours convenient (276, 73%). There was no clear preference expressed for additional or alternative opening hours. Overall, 294 (77.8%) patients were satisfied with the waiting time, 85% of patients waited less than 30 min and 25% less than 10 min (Figure 1).

Of all the participants, 317 (83.9%) expressed the importance of making an advanced booking for their appointment, but only 183 (48.4%) felt that this was easy to do, and 149 (39.4%) had not tried to do so. Almost half of the participants (186, 49.2%) were of the view that in case of an emergency, they would be able to see the GP on the same day. The majority of patients (274, 72.5%) did not express the need to see or speak to a particular GP.

Table 5 shows the relationship between measures of overall satisfaction and the patient socio-demographics. There was no association between patient socio-demographics and their overall experience of the practice. However, there was an association between their employment status and being happy to see the same GP again, as well as willingness to recommend the practice to friends and family. Post hoc analysis showed that those in employment were significantly more satisfied than those that were unemployed, studying, retired or home for other reasons. There was no association with any of the other variables such as age, gender or presence of a chronic condition.

Discussion

The quality of service delivery in these private sector PC clinics in Nairobi, was high as measured from the patients' perspective. Patients were particularly satisfied with their consultations, care enablement, confidentiality and their overall experience of the practice. Lower levels of satisfaction were expressed in terms of overall access to the practice, access to a particular GP and for emergencies. Patients did not express a strong desire for relational continuity and thought it was easier to see any GP rather than a specific GP. The practice population mostly consisted of young and middle-aged patients, who were employed and without chronic conditions. Patients who were employed were more satisfied, but age, gender and having a chronic condition had no association with overall satisfaction.

The questions on the consultation covered key aspects of person-centredness such as listening, providing enough time to tell your story, explaining the problem, involvement in decision-making and enabling self-care.[18] This high satisfaction with the consultation therefore also appeared to reflect an experience of person-centredness. Other studies carried out in Canada, United Kingdom, Bangladesh and

TABLE 4: Access to the practice and general practitioner, and continuity of care (N = 378).

Variables	Total	
	#	%
Access to the practice and GP		
How easy is it to get through to someone at your GP practice on the phone?		
Easy	187	49.5
Not easy	28	7.4
Haven't tried	163	43.1
How easy is it to speak to your doctor or nurse on the phone at your GP practice?		
Easy	143	37.8
Not easy	28	7.4
Haven't tried	207	54.8
How do you normally book your appointments at your practice?		
In person	214	56.6
By phone	98	25.9
Online	14	3.7
Doesn't apply	109	28.8
Which of the following methods would you prefer to use to book appointments at your practice?		
In person	180	47.6
By phone	193	51.1
Online	85	22.5
Doesn't apply	57	15.1
Willing to see any doctor: How quickly do you usually get seen?		
Same day or next day	229	60.6
2–4 days	21	5.6
5 days or more	5	1.3
I don't usually need to be seen quickly	35	9.3
Don't know, never tried	88	23.3
How do you rate how quickly you were seen?		
Excellent	166	43.9
Good	62	16.4
Satisfactory	37	9.8
Poor	13	3.5
Continuity of care		
Is there a particular GP you usually prefer to see or speak to?		
Yes	98	25.9
No	274	72.5
There is usually one doctor in my surgery	6	1.6
Want to see a particular doctor: How quickly do you usually get seen?		
Same or next day	165	43.7
2–4 days	23	6.1
5 days or more	10	2.6
I don't usually need to be seen quickly	41	10.8
Don't know, never tried	139	36.8
How do you rate how quickly you were seen?		
Excellent	165	43.5
Good	59	15.7
Satisfactory	48	12.7
Poor	15	4.0
Does not apply	91	24.1

GP, general practitioner.

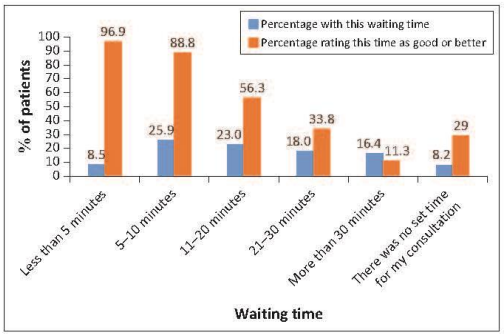

FIGURE 1: Waiting time and patient satisfaction (N = 378).

Nigeria realised high satisfaction with the consultation.[13,21,34,35] Despite this implication, other studies in the region have suggested that patients can be very satisfied with consultations that lack person-centredness.[36,37] Therefore, it may be important to verify this finding by assessing actual recordings of the consultation against more objective criteria.[36] Patients attending private practice may assume that care is of high quality and feel more satisfied, even if these assumptions are not objectively verified. In this private PC settings, being able to consult a doctor may also have been sufficient to satisfy the patients, as in the public sector they would see a nurse or clinical officer (mid-level doctor).

In this study, patients were very satisfied with the services provided, and the skewing of the practice population towards healthy younger adults suggests that patients selectively used the clinics for minor episodic acute ailments. A previous study in the same clinics showed that patients had limited expectations of these GPs in terms of the comprehensiveness of services available.[33] For example, patients had low confidence in the GPs' ability to manage tuberculosis, human immunodeficiency virus (HIV), cancer, elderly patients, mental disorders, antenatal and reproductive health care.[38]

High levels of confidence were expressed in the doctor–patient relationship, as shown by the GPs' integrity and the ability to maintain confidentiality. The confidence and trust placed by patients in these private GPs was much higher than that reported by patients in the public sector, where care may be more doctor-centred as well as lacking in privacy, confidentiality and resources.[23]

Continuity of care is thought to be a hallmark of quality PC[7] and yet the majority of patients in this study did not express a preference to see a particular doctor. The lack of desire for continuity with a specific GP may imply that whilst patients had easy access to the services, they did not regard the GP as their sole or preferred PC provider. It may be that older patients, with a need for chronic care, would value relational continuity more, but this group was a minority in the practice population. The lack of commitment to a specific relationship may also be because of the lack of compulsory gatekeeping in this private health system and the insurance coverage that enabled the ability to seek help directly from the family physicians or specialists at the tertiary hospital. In the broader Kenyan context, continuity of care may not be seen as a key goal of service delivery in the health system. Therefore, patients may not expect or value continuity so much. In the United Kingdom, patients have an expectation of relational continuity with their GP, maybe because they register with them specifically and complain of not being able to see their own GP easily.[21]

TABLE 5: Relationship between socio-demographics and overall patient satisfaction with quality of service delivery.

Variable	Would you be completely happy to see this GP again?			How likely are you to recommend your GP practice to someone else?						
	Yes		Chi-square/ *p*-value	Likely		Unlikely		Don't know		Chi-square/ *p*-value
	n	%		*n*	%	*n*	%	*n*	%	
Gender										
Male (N = 146)	142	97.3	χ^2 = 0.024	125	85.6	3	2.1	18	12.3	χ^2 = 1.966
Female (N = 232)	225	97.0	p = 0.876	186	80.2	5	2.2	41	17.7	p = 0.374
Age in years										
18 to 44 (N = 289)	281	97.2	χ^2 = 4.134	240	83.0	6	2.1	43	14.9	χ^2 = 12.140
45 to 64 (N = 82)	80	97.6	p = 0.247	67	81.7	1	1.2	14	17.1	p = 0.059
65 and over (N = 7)	5	71.4	-	4	66.7	1	16.7	1	16.7	-
Employment status										
Employed (N = 280)	275	98.2	-	241	86.1	2	0.7	37	13.2	-
Unemployed (N = 20)	19	95.0	χ^2 = 39.801	15	75.0	0	0.0	5	25	χ^2 = 71.212
Studying (N = 28)	26	92.9	p < 0.001	20	71.4	3	10.7	5	17.9	p < 0.001
Others (N = 50)	47	94.0	-	35	70.0	2	4.0	12	24.0	-
Long-standing health condition										
Yes (N = 69)	65	94.2	χ^2 = 2.552	55	79.7	3	4.3	11	15.9	χ^2 = 3.189
No (N = 275)	269	97.8	p = 0.279	230	83.6	4	1.5	41	14.9	p = 0.527
Don't know (N = 34)	33	97.1	-	26	76.5	1	2.9	7	20.6	-

GP, general practitioner.

Their expectations in terms of telephonic consultation and appointment systems also appeared to be lower than in high-income settings.[39] These clinics are all walk-in clinics and although patients do have the opportunity to call and make a booking in advance, this approach was not necessarily an advantage, as around half of the patients had never tried to phone the practice, book ahead or speak to the GP on the phone. Although patients expressed an interest in booking by phone, few had actually attempted to do so. One of the reasons for this appeared to be the convenient opening hours and the availability of the GP. Telephonic consultations, which are becoming popular in high-income countries,[40] were not yet part of service delivery in this context. This could also be because of the fact that insurance in Kenya does not reimburse for tele-health.

In these PC clinics, almost half of the participants expressed doubt that they would be able to see the GP on the same day in case of an emergency. On the other hand, it was also noted that half of the participants had not tried to reach the GP as a matter of urgency. This could be explained by the fact that most patients had private medical insurance, which allowed them to seek care from any emergency department as well as the perception that GPs do not manage emergencies.[33]

Most of these PC clinics operated during the day, evening and weekends. Therefore, it was not surprising that the majority felt that the opening times were convenient and waiting times acceptable. Access and utilisation of services in these clinics were favourable for the employed, who were more satisfied and made up the majority of patients. Other studies in PC in the region have found lower levels of satisfaction with access, and this may be because they were in the public sector; where opening times may not be convenient, appointment systems may be dysfunctional and waiting times are much longer.[41,42,43]

Employed patients had a higher level of satisfaction in this study. Although there is some evidence that higher levels of patient satisfaction are seen in those coming from higher socio-economic backgrounds,[24,44] this finding needs to be further explored to understand why unemployed and other patients were significantly less satisfied.

Although the lack of correlation between having a chronic condition and overall satisfaction was also found in private practice in South Africa,[45] the small numbers of patients with chronic conditions reduced the power to test this relationship. The assumption that, older patients with chronic diseases and multi-morbidity, were most likely attending the tertiary hospital has also been noted in a tertiary care hospital in Australia.[46] This again reflects the limited comprehensiveness of these PC clinics.[33] In effective health systems, the management of chronic diseases is an essential feature of PC because of the high volume of patients, easy access and need for continuity. Health systems are more cost-effective when chronic conditions are managed in PC.[1] The routine management of patients with chronic conditions in a tertiary hospital setting represents a missed opportunity for effective PC.[1,46]

Interestingly, the number of elderly patients (>65 years) in this study was very small, and this may reflect the life expectancy in Kenya of 67 years or the lack of health insurance when retired.[47] Perhaps the perception that GPs were less capable of managing the elderly could have also contributed to the low numbers as was shown in the previous study carried out at the same settings.[33] It is also possible that elderly patients were being referred to the specialists at the tertiary care hospital for chronic conditions or had retired to their homes in the rural areas, which is a common practice in Kenya.[33] However, in this study with a more affluent, educated population and with good access to healthcare, one might expect patients to live longer than the Kenyan average.

Limitations

The General Practice Assessment Questionnaire (GPAQ) was a validated tool, which was adapted to the African context, and most of the questions were applicable to the study context. The question on ethnicity that was constructed within the context of the United Kingdom created some confusion, and hence it was removed from the analysis. Collecting the data in the facility might have put some pressure on the participants to give a more favourable response. To mitigate this, data was collected by a neutral research assistant who was not known to the participant or associated with the facility.

The findings of this study may be generalised to other PC clinics associated with this organisation in East Africa. It cannot be generalised to the public sector and may be limited in the wider private sector, as organisations differ in the way services are organised and offered.

Recommendations

Because of the complex relationship of the patient's perspective to quality of service delivery, it would be useful to assess service delivery using additional methods, such as the PC assessment tool,[42] to provide a more in-depth evaluation.[7] Ultimately, this private sector health system may need to consider whether, despite high levels of satisfaction, the PC clinics are a resource that can be developed further by incorporating the services of the family physicians who are more trained in providing comprehensive care.[48]

Conclusion

Patients were highly satisfied with the service delivery at these private sector PC clinics in Nairobi, Kenya. Services were easily accessible, although there was little expectation of relational continuity. Patients were satisfied with the GPs' consultation, care enablement and the GP–patient relationship. However, the practice population was skewed towards younger and healthier adults, and it appeared that services were not comprehensive. High levels of satisfaction may mask inadequacies in terms of care for people with emergencies, chronic conditions and multi-morbidity. Further studies are needed to evaluate whether these private sector PC clinics provide high-quality, cost-effective and comprehensive services.

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Competing interests

The authors declare that they have no competing interests.

Authors' contributions

G.M. is the principal investigator of this study and assumed primary responsibility of conceptualising, writing the proposal, collecting the data, analysing the data and reporting the data. R.M. provided guidance and supervision for the overall study.

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Data availability statement

The authors confirm that the data supporting the findings of this study are available within the article and/or its supplementary materials.

Disclaimer

The views and opinions expressed in this article are those of the authors, and do not necessarily reflect the official policy or position of any affiliated agencies of the authors.

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Appendix 1 starts on the next page →

3.3 ARTICLE 3: Evaluation of the quality of communication in consultations by general practitioners in primary care settings, Nairobi Kenya: Descriptive observational cross-sectional study

3.3.1 Introduction

Primary health care (PHC) has long been recognised as critical to achieving and providing basic health care.(1)(2) Primary care (PC) is an integral arm of PHC and is the starting point for most patients seeking healthcare.(1) Therefore, PC should be easily accessible, person-centred, ongoing over the life-course, comprehensive for the majority of health problems and coordinated with care from other teams and levels of the health system.(1)

Africa still faces immense challenges in providing quality PHC that is both equitable and responsive to population health needs.(3) The increasing burden of communicable and non-communicable chronic diseases also strains the ability of the limited healthcare resources to meet the needs of their patients.(4) The PC workforce should embody the principles of medical generalism as an approach most likely to be relevant and feasible in the face of these challenges.(5)

Medical generalism is defined as an "approach to delivery of health care which is characterised by whole-person medicine".(5)(6) This comprehensiveness would entail routinely applying in the consultation, a broad and holistic biopsychosocial approach to care of patients throughout the lifecycle and across the burden of disease.(7) In addition, this approach takes into account relevant aspects of their family and community, and provides continuous and coordinated care through a collaborative relationship.(6)(8) Therefore, the process of whole-person medicine requires a mutually acceptable interaction and effective communication between the patients and their PC

providers.(9) The involvement of patients in the consultation will contribute towards high quality primary care and in turn strengthen the responsiveness of the health system.(10)(11)

High quality PC consists of five domains related to first contact accessibility, continuity, comprehensiveness, coordination and person-centredness.(12)(13) The principles of person-centredness, continuity and coordination are integrated, and achieved through effective communication that impacts directly on the quality of consultations and results in better health outcomes.(14)

Therefore, effective communication is critical as the generalists' clinical competency and is the foundation of the clinical process between the physician and the patient from the beginning to the end of the consultation.(15)(16) Communication skills are needed to develop an effective relationship and provide structure throughout the consultation.(17) There are also specific communication skills related to each phase of the consultation: initiation, gathering information, explaining and planning, and closure of the consultation.(17) Communication skills, which are considered to be both verbal and non-verbal, are embedded in an overall style of consultation.(17) Directive and guiding styles have been described and are related to different goals in the consultation(17), however, in general, primary care providers tend to overuse a directive style of communication.(18) It is well known that effective communication by the physician, results in better adherence to the management plan, increased patients' and clinicians' satisfaction as well as higher tolerance of any shortcomings or errors.(16)(19)(20) Thus, effective communication has a direct impact on clinical outcomes and the ability of patients to self-manage chronic conditions.(21)

Person–centred care (PCC) is supported by effective communication(14) and is defined as care that respects and responds to patients' expectations, needs and values.(22)

Person-centred care has also been characterised as making sure that the values of the patient are taken into account,(23) and encourages the participation of patients in their care and in the decision making process.(22)

Comprehensive care can decrease the disease burden by availing the opportunity for screening, prevention of disease and promoting good health with the availability of effective providers offering person-centred consultations.(13)(24) The World Health Organization (WHO) also endorses the need for a person-centred approach as opposed to one that is a disease-focused or purely biomedical.(25) Furthermore, the Institute of Medicine has incorporated PCC as one of the six domains of quality health care in their guideline of principles that provide direction for the future health care system.(26)

Person-centred care involves different processes of "facilitation, clinical reasoning and collaboration".(9) The facilitation process gives attention to the patient's perspective, which may include their experience of illness, beliefs, concerns, expectations, preferences and choices.(9) Clinical reasoning is required throughout the consultation, and integrates the clinician's expertise with the patient's perspective.(9) The collaboration process implies power sharing and finding common ground to make mutually acceptable decisions. This aspect of shared decision-making can only be achieved after the physician has explained the pros and cons of the treatment options, and has elicited the patient's expectations and understanding of the management plan.(9) Shared decision making can be regarded as the peak of PCC even though it can be challenging and time-consuming.(22) The person-centred consultation also takes into account the patient's context, which includes their cultural, environmental, physical and family context.(9)(27)(28) Hence, PCC is less authoritative and directive than traditional methods of practice, and has been identified as a defining characteristic of medical generalism.(9)(27)

Continuity of care, is another key aspect of high quality PC along with PCC(11) and refers to the ongoing relationship, or relational continuity, of the patient with the provider over time. It is based on trust and the assurance that the physician has the utmost interests of the patient and family at heart.(29)(30) Care continuity may also be informational, which refers to the availability of the patient's up-to-date medical record at each visit.(30) Furthermore, continuity ensures that different health care workers manage the patient in a complementary, timely and coherent manner.(11) Continuity of care is also related to patient satisfaction, it has a protective role in chronic diseases and leads to better use of preventive services and reduced hospitalisations.(19)(31)

Coordinated care has been described as the coordination of patient care during the course of treatment and across different sites of care.(11) It also ensures appropriate follow-up, minimises the risks, and aims to avoid complications.(11) Patient care may be coordinated between services within PC facilities, between PC facilities and community-based services as well as between PC and other levels of health care.(11)(32) The process of coordinated care also involves an efficient, reliable, accessible and integrated information system that can transfer information as part of such coordination.(29)(32)

The immense benefits of effective communication that supports PCC, continuity and coordination are well known internationally.(15) In Africa, there is less evaluation of effective communication in the consultation. A study carried out in the public sector in Uganda found that patients expected PCC, although the delivery of PCC was not measured.(10) A South African study of consultations in the public sector found significant gaps in the ability of PC providers to communicate effectively and to provide PCC.(33) One commentary from Botswana discussed whether PCC was an individualistic Western concept that needed to be adapted to the more communitarian African context.(28) Some studies have attempted to evaluated the importance of care

continuity in South Africa and Malawi.(29)(34) All of the above studies affirm the need for high quality care that is coordinated, continuous, person-centred and supported by effective communication.(27)(28)(29)(35)

Primary care delivery in the Kenyan private sector relies on general practitioners (GPs).(36) However, GPs may not necessarily have been trained in these communication skills that are essential to the practice of primary care.(37)(38) On the other hand, family physicians have completed post-graduate training with an emphasis on effective communication, but numbers are very small despite the availability of five training programmes in Kenya.(39) Not much is known about the quality of communication in consultations offered by GPs. Hence, the aim of this study, therefore, was to evaluate the quality of GPs' communication in consultations as an essential component of high quality PC in the private sector primary care settings in Nairobi, Kenya.

3.3.2 Methods

Study design

This was a descriptive observational cross-sectional study of GPs' consultations.

Setting

This study was carried out in 13 PC clinics attached to a tertiary hospital within Nairobi. All these facilities were operated by one private health care organisation. These were PC facilities, offering ambulatory services to all age groups in urban, semi and peri-urban areas of Nairobi. These facilities provided health promotion, disease prevention and treatment services. They had a pharmacy and laboratory, and could refer patients to specialist clinics (including family medicine) at the tertiary hospital. An electronic health record allowed clinicians to access the patients' information at any of

the facilities associated with this organisation. There were 25 GPs working in these facilities on a shift basis, depending on the workload and opening schedules. Most of the patients attending these clinics were covered by health insurance. Consultations were almost always conducted in English.(40)

Study population

All 25 GPs were invited to participate and contribute one audio recording of a consultation. The intention was to describe the overall quality of consultations and not that of individual GPs. Usually 8-10 observations are sufficient to describe the quality of consultations for a single entity and having more than 20 observations enables frequencies and percentages to be reported. This number of observations was feasible to assess and a similar approach was used in a previous study in South Africa.(33)

Data collection

One adult patient, aged 18 or above, was selected randomly from the specific GP's patient list for that day. After obtaining consent from both, the patient and the GP, the consultation with the GP was recorded using a discrete micro-recorder. Consultations were routinely conducted in English, which is one of the two official languages in Kenya.(41)

Data analysis

All the audio recordings were assessed using the Stellenbosch University Observation Tool (SUOT). The tool was originally developed from the evidence-based Calgary-Cambridge guide to consultation skills required by medical generalists.(17) The tool was previously used to research primary care consultations in the South African context.(33) This tool is also incorporated in the national portfolio for postgraduate family medicine assessment in South Africa and is published in the South African

Family Practice Manual.(42) The content validity of the tool has therefore been accepted in both the research and educational environments in South Africa. The Calgary–Cambridge guide from which the SUOT tool was developed, and also the SUOT itself, is being used to evaluate the consultation skills of family medicine residents in the University associated with the facilities in this study.(43) The SUOT tool was therefore accepted as a valid tool in the local setting. The SUOT tool was piloted to assess the reliability of the tool and feasibility in the study setting.

The SUOT evaluated 16 different consultation skills (see Table 2) as "not done" (score=0), "partially done" (score=1) or "fully done" (score=2). Each item could also be assessed as "not applicable" in the specific consultation. The overall score for each consultation was obtained (out of maximum of 32) and expressed as a percentage. All the data were entered into an Excel spread sheet and checked for errors or omissions. Data were analysed using the Statistical Package for Social Sciences (SPSS) version 25.

The principal researcher was trained on the assessment of the consultations by a senior researcher who had used the tool in South Africa and inter-rater reliability was confirmed using four randomly selected recordings. This was to ensure the principal researcher had an acceptable level of reliability. The SUOT tool has been shown to have good inter-rater and intra-rater reliability in South Africa.(33) The expert's ratings were compared to the researcher to calculate inter-rater reliability using Cohen-Kappa's test of agreement. A good level of agreement was indicated by a Kappa of 0.875 (95%CI 0.284-0.999). High intra-rater reliability was also shown with an intra-class correlation coefficient of 0.98 (95% CI 0.814-0.999).

Reasons for the encounter and the diagnoses made in each consultation were coded using the International Classification of Primary Care (ICPC) Version-2.(44) Consultations were categorized into different complexities based on the number of

reasons for encounter and the number of diagnoses involved in each of the consultations. Low complexity was defined as 1-2 reasons for encounter or 1 diagnosis, moderate complexity as 3-4 reasons for encounters or 2 diagnoses, and high complexity as 5 or more reasons for encounter or 3 or more diagnoses.(45) The Practical Approach to Care Kit guideline was used to assess the appropriateness of the management plan, and the Care Kit is an integrated and evidence-based guideline, used in adult PC for the management of common symptoms and chronic conditions.(46)

The frequencies and percentages for the different evaluation categories for individual communication skills were analysed as well as the total consultation scores as a percentage out of 32. The relationships between the duration of the consultation, age of the GP and years of experience and the total consultation score as a number were analysed using Spearman's correlation. The relationships between the complexity of the consultation and gender of the GPs with the total consultation score were analysed using the Mann Whitney test. This test was also used to investigate the relationship between the duration of consultations and the complexity of the cases.

3.3.3 Results

The response rate of the GPs was 23/25 (92%) out of which, 9 were males and 14 were females. The GPs had a median age of 30.0 years (IQR: 29-32) and an average of 3 years of experience after graduation (IQR=3-6). The consultations were of low (12, 52.2%) and moderate (11, 47.8%) complexity and there were no high complexity consultations. The median consultation time was 7.0 minutes (IQR=3-9) and ranged between 3-11 minutes.

Table 1 shows the main reasons for encounter and diagnoses according to the domains of the ICPC. Most symptoms and diagnosis were categorised into gastrointestinal, musculoskeletal and respiratory domains.

Table 1: Main reasons for encounter and diagnoses in the consultations

No	ICPC domains for reasons for encounter	N= 49 n (%)	No	ICPC domains for diagnoses	N=31 n (%)
1	Gastrointestinal	13 (26.5)	1	Gastrointestinal	10 (32.2)
2	Respiratory	9 (18.3)	2	Musculoskeletal	7 (22.5)
3	Musculoskeletal	6 (12.2)	3	Respiratory	6 (19.3)
4	General	6 (12.2)	4	Female genital	4 (12.9)
5	Neurological	5 (10.2)	5	Skin	1 (3.2)
6	Female genital	5 (10.2)	6	Cardiovascular	1 (3.2)
7	Urological	2 (4.0)	7	Male genital	1 (3.2)
8	Skin	1 (2.0)	8	Urological	1 (3.2)
9	Male genital	1 (2.0)			
10	Eye	1 (2.0)			

Figure 1 shows the distribution of total percentage scores for the evaluation of consultation skills, with a median score of 64.3% (IQR: 48.4-75.7).

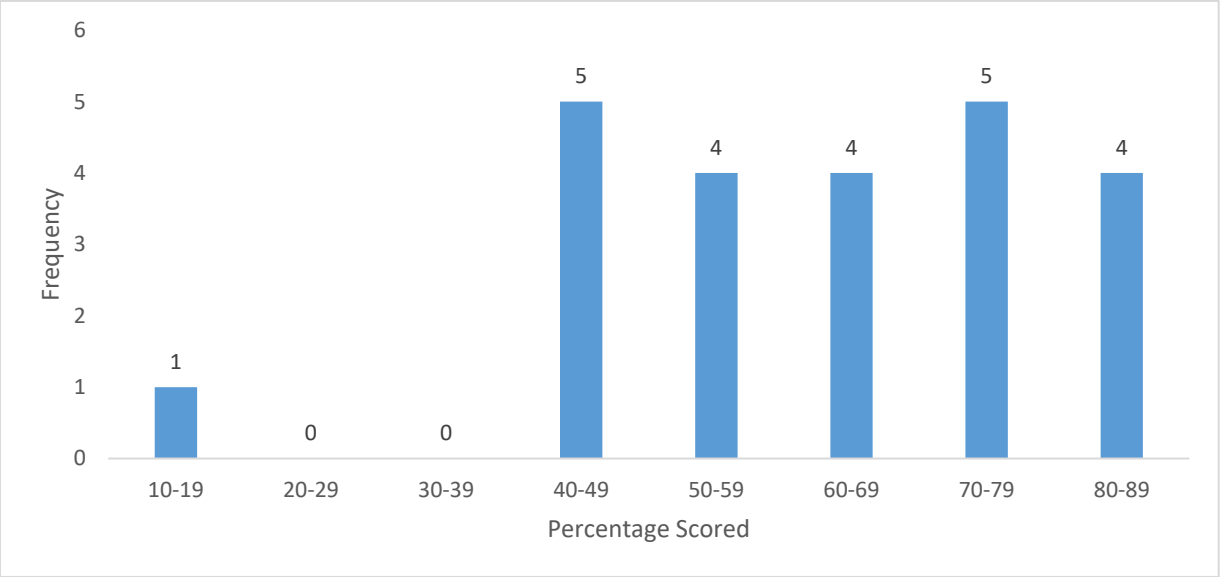

Figure 1: Distribution of total percentage scores for the consultations (N=23)

Table 2 indicates participant's performance for each consultation skill. In more than 50% of consultations, the GPs did not make an appropriate introduction or greeting, nor did they explore the family and social context or relate their explanation to the patient's perspective (concerns, beliefs, expectations). Similarly, in more than 50% of the consultations, they only partly succeeded in confirming the patient's problem list, encouraging the patient to tell their story and understanding the patient's perspectives.

The GPs fully performed four of the sixteen skills in more than 50% of consultations obtaining sufficient information, making an appropriate diagnosis, providing a clear diagnosis explanation and an appropriate management plan. However, the patients were not fully involved in the shared decision making process. The GPs demonstrated a

commitment to coordination and continuity of care in the majority of relevant consultations although safety netting and closure was not fully addressed.

Table 2: Evaluation of consultations skills

	Consultation skill	**Not done n (%)**	**Partially done n (%)**	**Fully done n (%)**
1	Makes appropriate greeting / introduction and demonstrates interest and respect (N23)	12 (52.2)	5 (21.7)	6 (26.1)
2	Identifies and confirms the patient's problem list or issues (N=23)	9 (39.1)	12 (52.2)	2 (8.7)
3	Encourages patient's contribution / story (N=23)	1 (4.3)	12 (52.2)	10 (43.5)
4	Makes an attempt to understand the patient's perspective (N=23)	9 (39.2)	13 (56.5)	1 (4.3)
5	Thinks family, and obtains relevant family, social and occupational information (N=23)	12 (52.2)	8 (34.8)	3 (13.0)
6	Obtains sufficient information to ensure no serious condition is likely to be missed (N=23)	1 (4.3)	3 (13.1)	19 (82.6)
7	Appears to make a clinically appropriate working diagnosis (N=23)	1 (4.3)	2 (8.7)	20 (87.0)

8	There is a clear explanation of the diagnosis and management plan (N=18)	0 (0.0)	2 (11.1)	16 (88.9)
9	Gives patient an opportunity to ask for other information and / or seeks to confirm patient's understanding (N=18)	2 (11.2)	8 (44.4)	8 (44.4)
10	The explanation takes account of and relates to the patient's perspective (N=20)	13 (65.0)	3 (15.0)	4 (20.0)
11	Involves the patient where appropriate in decision making (N=23)	3 (13.1)	7 (30.4)	13 (56.5)
12	Chooses an appropriate management plan (N=20)	0 (0.0)	1 (5.0)	19 (95.0)
13	Show a commitment to co-ordination of care (N=15)	0 (0.0)	1 (6.7)	14 (93.3)
14	Shows a commitment to continuity of care (N=20)	6 (30.0)	1 (5.0)	13 (65.0)
15	Closes consultation successfully (N=21)	5 (23.8)	5 (23.8)	11 (52.4)
16	Provides appropriate safety netting for the patient (N=19)	7 (36.8)	5 (26.4)	7 (36.8)

Note: N differs between skills, as not all skills were relevant in every consultation

The median percentage score of the consultations was significantly higher in consultations of moderate complexity (78.1; IQR=57.1-86.7) as compared to low complexity (52.2; IQR=45.1-66.6) (p=0.012). There was a significant positive correlation between an increasing consultation score and longer duration of the consultations (*r*=0.680, p=0.001). There was no significant relationship between the age (*r*=0.072; p=0.743), experience of the GPs (*r*=-0.164; p=0.454) and gender (p=0.614) with the consultation score. Even though there was no significant statistical difference between the median duration for low complexity consultations (median=4.0; IQR=2.8-7.0 minutes) and moderate complexity consultations (median=9.0; IQR=6.6-12.3 minutes), the moderate complexity consultations took a longer median with a p value of 0.095.

3.3.4 Discussion

Primary care clinics were run by relatively young GPs, who conducted brief consultations of low to moderate complexity. General practitioners were able to obtain sufficient biomedical information, make an appropriate diagnosis, formulate and explain an appropriate management plan. Gaps were found in the provision of whole-person medicine and GPs were not person-centred, with little attention being paid to the patient's perspective and context. There was a substantial commitment to coordinating care, and the majority of the patients supported on-going care. However, the GPs varied considerably in their provision of safety netting and ensuring that the patient had understood and agreed with the management plan, and had no further concerns or needs at the end of the consultation. In addition, the consultation score improved with increasing complexity of the problems and length of the consultation.

The initial aspects of building rapport and showing interest at the start of the consultation are an important part of the facilitative process in PCC,(9) which in our study was not demonstrated fully by the majority of GPs. Building rapport with the

patients includes verbal as well as non-verbal communication, although the non-verbal could not be assessed.(47) Rapport building also includes an unconditional acceptance of the nature of the presenting problem as expressed by the patients.(47)(48)

A critical component of PCC is understanding the patient's perspective.(22) In our study, taking the patient's perspective into account was not elicited in more than half of the consultations. During the facilitative and collaborative processes of the consultation, little opportunity was given to the patients to voice their perspective on the problem, or express an opinion of the suggested treatment plan. This is significant, because exploration of the patient's perspective and shared decision making are two aspects that differentiates PCC from a traditional biomedical approach.(9) These deficiencies in the communication skills may be due to a lack of relevant training in both undergraduate and postgraduate training.(17)(49) Lack of mentorship and exposure to person-centred communication skills in the health care system could also be a contributing factor(49). Poor PCC may represent poor quality of care and might be expected to reduce patient satisfaction.(50) Despite this biomedical approach by GPs, a study carried out in the same setting, reported that patients had high levels of satisfaction with their consultations by the same GPs.(19) The high level of satisfaction could be due to the patients having low expectations, as well as the low complexity of the cases that did not demand a more in-depth approach.(19)(40) There is also a possibility that the more complex patients consulted the specialists at the tertiary hospital, thus reducing the complexity of cases seen in these primary care setting.(19)

General practitioners did not explore patients' psychosocial and occupational history. This may be due to the low complexity of problems that could be addressed with limited exploration of the context, for example tonsillitis and diarrhoea. Nevertheless, even relatively simple or common problems in primary care may have a link to the

living or working environment, and ignoring these aspects may lead to a superficial understanding of the problem.(9)

The GPs were able to diagnose and make appropriate treatment plan. However, the patients were superficially included in the shared decision making process and the diagnosis was not articulated or explained in detail. Despite this, the patients' appeared to accept the doctor's advice and treatment. An overly biomedical approach was also noted in PC providers in a studies carried out in the public sectors in South Africa and Kenya.(33)(51) In addition, a lack of inclusion of patients in making decisions has also been reported in some high income countries such as Sweden.(52)

The increase in chronic diseases in Africa will require better continuity and coordination of care, besides health promotion and disease prevention.(4)(11)(19) High level of parallel care coordination was observed within the primary health care team in regards to the patient's diagnosis and management. Referrals to specialists were not observed in the recordings, which may be due to the low-moderate complexity of the cases and lack of chronic conditions. This study showed fairly high levels of commitment to parallel coordination and relational continuity, even though there was a lack of consultations for chronic conditions. In contrast, studies carried out in South Africa in the public sector showed a gap in relational continuity despite patients presenting with chronic conditions.(29)(33) This difference in relational continuity between private and public healthcare sectors could be due to smaller practice populations in the private sector, consistent PC providers, use of electronic records and appointment systems and easy access via medical insurance to ongoing care.(40)

Safety netting is a critical component of consultations in PC, as it contributes to better diagnostics and clinical outcomes.(53) Safety netting and closure in our study was not

prioritised in the consultations, which may be due to the low complexity of cases or a gap in the training of holistic care.

In high income settings, consultations by GPs are often 10-15 minutes,(54)(55) which contrasts with the average time of 7 minutes in this study. This may reflect the low complexity of the cases, lack of chronic conditions, as well as lack of PCC. It is known that patients prefer longer consultations, which result in more opportunities for preventive and health promotion advice, as well as a reduction in the number of medications prescribed.(56)(57) Practising PCC can take more time and may be avoided when patient numbers are high, as in the public sector, or if there is an organisational focus to achieve pre-set number of patients targets, as is common in private settings.(54) None of these factors were present in the PC clinics involved in this study.

Highly complex cases were not seen in these PC clinics. This finding is contrary to a study in the public health system in South Africa, where the GPs were expected to see highly complex cases.(33) Interestingly in our study, as the consultations became more complex, the doctors became more holistic. This may point towards their ability to be more person-centred when they perceived that the patient's problems required a more holistic approach. An Australian study also showed that the GPs spent more time with patients who had psychosocial issues compared to those with only biomedical problems.(55)

The low-moderate complexity of problems addressed by GPs suggests that care in these primary care clinics was of limited scope and not fully comprehensive. A previous study in this setting also suggests that this is how patients viewed the clinics.(40) In this private sector health system, there was no gatekeeping required for access to hospital care and in fact family medicine services was based in the tertiary hospital. Patients with more complex problems, therefore, may have referred themselves or been referred

by GPs to the hospital. In most cost-effective health systems, patients with chronic conditions are usually routinely managed in PC, whereas it may be possible in this system these patients were being managed by specialists in the tertiary hospital. Patients with chronic conditions may be better managed in a holistic approach by a trained generalist or family physician.(27)(39)

Health care providers can influence the outcome of the consultation through good communication skills, and training is important in building these skills.(16)(58) This importance was further reflected in studies conducted in Kenya, Ghana and India that concluded, that the health care providers would benefit from training to reduce the clinicians "verbal dominance" and make patients more engaged in their care and decision making.(51)(59)(60)(61) Training curricula should ideally involve methods to improve communication skills, especially those related to active listening, use of open and closed ended questions, signposting transitions, summarising, shared decision making and where appropriate, involving family members.(62)(61) Training in the principles of communication skills requires theory regarding the core elements, modelling of the skills and the opportunity to practice with effective feedback.(62) Training may temporarily improve communication skills and ongoing practice but embodiment of the skills in a supportive environment is needed for retention.(62)

3.3.5 Strengths and limitations

This study is the first of its kind that is conducted in PC in the private sector of Kenya. There are many tools available to evaluate consultations and PCC in particular. However, there is no international consensus on which tool is best to use or which model of the consultation is most applicable.(63)(64) We believe the SUOT tool was a reasonable choice as it was evidence-based, locally acceptable, was previously validated and used in a similar study in South Africa.

The presence of the audio recorder may have influenced the GPs to try and perform better in their consultations. This means that the scores might be lower in consultations that are not observed. However, the audio recorder was a small device that was placed discreetly and would have been easy to overlook during the consultation process. Since the consultations were not directly observed or video recorded, non-verbal communication could not be assessed. The study was carried out in specific private PC centres, hence these findings cannot be generalised to other GPs working in the private sector. Nevertheless, it is likely that GPs with a similar level of training and working in a similar context would perform similarly.

3.3.6 Recommendations

In-service training programmes for these GPs should target the deficiencies in their communication skills with the goal of providing more effective whole-person medicine through PCC. Better role-modelling of communication skills in health services will also contribute to the strengthening of these skills.(58) Including more communication skills training in the undergraduate curriculum may be necessary and post-graduate training in family medicine could also be a valuable avenue for doctors to learn PCC.(65)(66)

Focussing on the service delivery design in this setting could also address some of the communication issues as well as the limited scope and comprehensiveness of primary care.(19)(40) Increased involvement of the family medicine department in the primary care setting and deploying the newly graduated family physicians to these clinics could go a long way to improving communication and service delivery.

Conducting studies to evaluate communication skills of GPs in similar private and public sector primary care settings, would provide a broader evidence base for comparison. Future studies could aim to qualitatively explore the service users' reflective views on the quality of consultations in this context.

3.3.7 Conclusion

Consultations in these primary care clinics were carried out by young GPs with no post-graduate training in family medicine. Consultations were brief and had a biomedical approach for patients that presented with acute problems of low-moderate complexity. Although the GPs showed competency in the medical management of their patients, they lacked skills in whole-person medicine. The consultations observed combined with other studies in the same context suggest that this private health care system is not yet offering high quality and comprehensive primary care. Attention should be given to the training of doctors in communication skills, particularly with regard to person-centredness, and to the service delivery design.

3.3.8 Ethical considerations

The study was granted the approved by the Research and Ethics Committee (REC) of the Aga Khan University Hospital in Nairobi, Reference: 2018/REC-137(v2) and complied with the ethical guidelines.

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3.4 ARTICLE 4: The quality of primary care performance in private sector facilities in Nairobi, Kenya: A cross-sectional descriptive survey.

3.4.1 Introduction

Primary health care (PHC) drives progress towards health care for everyone and is the foundation of any health care system.(1)(2) Strengthening PHC is therefore crucial and more important than ever before.(1) The Astana declaration, signed in 2018, emphasised that health services should be integrated, cost-effective, available, accessible, comprehensive and of high quality.(3)(4) The World Health Assembly (2019) realised the role of PHC in achieving universal health coverage (UHC).(5) However, due to weaknesses in PHC systems, several gaps exist in providing high quality, comprehensive and person-centred care, especially in low-and middle-income countries (LMIC).(5) A review of best practices to decide on health system responses, highlighted the importance of reforms aimed at improving accessibility and providing quality related to the model of service delivery as well as integrating the services.(3)

It is acknowledged that countries exhibiting strong and efficient PHC systems have better health outcomes with fewer hospital admissions.(6)(7) This is achieved when health promotion and disease prevention is balanced with treatment and resources are directed to PHC.(6)(7)(8) However, many LMICs in Africa have not implemented effective PHC despite their political commitment.(9)

The World Health Organization (WHO) has identified three levers to improve PHC: multi-sectoral policy and action, empowered people and communities, and integrated health care services with emphasis on primary care and essential functions of public health.(10) Primary care (PC) is defined as a "key process in the health system that

supports first-contact, accessible, continued, comprehensive and coordinated patient-focused care" and acts as gatekeeper to other levels of care.(10)(11)

Primary care in sub-Saharan Africa (SSA) faces difficulties such as hospital-centred priorities, health care fragmentation by vertical programmes, resource limitations and misappropriated priorities, the burdens of communicable and non-communicable diseases, and reliance on low level and sometimes inadequately trained health care providers.(1)(12)(13) However, PC is still the main point of entry for most people seeking healthcare, and yet, PC in Africa lacks the ability to provide high quality care.(12)(14) The key elements of high quality service delivery are easy access for people with health problems, continuity, comprehensiveness, coordination, along with the attributes of family and community-oriented care delivered in a person-centred manner.(15) Therefore, a comprehensive, horizontally integrated, person-centred, community-based, high quality PC approach is needed in the era of emerging health challenges such as the coronavirus pandemic in order to achieve the goals of UHC.(3)(16)(17)(18)

In Kenya, numerous efforts have been made to achieve UHC by increasing access and utilisation through the introduction of free PC and maternity services as well as health insurance subsidies.(19)(20) However, despite the increase in utilisation and broader coverage of the population, the quality of PC services remains challenging in Kenya and other African countries.(19)(20)(21)(22)(23) Achieving the goal of UHC also requires evaluating the quality of PC and improving the key dimensions of comprehensiveness, accessibility, continuity, coordination and person-centredness.(16) These key dimensions are also highlighted by the PHC Performance Initiative, Primary Care Assessment Tool by Starfield and systematic reviews as what needs to be measured.(15)(24)(25)(26) The quality of PC is important in both public and private sectors and the quality of service delivery needs to be measured.(15)(27) The evaluation

of PC would facilitate understanding and lead the strengthening of service delivery in PC.(28) A study carried out in China recommended evaluation and accountability of the performance to encourage high-quality and high-value care in the delivery of PC.(29) However in SSA a void exists in the available information on the quality and performance of PC.(28) The absence of such information impedes the ability of policymakers and implementers to identify areas that need improvement as well as prioritise the use of resources.(15) Improvement in PC service delivery will lead to greater health outcomes, equity, efficiency, responsiveness and resilience of the health system.(15)(28)(30)

In Kenya, clinical officers (mid-level practitioners) offer most of the PC services in the public and in some private care facilities, whilst general practitioners (doctors) offer services mostly in the private sector, although the majority do not have specialist postgraduate training.(31) Specialist training in family medicine is available,(32)(33)(34)(35) but the number of family physicians in Kenya is very limited.(36) Furthermore, Kenya is no different in having limited data and information on the performance of PC.(15)(19)

Governments typically focus their attention on the quality of public sector services and the measurement of quality in the private sector may be even more neglected. Private sector PC is also varied and diverse in terms of geographical location, types of practice and organisation, which makes measurement of quality complex and difficult.(37) Measurement needs to take into account the entire process of care from the perspective of the patient.(27) No previous study in Kenya has evaluated the key dimensions of PC performance in service delivery. This study aimed to evaluate the users' experience of PC in accessibility, comprehensiveness, continuity, coordination, community-orientation as well as aspects of person-centredness in a group of private sector PC

clinics in Nairobi. Gaps in desired performance could be identified to inform tailored interventions for improvement.

3.4.2 Methods

Study design

This was a cross-sectional descriptive survey of patients in primary care using the Kenyan Primary Care Assessment Tool (KE-PCAT).

Setting

This study was carried out in 13 primary care clinics within the city of Nairobi, run by general practitioners (GPs). All the clinics were operated by a private health care organisation, affiliated with a tertiary care referral hospital. These were ambulatory primary care clinics, offering services to all age groups in urban, semi-urban and peri-urban areas of Nairobi. The clinic staff included receptionists, registered nurses, laboratory technicians, radiographers and pharmacy technicians. The electronic medical record system allowed access to the patients' records at any of the clinics associated with this organisation. The clinics provided promotive, preventative and curative services for all age groups. They had a dispensing pharmacy, laboratory and offered referral services to the specialists' clinics (including family medicine) at the tertiary hospital. The patients came from diverse socio-economic backgrounds and most had private medical insurance by virtue of their employment. Previous studies at the same clinics showed that most of the patients spoke English and well educated.(38)(39)

Study population and sample size

The study population included patients aged 18 years and above at the 13 primary care clinics. These patients should have attended the same clinic at least three times prior as they were required to have experienced the care provided.(23) Those who needed

emergency care or who had an acute mental illness that made cooperation difficult were excluded from the study.

These primary care clinics served approximately 15275 patients on a monthly basis. Therefore, the sample size calculation was based on a population of 20,000 patients, since calculations for the sample size do not change markedly in populations over 20,000. The calculation was based on an expected proportion of 61% of users having a good primary care score (score ≥3) (13), a 5% margin of error and 95% confidence interval. Sample size was calculated using Fischer's formula that gave a figure of 375, and after adjusting for 10% of incomplete response, the minimum sample size required was 412.

Sampling strategy

The sample size of 412 was distributed amongst the 13 clinics proportional to the monthly workload. Patients that met the inclusion criteria were systematically sampled at each clinic until the sample size was achieved. If the patient did not provide consent, the next consenting patient was selected as per the systematic approach to sampling.

Data collection tool

The Primary Care Assessment Tool (PCAT) was originally developed by Barbara Starfield et al. at the Johns Hopkins Populations Care Policy Centre for underserved populations in USA.(26)(40) It was cross-culturally validated and first adapted for the African context in South Africa.(23)

The PCAT enables an evaluation of PC performance in terms of access, comprehensiveness, continuity, coordination, community orientation, family-centredness, cultural competence and the primary health care team.(23)(41)

The short user's version of the South African PCAT (ZA PCAT) was validated and adapted for the Kenyan PC context. The heads of the Departments of Family Medicine of the five academic institutions in Kenya and their senior faculty, who understood the key principles of PC and the Kenyan context, participated in the validation process. The content of the tool was reviewed by the panel that also included the principal investigator. The reviewers ensured that the questions were relevant and appropriate for the Kenyan context, while preserving the integrity of the tool.

The panel achieved consensus (≥70% of panel) on the content of the domains and items of the PCAT. From an original of 97 questions, two items were excluded as they were not relevant to the Kenyan context. Items requiring rephrasing for the local context were identified and the demographic section was adapted, taking into consideration the local socio-economic conditions and terms.

The revised tool was then assessed for feasibility and understanding through a pilot study, carried out at a PC clinic belonging to the same organisation, outside the Nairobi County, that did not comprise as a part of the main study.

Data was collected on 11 domains as shown in Table 1. In addition, data on the extent of affiliation to the PC clinics, self-reported health assessments and socio-demographic information was collected. Most items were measured using a 4-point Likert scale from 1 (definitely not), 2 (probably not), 3 (probably) and 4 (definitely). There was also the option 'not sure, or don't remember'.

Table 1: Domains, items and definitions for the PCAT.(13)

Domains	**Number of items**	**Definition**
1. First contact (access)	5	The provision of primary care services that are accessible when a need for care arises. First contact refers to the primary care provider being responsible for assisting the client to enter the healthcare system for each non-referred provision of health care.
2. First contact (utilisation)	3	The utilisation of primary care services when a need for care arises. First contact refers to the primary care provider being responsible for assisting the client to enter the healthcare system for each non-referred provision of health care.
3. Ongoing care	9	The use of a regular source of care over time that is not limited to certain types of healthcare needs. Longitudinally involves the development of a patient–provider relationship based on established trust and a knowledge of the patient and his/her family. A 'health care home' is thus established for each patient to promote the provision of ongoing care regardless of the presence or absence of disease.

4. Coordination (system)	10	Linking of healthcare events and services. Primary care has the responsibility and obligation to transfer information to and receive it from other resources that may be involved in the care of a client, and to develop and implement an appropriate plan for healthcare management and disease prevention.
5. Coordination (information)	3	Coordination requires the establishment of mechanisms to communicate information and the incorporation of that information into the client's plan of care.
6. Comprehensiveness (available)	21	Primary care makes available a range of essential personal health services that promote and preserve health and provide care for illness and disability.
7. Comprehensiveness (provided)	9	Primary care offers a range of essential personal health services that promote and preserve health and provide care for illness and disability.
8. Family-centredness	3	Care understands the impact of family characteristics on the genesis and prevention of ill health, as well as the response to both medical and psychosocial interventions. Family-centred primary care recognises and incorporates knowledge of the family context (resources, risk

		factors, social factors) into the planning and delivery of primary care.
9. Community orientation	6	Care refers to efforts to recognise the primary care needs of a defined population. The effective delivery of services to individuals and communities is based on an understanding of community needs and the integration of a population perspective in the provision of health care. Primary care providers contribute to and participate in community assessment, health surveillance, monitoring, and evaluation.
10. Culturally competent	5	Care incorporates cultural references into the provision of primary care. Services are designed to be acceptable to people in the community, who may be distinguished by common values, language, heritage, and beliefs about health and disease. The views of these groups should be determined and incorporated into decisions involving policies, priorities, and plans related to the delivery of healthcare services.

11. PHC team available	6	The availability of members of the multidisciplinary primary health care team such as social workers, therapists or community health workers.
12. Primary care score	(Total)	Mean of the scores for: first contact (utilization); first contact (access); extent of affiliation with a place/doctor; ongoing care; coordination; coordination (information); comprehensiveness (services available); comprehensiveness (services provided).

Source: Evaluating the performance of South African primary care: a cross-sectional descriptive survey.(13)(Page 3)

Data collection process

After the patients were registered at the reception and before the triage process, the research assistant approached every third patient from the register. After introducing themselves and explaining their intention to conduct the study, verbal consent was obtained. Those that consented, were asked about the number of times they had visited this facility. The participants who met the inclusion criteria were briefed about the study by the research assistant and those who agreed to participate were requested to give written consent. Research assistants administered the questionnaire in a private room. The interviews were conducted in English and minor clarification was provided where needed in Kiswahili. Research assistants were trained according to the PCAT training manual and were fluent in both official languages of Kenya, English and

Kiswahili.(42) Data quality was checked by the principal investigator at the clinic, before entering into MS Excel for further analysis.

Data analysis

Performance of the data analysis was according to the PCAT manual. The data was analysed by the first author using the Statistical Package for Social Sciences (SPSS) version 25.

A mean score was calculated for each domain from the associated items using the Likert scale from 1-4. Some items were reverse scored prior to the calculation as per the PCAT manual. In addition, a binary variable was constructed, where a mean score ≥ 3 was seen as 'acceptable to good performance' and < 3 as 'poor performance'.

To calculate affiliation with the PC clinics, users were first asked about the usual place or person where they sought care. They were then asked to identify any alternative place or person that they regularly visited and which place knew them best. The user's extent of affiliation with the PC clinics was categorised into "high" for those who only attended the PC clinic in the study, "moderate" for those users that sometimes attended another place, but were known best at the study site, and "low" for users that sometimes attended another place and were also known best at the alternative place.

The PC score was calculated as the mean of the domain scores for affiliation, first contact (utilisation), first contact (access), ongoing care, comprehensiveness (services available), and comprehensiveness (services provided). The expanded PC score also included the domains of family-centredness, community orientation, cultural competence and the primary health care team.

Continuous variables were summarised using means and standard deviations (SD) or medians and inter-quartile ranges (IQR), depending on the distribution of the data.

Categorical data was summarised using frequency counts with the corresponding percentages. Chi-square test compared the domains and socio-demographic variables with the PC score, when the data was categorical. When necessary post hoc analysis of the chi square test was performed.

3.4.3 Results

The KE-PCAT was administered to 412 participants (Table 2). The majority were female (55.1%) and the median age of the users was 34.0 (IQR: 28.0-42.0). Figure 1 shows the age distribution of the participants. Most of the participants were in full time employment (58.7%), university graduates (73.5%) and living in permanent dwellings (99.3%). The users' extent of affiliation with the PC facility was seen as "high" in 249 (60.4%), "moderate" in 95 (23.1%) and "low" in 65 (15.8%).

Table 2: User characteristics (N=412)

Variables	**N**	**%**
Gender		
Male	185	44.9
Female	227	55.1
Age group (years)		
20-29	107	26.0
30-39	176	42.7
40-49	86	20.9
50-59	37	9.0
60-69	6	1.5
Preferred language		
English	219	53.2

Kiswahili	186	45.1
Others	6	1.5
Refuse to answer	1	0.2
Employment		
Employed-full time	242	58.7
Employed-part time	59	14.3
Self-employed (informal sector)	28	6.8
Self-employed (formal sector)	17	4.1
Student	24	5.8
Homemaker	20	4.9
Retired/pensioner	20	4.9
Disabled	1	0.2
Refuse to answer	1	0.2
Education level		
Only primary	10	2.4
Only secondary	22	5.3
College	68	16.5
University	303	73.5
Other	9	2.2
Water		
Piped water (compound)	407	98.8
Piped water (yard)	2	0.5
Piped water (nearby)	4	1.0

Electricity		
Yes	409	99.3
Refuse to answer	3	0.7
Type of dwelling		
Permanent	409	99.3
Refuse to answer	3	0.7
Toilet		
Yes	410	99.5
No	2	0.5
Self-reported health status		
Excellent	10	2.4
Very good	74	18.0
Good	171	41.5
Fair	137	33.3
Poor	20	4.9
Chronic condition		
Yes	45	10.9
No	367	89.1

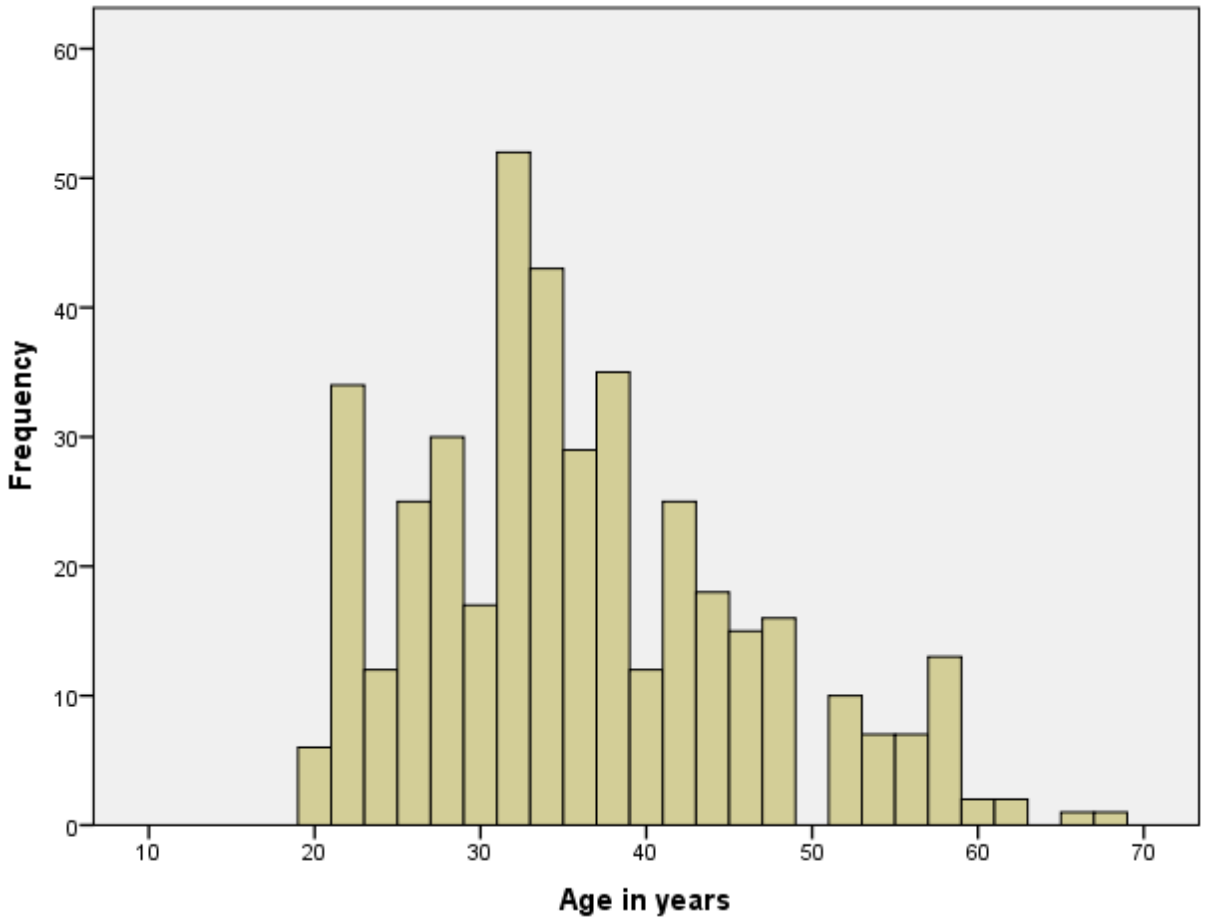

Figure 1: Age distribution of the participants.

Figure 2 shows the duration of affiliation with the PC facilities. The majority of the participants had been affiliated for 1-2 years. The median number of times that the users attended the clinic in the last 2-years was 4.0 (IQR: 3.0-6.0).

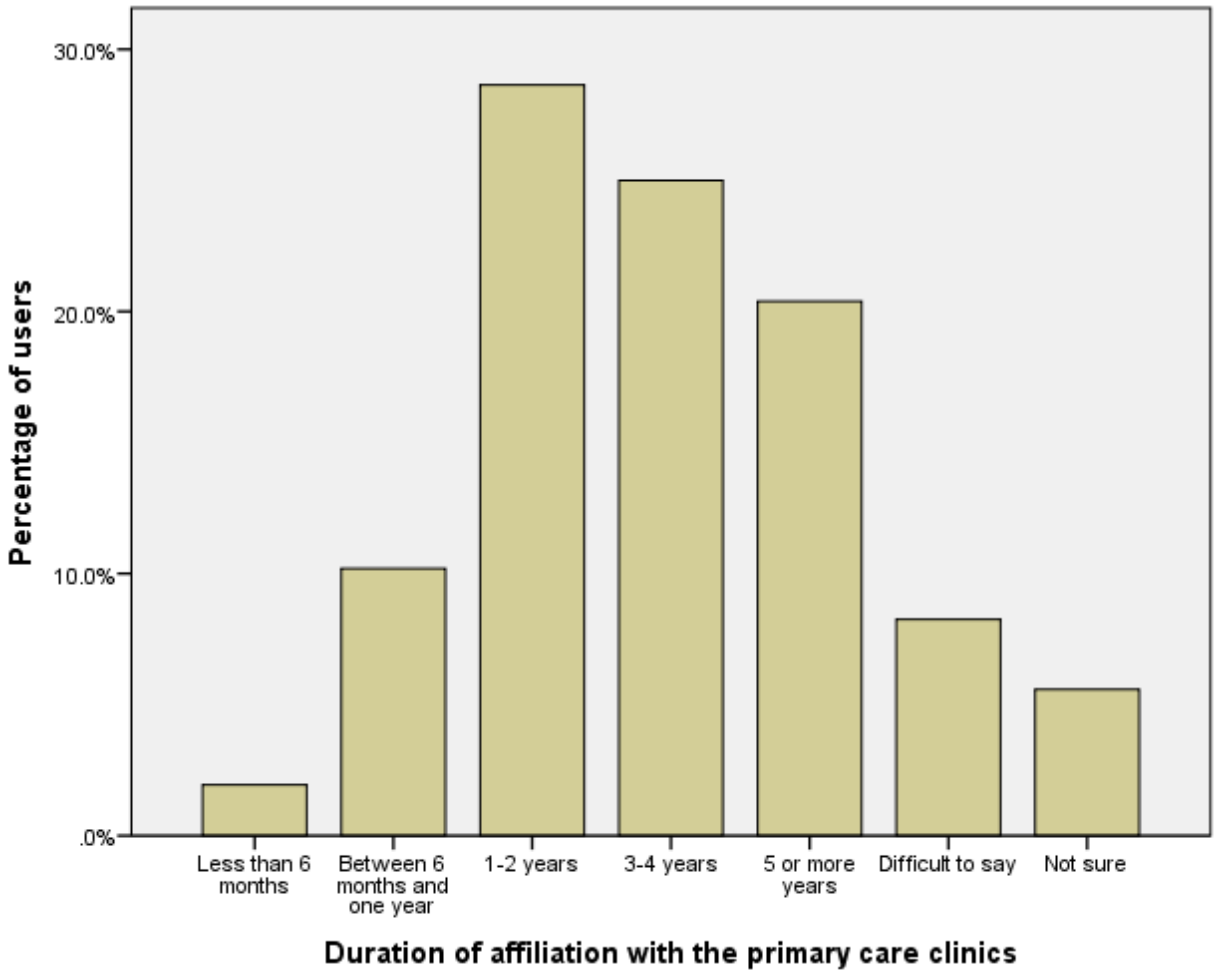

Figure2: Users' affiliation with the primary care clinics.

Table 3 shows the performance scores for each domain. The mean PC score was 2.64 (SD=0.23) and the mean expanded PC score was 2.68 (SD=0.19), implying a poor overall performance. The domains of first contact (utilisation), coordination (information), family-centredness and cultural competence had mean scores of 3.0 or more, suggesting an acceptable to good performance. All other domains had a mean score of less than 3.0,

suggesting a poor performance. The proportion of respondents giving an acceptable or good PC score for each domain are also shown in a radar chart in Figure 3.

Table 3: Performance scores for KE-PCAT domains (N=412)

Domains	**Performance scores**			
	Mean	SD	Score < 3 n (%)	Score ≥3 n (%)
First contact (utilisation)	3.1	0.6	132 (32.0)	280 (68.0)
First contact (access)	2.3	0.3	384 (93.2)	28 (6.8)
Ongoing care	2.8	0.3	289 (70.1)	123 (29.9)
Coordination*	2.9	0.5	12 (2.9)	5 (1.2)
Coordination (information)	3.0	0.5	174 (42.2)	238 (57.8)
Comprehensiveness (services available)	2.1	0.3	403 (97.8)	9 (2.2)
Comprehensiveness (services provided)	2.1	0.3	409 (99.3)	3 (0.7)
Family-centredness	3.1	0.6	143 (34.7)	269 (65.3)
Community orientation	2.0	0.4	406 (98.5)	6 (1.5)
Culturally competent	3.7	0.4	11 (2.7)	401 (97.3)
Primary healthcare team	2.1	0.6	336 (81.6)	76 (18.4)
Total primary care score	2.6	0.2	387 (93.9)	25 (6.1)
Expanded primary care score	2.7	0.2	393 (95.4)	19 (4.6)

*N=17 only, representing the number of participants referred to a specialist or hospital service. This domain was also omitted from the calculation of the PC scores as there were so few respondents.

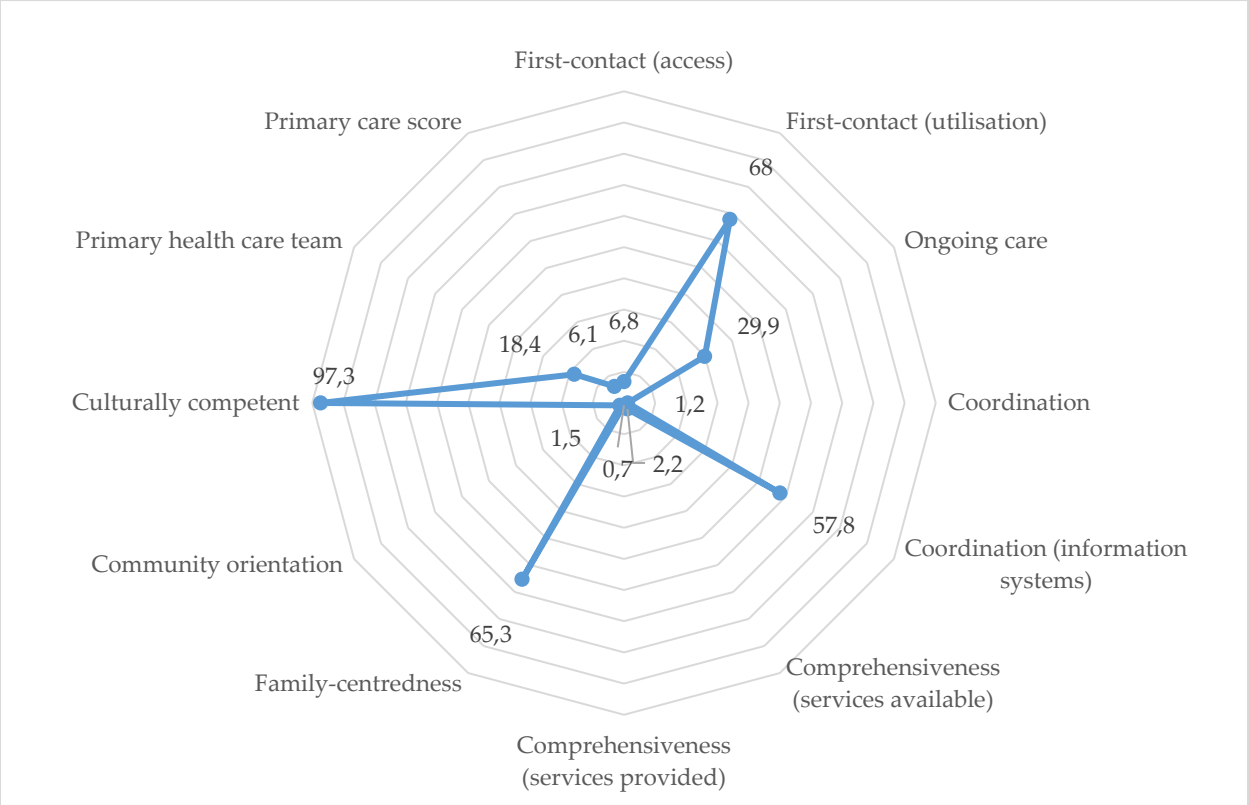

Figure 3: Proportion (%) of respondents evaluating each domain as acceptable to good

Table 4 shows the associations between the socio-demographic characteristics of the users and the PC score. A borderline significant association was found between age groups and the PC score (p=0.05). The post hoc analysis showed that the significance was due to a higher score amongst the 60-69 year olds (p=<0.0001), but all other age groups were not significantly. There was also an association between higher affiliation with the clinic and a higher PC score (p= 0.01).

Table 4: Relationship between the socio-demographic characteristics and the primary care performance score. (N=412)

Variables	Score <3 n (%)	Score ≥ 3 n (%)	N	p-value
Gender				
Male	171 (92.4)	14 (7.6)	185	0.25
Female	216 (95.2)	11 (4.8)	227	
Age Group				
20-29	99 (92.5)	8 (7.5)	107	
30-39	168 (95.5)	8 (4.5)	176	0.05
40-49	82 (95.3)	4 (4.7)	86	
50-59	34 (91.9)	3 (8.1)	37	
60-69	4 (66.7)	2 (33.3)	6	
Employment				
Employed-full time	229 (94.6)	13 (5.4)	242	
Employed-part time	54 (91.5)	5 (8.5)	59	
Self-employed (informal sector)	27 (96.4)	1 (3.6)	28	0.84
Self-employed (formal sector)	16 (94.1)	1 (5.9)	17	
Student	23 (95.8)	1 (4.2)	24	
Homemaker	19 (95.0)	1 (5.0)	20	
Retired/pensioner	17 (85.0)	3 (15.0)	20	

Disabled	1 (100.0)	0 (0.0)	1	
Refuse to answer	1 (100.0)	0 (0.0)	1	
Education				
Primary	10 (100.0)	0 (0.0)	10	
Secondary	21 (95.50	1 (4.5)	22	0.88
College	64 (94.1)	4 (5.9)	68	
University	284 (93.7)	19 (6.3)	303	
Other	8 (88.9)	1 (11.1)	9	
Users affiliation				
Low	65 (100.0)	0 (0.0)	65	0.01
Moderate	93 (97.9)	2 (2.1)	95	
High	229 (92.0)	20 (8.0)	249	

3.4.4 Discussion

In this private health care setting, the majority of the patients were young adults, female, employed, university graduates and resided in permanent dwellings. Most of them self-rated their health status as good and did not have chronic conditions.

Patients rated the clinics highly in terms of the information systems that helped to coordinate their care as well as in terms of the cultural competence and family-orientation of the GPs. On the other hand, they thought the clinics were not comprehensive in the range of services available and provided, and did not have a complete PHC team. There was little commitment to ongoing care, although patients also rarely had chronic conditions. Likewise, patients were rarely referred to the hospital and it was therefore difficult to assess coordination of care for such referrals. Despite high utilisation, the clinics were not always accessible at convenient times. The

clinics did not have a community orientation and tended to focus only on the patients that attended the facilities. They did not have a well-defined geographic community or population at risk that they felt responsible for. Overall, the mean PC score and the mean expanded PC score implied an overall poor performance. Stronger affiliation to their clinic and higher PC scores were also associated.

Although our study showed a significant association between higher PC scores and elderly users, the patients were mostly young, employed and university graduates. The majority of users reported their health status to be good to excellent and did not have chronic conditions. These findings are similar to another study in the same clinics.(39)

The low prevalence of chronic conditions in this practice population could be due to the perception that GPs were not able to deal with certain chronic conditions and that it was better to attend family physicians or other specialists at the main hospital.(23)(38) Despite the presence of chronic illness, the health status may still be reported as good.(23) There was no relationship between self-rated health status and the PC score, although a study in Korea reported that a higher PC score had an association with better self-rated health status.(43)

First-contact access, which included the clinics' operational processes such as opening hours, telephonic access and the provision of emergency services after hours, was rated poor. This rating could have been influenced by the COVID-19 pandemic, county lock-down, and curfews leading to earlier closure of the clinics. In addition, telephonic consultations are not reimbursed by insurance companies in Kenya, unlike in high-income countries.(39)(44) A previous study carried out at these facilities showed high satisfaction with the clinics opening hours and waiting times, though concerns were expressed with the appointment system and easy access by phone to the GPs.(39)

Similar findings for access scores were reported in Canada (mean score 2.2), South Africa (mean score 2.5) and Malawi (mean score 2.8) showing that this aspect of care needs to be addressed in many PC systems.(22)(23)(45) In addition, several studies carried out across Africa in the public sector, reported low levels of patient satisfaction with access to PC, either due to inconvenient opening times and appointments, staff shortages or lack of emergency services after hours.(23)(46)(47)(48) On the other hand, private clinics in Vietnam, Hong Kong and China showed greater accessibility, attributed to a stronger culture of customer service.(49)(50)(51) Undoubtedly, difficulties in accessing PC can lead to inappropriate use of emergency services at the nearest hospital, where comprehensive care may not be so possible.(13)

First-contact utilisation scored highly, showing that patients tended to use the clinics when they had a health issue or needed a check-up. Such high utilisation might be due to the physical proximity of the clinics and satisfaction with the services offered, although such services were limited in scope.(39)(49)(52)

Although utilisation and long term affiliation was reported as good, the score for relational continuity and ongoing care was poor. The young and generally healthy practice population needed acute episodic care more than chronic care and may therefore not have formed strong relationships with their GPs. Poor continuity, however, is usually associated with more fragmented care and opportunities that are missed out for health promotion and disease prevention.(53)(54)

Other studies in this practice population have shown low expectations of the clinic services and little preference for a specific GP, although high confidence in the GPs ability to manage mostly minor acute problems in healthy young adults.(38)(39) Another reason for the gap in continuity, could be the lack of gate-keeping and

availability of medical insurance cover, which allows patients to easily access the hospital specialists.(39)

The GPs have also been shown to lack person-centred communication skills, which are important for building relationships, fostering continuity and ensuring patient satisfaction, which impacts health outcomes.(39)(55)(56)(Article 3, chapter 3 in thesis). In addition, relational continuity may not be part of normative health seeking expectations in the Kenyan context, although it is normative in other health systems.(39)(57) High utilisation of the facilities and a good electronic medical record system did not translate into good continuity of care, although this has been shown elsewhere.(13)(22)(48)(49) Improving ongoing care will be important if these clinics become more comprehensive and manage more chronic conditions.

The patients rated the coordination of information systems as good, which is most likely due to the efficient and integrated electronic medical record system. Thus, the availability and transfer of information to facilitate patient's care could guide the development of an appropriate management plan.(23)(53)

However, users rated sequential coordination as barely acceptable, which indicated gaps in the transfer of information and care coordination between the PC facilities and the tertiary care hospital. This could be related to patient's being non-compliant to follow-up, lack of coordination between the GPs and the specialists, and limited relational continuity. In addition, easy access to specialist services at the hospital without the need for referral could also contribute to a low commitment to sequential coordination.(39) In many primary care systems, gatekeeping is obligatory in order to improve the efficiency and equity of the system, thereby making the coordination of care essential by the PC provider.(23)(38) However, an evaluation of GPs consultations in the same setting showed good parallel coordination between the different team

members at the facility despite the low composition of the primary health care team.(Article 3, chapter 3 in thesis)

The provision of comprehensive services to meet the health needs of the community is a unique feature of PC in a generalist and undifferentiated environment. Comprehensiveness implies services across the whole burden of disease, the whole life courses and from health promotion to palliation.(23) In our study, patients rated comprehensiveness as poor. Primary care in LMICs has historically been selective and driven by vertical disease-orientated programmes.(22)(23)(38)(49)(58) Even in high income countries such as Canada, comprehensive care is still an issue, despite having high relational continuity with providers.(45) In addition, the training of doctors in Kenya does not prepare them for comprehensive primary care (Article 5, chapter 3 thesis). Additional training in family medicine can narrow this gap.(59)(35) Comprehensive care plays a fundamental role in care continuity and when both are not delivered at an acceptable level it has implications for health outcomes.(23)(60)(61)

The low score for comprehensiveness may be related to services not being available or patients being unaware of services that could be offered by the GPs.(38) For example, patients have reported reduced confidence in the ability of the GPs' to manage and provide care related to screening for cervical cancer, antenatal care and end of life issues.(38) Services may not be provided by the GPs due to the availability of hospital specialists,(62) which in turn results in the GPs becoming deskilled.(63)(Article 5, chapter 3 in thesis) General practitioners may also lack certain skills to provide essential PC in specific areas of surgery, women's health, ear, nose and throat, ophthalmology and orthopaedics, which may result in increased overall costs and hospital visits.(64)(Article 5, chapter 3 in thesis)

One of the features of person-centred PC that helps in understanding the patient's context is thinking from a family's perspective.(65) Family-centredness was scored as acceptable to good. Several studies have related geographical proximity, family medical insurance cover, duration of affiliation, and high utilisation of PC, with higher family centredness.(38)(39)(48)(49)(66) On the other hand, evaluation of consultations in the same settings showed that the GPs did not explore the family and social context in more than half of the consultations.(Article 3, chapter 3 in thesis) Patients clearly felt that GPs were open to considering family in the consultations, although this was not borne out by actual observation of the consultations. (Article 3, chapter 3 in thesis)

Users rated community orientation as low. It is recognised that engagement in the community is not a strong point for the private sector.(5) The private sector generally focuses on the practice population, as individuals come for a service, as opposed to the public sector. In Kenya, particularly the public sector has prioritised community orientation in PHC service delivery.(20)(48)(49)(66) Despite the facilities being located in different communities throughout Nairobi, the organisation did not have a vision for monitoring and evaluation and health surveillance.(23)

Users rated cultural competence the highest, which implies that GPs were competent at handling the diversity of languages, contexts, health beliefs and values during their consultations.(67) This could be attributed to the GPs and other staff respecting the legitimacy of different cultures or because GPs actual shared the same language and cultural background as the patients.(13)(23)(48)(65) The need for cultural sensitivity in PHC was also highlighted in a study in Botswana.(68)

The users rated the composition of members of the primary health care team as low, which could be due to lack of awareness of the available services,(38) or gaps in access to a multidisciplinary team and comprehensive care.(38)(39) Despite the gap in the PC

team, there was a high level of care coordination within the teams at the facilities.(Article 3, chapter 3 in thesis) Many of the disciplines usually found in PC were actually located in the tertiary hospital, such as family medicine, social work, physiotherapy, dentistry and dietetics.(38)

3.4.5 Strengths and limitations

This is a first-of-its-kind study to be carried out in Kenya in the private sector. The users' recall of their past experiences during health care visits may have created a recall bias, although research assistants were able to clarify and explore the answers to questions during the interviews. The possibility of an obsequiousness bias was also reduced by the use of unknown research assistants, assurance of anonymity and independence from the provision of care at the facility. The results cannot be generalised outside of the organisation, although might be similar in other private sector services that are organised along similar lines.

3.4.6 Recommendations

An improvement in the availability of routine services on weekends and after-office hours would add value to the already existing high user' utilisation with the facilities. The comprehensiveness of services and PC team need to be improved and marketed to the practice population, which should also improve continuity and coordination of care. Furthermore, creating awareness of the care package, formulating a system that encourages utilisation of PC, continuing professional development as well as workplace-based learning for GPs, could help in addressing the comprehensiveness of primary care.(69) Services can be offered more cost-effectively and conveniently in the PC clinics as opposed to the tertiary hospital. Deploying family physicians in these clinics, could go a long way in providing person-centred, continuous, coordinated and comprehensive care.

Consideration should be given to more community-orientated PC programs. Although this was a private sector organisation it was founded on a non-profit and philanthropic model that might be amenable to such a focus. This might also be achieved through public-private partnerships.(23)

The success of interventions to improve the domains that scored poorly can be monitored and evaluated by further evaluations using the PCAT in continuous quality improvement cycles.(23)

3.4.7 Conclusion

These primary care clinics in Nairobi had a poor overall PC score. There was a report of acceptable to good performance in first-contact utilisation, the information systems, family centredness and cultural competence. However, patients rated first-contact access, ongoing care, coordination of care, comprehensiveness of services, community orientation and availability of a complete primary health care team, as poor. The PC score could be improved by deploying family physicians to the clinics, increasing the scope of practice to become more comprehensive, improving access after-hours and marketing the use of the clinics to the practice population.

3.4.8 Ethical Considerations

The study was ethically approved by the National Commission for Science, Technology & Innovation Research, Kenya-License no: NACOSTI/P/20/7046, the Research and Ethics Committee of the Aga Khan University Hospital, Nairobi -reference no: 2020/IERC-119 [v2] and the Stellenbosch University Health Research Ethics Committee-reference no: S20/07/167.

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3.5 ARTICLE 5: General practitioners' training and experience in the clinical skills required for comprehensive primary care in Nairobi, Kenya

3.5.1 Introduction

The signing of the Astana Declaration in 2018 reaffirmed the commitment of the World Health Organization (WHO) and member states to "prioritise, promote and protect people's health and well-being and provide health services that are of high quality, safe, comprehensive, integrated, accessible, available and affordable for all".(1)(2) To achieve such goals, health systems have to be built on the foundation of effective primary health care (PHC).(3)(4) However, PHC in sub-Saharan Africa (SSA) faces difficulties such as hospital-centred health priorities, fragmentation of healthcare in vertical programmes, dual burdens of communicable and non-communicable diseases, as well as health care workers who are not well trained.(1)(5) In SSA, the delivery of effective PHC still remains an emerging reality.(6)

A subset of PHC is primary care (PC) that offers first-contact care for patients and serves as a gatekeeper to other levels of health care.(7)(8)(9) However, quality PC requires accessible, coordinated and ongoing comprehensive care.(10) Primary care may be delivered by family physicians, general practitioners, or non-physician practitioners, such as nurses.(7) One of the essential domains of high quality PC is comprehensive care, which implies that care is offered across the life course and includes health promotion, disease prevention, treatment, rehabilitation and palliative care.(10) Comprehensive services depend on the availability of essential medicines, medical equipment, supplies, appropriate infrastructure, adequate funding, functional health information systems and an available and competent workforce.(10)(11)(12)

In order for general practitioners (GP) to provide quality PC, they require clinical competence, critical thinking, agency to improve the quality of care and the ability to build capacity among the primary care team, as well as to support community-based services.(13)(14) In the Kenyan context, a GP has been defined as "a doctor who has studied for a medical degree and passed their internship, but has not necessarily specialised in any field".(15)

The Royal College of General Practitioners (RCGP) in the UK talks about competencies required for medical generalism. Medical generalism refers to a GP who is able to routinely apply a broad and holistic bio-psychosocial approach to the comprehensive care of patients.(16) In addition, a GP should consciously practise continuity of care over multiple illness episodes and coordinate care for the individual between different teams and levels of care.(10)

However, evidence shows a significant gap between the competency of GPs with no postgraduate training and the competencies required of medical generalists.(17) Specialist training in family medicine can reduce this competency gap,(18)(19)(20)(21) but the availability of family physicians in Kenya, as in most of SSA, is very limited.(22) Therefore, additional in-service training and clinical skills enhancement of GPs, such as that outlined in the South African Diploma in Family Medicine(13) may contribute significantly towards the achievement of quality PC.(23)

The capital of Kenya, Nairobi, has a population of about 4.7 million(24) and PC is delivered by nurses, clinical officers (CO) and doctors, supported by other health care workers.(25) The COs offer most of the PC services in the public sector and in some private facilities, whilst GPs offer services in the private sector, even though the majority do not have specialist postgraduate training.(26) More importantly, the proportion of the services provided by private organisations (56%) in Kenya is

increasing, however the quality of services remains a major challenge.(27)(28) As elsewhere in Africa, GPs in Kenya need to be proactive and be encouraged to participate in reinforcing the PHC system in all sectors of care delivery.(13) It is unfortunate, however, that this is not the current situation.

The measurement of PC performance guides primary health care systems strengthening.(10)(29) Nevertheless, in SSA there is a dearth of information on the quality of service delivery and performance of providers in PC, and Kenya is not an exception.(10)(27)(29) By and large, governments focus their attention on the public sector services and measurement of PC quality in the private sector is even more scarce.(30) A knowledge gap exists in the Kenyan private sector on the ability of GPs to deliver quality PC.

Therefore, the aim of this study was to evaluate the training and experience of GPs in the clinical skills required for comprehensive PC.

3.5.2 Methods

Study design

This was a cross-sectional descriptive survey using an adapted South African tool designed for a national survey of primary care doctors.(13)

Setting

The study was carried out in 13 PC facilities within the city of Nairobi, which were run by GPs. These facilities were attached to a not-for-profit private healthcare organisation who also operated an associated tertiary hospital.(31) The GPs in these facilities offered first contact care to patients who came from different socio-economic backgrounds. However, the majority of patients were covered by health insurance that was provided by virtue of their employment, privately accessed or obtained through the

government's national insurance scheme for specific cadres of staff working for the government. These ambulatory PC facilities, offered services to all age groups in semi-urban, urban and peri-urban areas of Nairobi. The facilities provided health promotion, disease prevention and treatment services for all age groups and referral services to specialist clinics (including family medicine), rehabilitative and palliative care at the tertiary hospital. There were approximately 25 GPs working in these facilities on a shift basis, according to the workload and opening schedules.

Study population and sampling strategy

Since the number of GPs working in these primary care facilities were few, the study surveyed all the consenting doctors without sampling and there were no exclusion criteria.

Data collection tool

The original questionnaire was developed in South Africa for a national survey of primary care doctors' in both public and private sectors. Selection of 78 clinical skills was based on the primary care subset of the clinical skills list for training of family physicians.(13) The clinical skills were divided into the following categories: adult health, women's health, child health, surgery, orthopaedics, emergencies, ear-nose-throat (ENT) and eyes, clinical administration skills, communication and consultation skills. Demographic data such as age, sex, years of experience and additional qualifications were also collected. The GPs were requested to assess their ability in performing the clinical skills by choosing one answer for each skill from a Likert scale ranging from 1-4 with the following options:

1. I have not had training in this skill.

2. I have been trained, but have not performed this skill in the last year.

3. I have performed this skill in the last year.

4. I have taught this skill to others in the last year.

The content of the South African tool was reviewed by an expert panel consisting of the principal investigator, two Kenyan family physicians and two GPs. The questions were checked for relevance and appropriateness for the Kenyan private sector context, whilst preserving the integrity of the tool. Skills related to circumcision, Norplant insertion, Rinnes & Weber's test and ophthalmoscopy exam were added. Whilst, skills related to cricothyroidotomy, assessment of drunken driving and termination of pregnancy were removed. References to clinical administration forms were adjusted to the Kenyan context.

The revised tool was then assessed for feasibility and understanding through a pilot study that was carried out amongst GPs at a similar primary care facility that was not included in the main study. There was no further change in the content of the tool.

Data collection process

General practitioners were provided with a hard copy of the self-administered questionnaire by the researcher to complete anonymously. The completed questionnaire was then sealed in an envelope and collected by the researcher. The completed questionnaires were checked and any errors or omission detected were returned to the GP to correct and complete before the researcher left the facility.

Data analysis

The data was captured and coded in a MS Excel spreadsheet and then imported into the Statistical Package for Social Sciences version 25 and analysed by the principal researcher. The data was analysed descriptively using frequency counts and percentages for categorical data. Numerical data was analysed using means and

standard deviations. Relationships between categorical demographic variables and clinical skill performance was analysed using the Chi-square test.

A mean score, based on the Likert scale from 1-4, was calculated for each clinical skill and each category of skills, together with the standard deviation. The mean scores were further categorised into scores of 1.0-2.0 as poor performance (lack of training and not performed recently), score of 2.1-2.5 as weak performance (trained, but not performed recently), 2.6-3.0 as moderate performance (mostly performed in the last year), score >3.0 strong (performed often and taught to others).

3.5.3 Results

Table 1 shows the socio-demographic characteristics of the GPs. They were mostly below 40-years of age, with less than 10-years of experience and an almost equal gender distribution. Out of 25 GPs, 2 had additional non-clinical qualifications at a master's level and 5 GPs were post-graduate students in other disciplines.

Table 1: Socio-demographic characteristics of the general practitioners (N=25)

Variable	n (%)
Gender	
Female	13 (52.0)
Male	12 (48.0)
Age (years)	
20-29	6 (24.0)
30-39	15 (60.0)
40-49	2 (8.0)
50-59	2 (8.0)
Years since qualification	
1-10	20 (80.0)
11-20	3 (12.0)
21-30	1 (4.0)
31-40	1 (4.0)

Table 2 shows the mean scores of GPs across the clinical skills categories. Categories with an overall moderate performance included adult health, emergencies, communication and consultation skills, child health and clinical administration.

The categories with weak performance included surgery, ENT/eyes, women's health and orthopaedics. Association was not found between the socio-demographic variables and the mean scores for clinical skills categories.

Table 2: Performance of key clinical skills by categories (N=25)

Categories	**Mean (SD)**
Adult health	2.8 (0.46)
Emergencies	2.8 (0.63)
Communication and consultation skills	2.7 (0.56)
Child health	2.6 (0.52)
Clinical administration skills	2.6 (0.54)
Surgery	2.4 (0.59)
Ear nose and throat/eyes	2.3 (0.49)
Women's health	2.2 (0.40)
Orthopaedics	2.1 (0.50)

Table 3 shows performance with regard to the individual clinical skills.

Table 3: Performance of key clinical skills by the General Practitioners (N=25)

Categories	Have not had training in this skill n (%)	Have been trained, but have not performed this skill in the last year n (%)	Have performed this skill in the last year n (%)	Have taught this skill to others in the last year n (%)	Mean score (SD)
Adult Health					
Femoral vein puncture	3 (12.0)	8 (32.0)	7 (28.0)	7 (28.0)	2.72 (1.02)
Intra dermal injection	3 (12.0)	9 (36.0)	10 (40.0)	3 (12.0)	2.52 (0.87)
Intra muscular injection	0 (0.0)	1 (4.0)	16 (64.0)	8 (32.0)	3.28 (0.54)
Subcutaneous injection	0 (0.0)	4 (16.0)	15 (60.0)	6 (24.0)	3.08 (0.64)
Interpret chest radiograph	0 (0.0)	0 (0.0)	15 (60.0)	10 (40.0)	3.40 (0.50)
Interpret abdominal radiograph	0 (0.0)	2 (8.0)	14 (56.0)	9 (36.0)	3.28 (0.62)
Proctoscopy	11(44.0)	12 (48.0)	2 (8.0)	0 (0.0)	1.64 (0.64)
Setup, record and interpret electrocardiogram	1 (4.0)	4 (16.00)	15 (60.0)	5 (20.0)	2.96 (0.74)
Pleural tap	2 (8.0)	14 (56.0)	5 (20.0)	4 (16.0)	2.44 (0.87)
Measure peak expiratory flow	5 (20.0)	12 (48.0)	7 (28.0)	1 (4.0)	2.16 (0.80)
Nebulise a patient	1 (4.0)	4 (16.0)	15 (60.0)	5 (20.0)	2.96 (0.74)
Demonstrate use of inhalers and spacers	0 (0.0)	3 (12.0)	9 (36.0)	13 (52.0)	3.40 (0.71)

Women's Health					
Plot and interpret ante natal profile.	0 (0.0)	8 (32.0)	12 (48.0)	5 (20.0)	2.88 (0.73)
Assess foetal movement/well being	0 (0.0)	5 (20.0)	14 (56.0)	16 (24.0)	3.04 (0.68)
Perform an obstetric ultrasound	11 (44.0)	13 (52.0)	1 (4.0)	0 (0.0)	1.6 (0.58)
Assess, manage and document sexual assault	3 (12.0)	16 (64.0)	4 (16.0)	2 (8.0)	2.20 (0.77)
Insert intra uterine contraceptive device	7 (28.0)	17 (68.0)	1 (4.0)	0 (0.0)	1.76 (0.52)
Insert hormonal implants	8 (32.0)	15 (60.0)	2 (8.0)	0 (0.0)	1.76 (0.60)
Cervical smear	1 (4.0)	5 (20.0)	13 (52.0)	6 (24.0)	2.96 (0.79)
Drain a Bartholin cyst	4 (16.0)	15 (60.0)	4 (16.0)	2 (8.0)	2.16 (0.80)
Child Health					
Plot and interpret growth charts	1 (4.0)	10 (40.0)	12 (48.0)	2 (8.0)	2.60 (0.71)
Assess child abuse: sexual/non sexual	2 (8.0)	13 (52.0)	9 (36.0)	1 (4.0)	2.36 (0.70)
Capillary blood sampling	2 (8.0)	12 (48.0)	9 (36.0)	2 (8.0)	2.44 (0.77)
Developmental assessment	0 (0.0)	6 (24.0)	17 (68.0)	2 (8.0)	2.84 (0.56)
Intravenous access in a child	0 (0.0)	4 (16.0)	12 (48.0)	9 (36.0)	3.20 (0.71)
Intra osseous line	0 (0.0)	19 (76.0)	2 (8.0)	4 16.0)	2.40 (0.77)
Teach a mother Kangaroo Care	1 (4.0)	17 (68.0)	3 (12.0)	4 (16.0)	2.40 (0.82)
Well new- born check	1 (4.0)	12 (48.0)	8 (32.0)	4 (16.0)	2.60 (0.82)
Surgery/General					
Wound care dressings	0 (0.0)	3 (12.0)	15 (60.0)	7 (28.0)	3.16 (0.63)

Suturing of laceration	0 (0.0)	0 (0.0)	16 (64.0)	9 (36.0)	3.36 (0.49)
Debride wounds and burns	0 (0.0)	4 (16.0)	13 (52.0)	8 (32.0)	3.16 (0.69)
Perform a circumcision	6 (24.0)	14 (56.0)	1 (4.0)	4 (16.0)	2.12 (0.97)
Administer a ring block	7 (28.0)	9 (36.0)	4 (16.0)	5 (20.0)	2.28 (1.10)
Administer a regional block	6 (24.0)	10 (40.0)	7 (28.0)	2 (8.0)	2.20 (0.91)
Incise and drain an abscess	0 (0.0)	2 (8.00)	14 (56.0)	9 (36.0)	3.28 (0.62)
Fine needle aspiration biopsy	8 (32.0)	11 (44.0)	4 (16.0)	2 (8.0)	2.00 (0.91)
Excise sebaceous cyst	4 (16.0)	13 (52.0)	6 (24.0)	2 (8.0)	2.24 (0.83)
Cryotherapy/cauterization	13 (52.0)	10 (40.0)	2 (8.0)	0 (0.0)	1.56 (0.65)
Trucut /punch biopsy	10 (40.0)	10 (40.0)	3 (12.0)	2 (8.0)	1.88 (0.93)
Orthopaedics					
Aspirate and inject a knee	7 (28.0)	10 (40.0)	5 (20.0)	3 (12.0)	2.16 (0.99)
Inject a tennis / golfer's elbow	13 (52.0)	10 (40.0)	2 (8.0)	0 (0.0)	1.56 (0.65)
Inject into the sub acromial space	15 (60.0)	8 (32.0)	2 (8.0)	0 (0.0)	1.48 (0.65)
Apply finger and hand splints	1 (4.0)	13 (52.0)	10 (40.0)	1 (4.0)	2.44 (0.65)
Apply plaster of Paris	2 (8.0)	18 (72.0)	3 (12.0)	2 (8.0)	2.20 (0.71)
Reduce shoulder dislocation	2 (8.0)	15 (60.0)	8 (32.0)	0 (0.0)	2.24 (0.60)
Immobilize suspected fracture for transport	1 (4.0)	7 (28.0)	12 (48.0)	5 (20.0)	2.84 (0.80)
Emergencies					
Cardio pulmonary resuscitation	0 (0.0)	12 (48.0)	7 (28.0)	6 (24.0)	2.76 (0.83)

Manage choking	0 (0.0)	17 (68.0)	5 (20.0)	3 (12.00	2.44 (0.71)
Primary/secondary survey	0 (0.0)	5 (20.0)	14 (56.0)	6 (24.0)	3.04 (0.68)
Manage airway with bag & mask	0 (0.0)	10 (40.0)	7 (28.0)	8 (32.0)	2.92 (0.86)
Insert urinary catheter	0 (0.0)	9 (36.0)	7 (28.0)	9 (36.0)	3.00 (0.87)
Administer oxygen	0 (0.0)	5 (20.0)	11 (44.0)	9 (36.0)	3.16 (0.75)
Insert a chest drain	0 (0.0)	17 (68.0)	3 (12.0)	5 (20.0)	2.52 (0.82)
Relieve tension pneumothorax	1 (4.0)	16 (64.0)	3 (12.00	5 (20.0)	2.48 (0.87)
Measure Glasgow coma scale	0 (0.0)	2 (8.0)	14 (56.0)	9 (36.0)	3.28 (0.62)
Insert naso-gastric Tube	0 (0.0)	11 (44.0)	8 (32.0)	6 (24.0)	2.80 (0.82)
Immobilise the spine	0 (0.0)	16 (64.0)	5 (20.0)	4 (16.0)	2.52 (0.77)
Ear Nose and Throat/Eyes					
Perform Rinnes & Webers tests	2 (8.0)	18 (72.0)	5 (20.0)	0 (0.0)	2.12 (0.53)
Measure visual acuity	2 (8.0)	17 (68.0)	5 (20.0)	1 (4.0)	2.20 (0.65)
Perform red reflex	7 (28.0)	17 (68.0)	1 (4.0)	0 (0.0)	1.76 (0.52)
Assess retina with ophthalmoscope	6 (24.0)	10 (40.0)	9 (36.0)	0 (0.0)	2.12 (0.78)
Remove foreign body from eye	7 (28.0)	9 (36.0)	8 (32.0)	1 (4.0)	2.12 (0.88)
Remove foreign body from ear	1 (4.0)	8 (32.0)	13 (52.0)	3 (12.0)	2.72 (0.74)
Remove foreign body from nose	2 (8.0)	8 (32.0)	11 (44.0)	4 (16.0)	2.68 (0.85)
Pack the nose for epistaxis	1 (4.0)	6 (24.0)	14 (56.0)	4 (16.0)	2.84 (0.75)

Wash out the eye	1 (4.0)	6 (24.0)	13 (52.0)	5 (20.0)	2.88 (0.78)
Clinical Administration skills					
Complete a police surgeons form for assault	0 (0.0)	4 (16.0)	16 (64.0)	5 (20.0)	3.04 (0.61)
Complete a death notification	0 (0.0)	11 (44.0)	10 (40.0)	4 (16.0)	2.72 (0.74)
Complete an injury on duty form	5 (20.0)	11 (44.0)	7 (28.0)	2 (8.0)	2.24 (0.88)
Communication and consultation skills					
Conduct a patient-centred consultation	1 (4.0)	0 (0.0)	17 (68.0)	7 (28.0)	3.20 (0.65)
Do brief behaviour change counselling	4 (16.0)	2 (8.0)	15 (60.0)	4 (16.0)	2.76 (0.93)
Break bad news	1 (4.0)	3 (12.0)	17 (68.0)	4 (16.0)	2.96 (0.68)
Counsel for HIV prevention or test	1 (4.0)	0 (0.0)	20 (80.0)	4 (16.0)	3.08 (0.57)
Counsel patient after sexual assault	2 (8.0)	6 (24.0)	15 (60.0)	2 (8.0)	2.68 (0.75)
Perform mini mental examination	2 (8.0)	10 (40.0)	9 (36.0)	4 (16.0)	2.60 (0.87)
Use a genogram	12 (48.0)	9 (36.0)	2 (8.0)	2 (8.0)	1.76 (0.93)
Work effectively with an interpreter	5 (20.0)	4 (16.0)	15 (60.0)	1 (4.0)	2.48 (0.87)
Include family members appropriately in the consultation	1 (4.0)	3 (12.0)	17 (68.0)	4 (16.0)	2.96 (0.68)

Table 4 categorises the clinical skills according to their mean scores into poor, weak, moderate and strong performance. General practitioners scored poorly for 10 (12.8%) skills, weakly for 23 (29.5%) skills, moderately for 26 (33.3%) skills and strongly for 19 (24.4%) of the skills. The GPs lacked training in specific skills related to proctoscopy,

contraceptive devices, skin procedures, intra-articular injections, red reflex test and use of a genogram.

Table 4: Performance of key clinical skills by the General Practitioners (N=78)

Categories	**Strong n=19 (24.4%)**	**Moderate n=26 (33.3%)**	**Weak n=23 (29.5%)**	**Poor n=10 (12.8%)**
Adult Health	Intra muscular injection Subcutaneous injection Interpret chest radiograph Interpret abdominal radiograph Demonstrate use of inhalers and spacers	Femoral vein puncture Intradermal injection ECG setup, record and interpret Nebulise a patient	Measure peak expiratory flow Pleural tap	Proctoscopy
Women's Health	Assess foetal movement/well being	Plot and interpret ante natal profile Cervical smear	Assess, manage and document sexual assault Drain a Bartholin cyst	Perform an obstetric ultrasound Insert intra uterine contraceptive device Insert hormonal implants

Child Health	Intravenous access in a child	Plot and interpret growth charts Developmental assessment Well new-born check	Assess child abuse: sexual/non sexual Capillary blood sampling Intra osseous line Teach a mother Kangaroo Care	
Surgery	Wound care dressings Suturing of laceration Debride wounds and burns Incise and drain an abscess		Perform circumcision Administer a ring block Administer a regional block Fine needle aspiration biopsy Excise sebaceous cyst	Cryotherapy/ cauterisation Trucut/punch Biopsy
Orthopaedics		Immobilise suspected fracture for transport	Aspirate and inject a knee Apply finger and hand splints Apply plaster of Paris Reduce shoulder dislocation	Inject a tennis/ golfer's elbow Inject into the sub acromial space

Emergencies	Primary/secondary survey Insert urinary catheter Administer oxygen Measure Glasgow coma scale	Cardio pulmonary resuscitation Manage airway with bag & mask Insert a chest drain Relieve tension pneumothorax Insert naso-gastric tube Immobilise the spine	Manage choking	
Ear Nose and Throat/ Eyes		Remove foreign body from ear Remove foreign body from nose Pack the nose for epistaxis Wash out the eye	Rinnes/ Webers test Measure visual acuity Assess retina with ophthalmoscope Remove foreign body from eye	Perform red reflex
Clinical Administration Skills	Complete a police surgeons form for assault	Complete a death notification	Complete an injury on duty form	

Communication and consultation skills	Conduct a patient-centred consultation Counsel for HIV prevention or test Work effectively with interpreter	Do brief behaviour change counselling Break bad news Counsel patient after sexual assault Perform mini mental Examination Include family members appropriately in the consultation		Use a genogram

3.5.4 Discussion

The majority of the GPs were young doctors with less than 10-years of clinical experience. The GPs performed moderately in the categories of adult health, child health, emergencies, clinical administration, communication and consultation skills. The GPs performed weakly in the categories of surgery, women's health, ENT/eyes and orthopaedics. Their strongest self-rated performance for individual skills were interpreting X-rays, suturing lacerations, inserting urinary catheters, performing patient-centred consultations and HIV counselling. Whilst their poorest performance for individual skills were seen in their ability to draw a genogram, give intra-articular injections, perform family planning procedures, perform biopsies, conduct a proctoscopy, red reflex test and obstetric ultrasound.

The GPs reported strong performance in emergency skills such as the Glasgow coma scale, inserting chest and nasogastric tube and relieving tension pneumothorax. Though

emergency skills were thought to be rarely required in the PC clinics involved in this study. Their strength in emergency care could be attributed to the fact that they were required to be accredited in Basic Life Support and Advanced Cardiac Life Support as part of their recruitment and annual renewal process with the organisation. In addition, some of the GPs were post-graduate students in other disciplines in the public sector and may have performed emergency skills in that context. The findings of our study was contrary to the study of GPs in South Africa, where these emergency skills were rarely performed.(13)

The GPs' high score in interpreting electrocardiograms and radiographs, may have been due to their relatively recent hospital-based internship training, where they were required to interpret the findings for themselves. The Covid-19 pandemic era may have also contributed to the increased number of chest radiographs performed during the study.(32) These findings were consistent with a recent Saudi Arabian study where the GPs also scored highly in the interpretation of the chest radiographs.(32)

General practitioners reported strong performance in consultation and communication skills, although, communication skills are challenging to define and self-assess.(33) As consultations are the foundation of PC it is not surprising that these skills scored highly. Paradoxically, those who are most confident about their communication skills can be the least competent, when independently assessed.(33) The questionnaire focussed more on the frequency with which a skill was performed rather than the quality of performance. Indirect observation of the GPs' consultations in a previous study carried out at these facilities, showed that consultations were brief, bio-medical and lacked a person-centred approach. (Article 3 in chapter 3 of the thesis).

There were skills that the GPs were trained in, but had not performed in the last year, such as medical circumcision, fine needle aspiration biopsy, excision of sebaceous cyst,

and aspects related to sexual and child abuse. In contrast, in a South African study the GPs showed high level of confidence in the core surgical skills such as cryotherapy, circumcision, fine needle aspiration and managing fractures.(34) One possibility for the weak performance could be a lack of confidence and becoming de-skilled in an urban PC context where these procedures were not expected.(35) In addition, one of the challenges of PC is that, the GPs become de-skilled over time when procedures are not performed with sufficient frequency.(35) Furthermore, unavailability of relevant equipment's required to perform common procedures could contribute to this gap. A previous study in this same setting reported that patients had limited expectations of the scope of practice at these PC facilities, hence patient's uptake of any additional services was limited.(36)

In the context of these private PC clinics, specialist services were easily available at the tertiary hospital and covered by medical insurance. Therefore, it may have been easier for the GPs' to refer patients to a specialist and not perform the skill themselves.(14) Equally important, it has been reported that easy availability of specialists can narrow the scope of practice of urban GPs.(35) Reliance on specialists could also be related to fear of litigation in the private sector, which has risen in recent years.(37)(38)

In these primary care settings, remuneration of GPs was organised per session, which meant there was no financial incentive to do more than the minimum required. On the other hand, most of these young doctors were not pursuing a career in family medicine or general practice and saw this as a source of additional income, while they trained for another speciality. Hence, their motivation to perform skills attuned to general practice may have been low. It is also possible that the coronavirus pandemic may have contributed to the withdrawal of some services that were considered to be high risk, such as measuring peak expiratory flow and ophthalmoscopy examination leading to a low performance. However, despite these gaps, the overall satisfaction level with the

GPs was very high as expressed by the patients in a different study carried out at these clinics.(23)

Some of the weak and poorly performed skills were basic PC skills such as use of Snellen charts, genograms, family planning procedures, proctoscopy, hearing tests or peak flow meters. This may be an indication that the GPs were not adequately prepared for PC during undergraduate training or as junior doctors in the hospital environment.

It was interesting to compare our findings to a study carried out in the public and private sectors in South Africa where the same tool was used.(13) The doctors working in the public sector showed similar confidence in performing emergency skills as well as interpreting electrocardiograms and radiographs. However, GPs in the private sector in South Africa had a more comprehensive set of PC skills such as use of a genogram, performing intra-articular injections and obstetric ultrasound. Also, GPs in South Africa were older and had chosen general practice as their career. Furthermore, the study in South Africa included GPs from rural areas, where access to specialist care was limited as compared to our urban setting.(13)

3.5.5 Strengths and limitations

This study is the first of its kind to evaluate GPs' performance in the private sector in Kenya, however the study has certain limitations. Data regarding the GPs undergraduate training was not captured. Since the scores were self-reported, the GPs may have overestimated their performance. Scoring was largely based on prior training and whether the skills had been performed, and thus could not fully assess competence. Competence can only be reliably assessed by direct observation of skills.

The results are representative of GPs practising in this specific chain of PC clinics and the results cannot be generalised to GPs working elsewhere in the private sector in Kenya. However, it is likely that similar findings would be obtained for GPs working in

similar private sector organisations in urban settings and the recommendations could have relevance to them.

3.5.6 Recommendations

Comprehensive service delivery is one of the important characteristics of quality PC.(10) Services that can be delivered effectively in PC are more likely to be affordable and accessible, compared to the same services delivered by a specialist in a tertiary hospital.(10) Cost-effectiveness and access are also important in the private sector for organisations offering health services and medical insurance schemes. This study points towards a number of ways in which the comprehensiveness of care could be increased and improved.

Shifting the focus of the Department of Family Medicine from the tertiary hospital to PC and employing newly graduates could ensure that family physicians take the lead in these clinics. Family physicians with their postgraduate training would immediately increase the scope and quality of care and create a career pathway for doctors that want to work in PC.(22)(39) Family physicians could also introduce a culture of clinical governance with attention to improving the quality of care and patient safety.(40)

Continuing professional development and workplace-based experiential learning(41) for GPs under the supervision of family physicians would also help to address the skills gaps. Additional training and skills enhancement of the GPs such as that outlined in the South African Diploma in Family Medicine and other programmes in Family Medicine could also serve to upgrade the GPs and more formal postgraduate training in family medicine could also bridge this gap.(13)(14)(22)(42)

Attention should be given to the systematic factors that may limit comprehensiveness, such as design of the health system and financing mechanisms. The population served by this private sector organisation had developed low expectations of the scope of

practice in the PC clinics(36), even though they were satisfied with the services they received.(23) Re-design of the health system's approach to gatekeeping and care pathways could encourage patients to obtain more cost-effective and accessible services at the PC clinics. An important factor to consider would be incentives, such as fee-for-service, to motivate GPs to perform some of the procedures, such as circumcision.(14) A change in the scope of practice would also need to be supported by the organisation's infrastructure, equipment, supply chain, workforce, funding and health information systems.

Finally, it would be interesting to compare the findings of this study to performance of GPs in other private sector settings. Furthermore, qualitative research, could attain a deeper understanding of why the skills that have been taught are not performed by the GPs in PC.

3.5.7 Conclusion

The majority of the GPs were young doctors with few years of clinical experience. There was moderate overall performance of skills in the categories of adult and child health, emergencies, clinical administration, communication and consultations. There was weak overall performance of skills in the categories of surgery, women's health, ENT/eyes and orthopaedics. General practitioners lacked training and performed poorly in some of the essential and basic skills required in PC.

Refresher courses for underutilised skills as well as a review of the remuneration mechanisms, especially for add-on services, could increase motivation of the GPs to provide more comprehensive PC. The quality and comprehensiveness of PC could also be improved by introducing family physicians to these clinics. Attention should be given to health systems design and the necessary inputs required to support a more comprehensive care.

3.5.8 Ethical considerations

The study was ethically approved by the National Commission for Science, Technology & Innovation Research, Kenya-License no: NACOSTI/P/20/7046, the Research and Ethics Committee of the Aga Khan University Hospital, Nairobi -reference no: 2020/IERC-119 [v2] and the Stellenbosch University Health Research Ethics Committee-reference no: S20/07/167.

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CONCLUSION

This chapter presented five articles for this dissertation by publication. The following Chapter 4 outlines the conclusions of the dissertation, makes recommendations and outlines the plans for dissemination and knowledge translation.

CHAPTER 4

CONCLUSIONS, RECOMMENDATIONS AND DISSEMINATION

4.1 INTRODUCTION

This chapter presents the main conclusions of the thesis in relation to each objective of the study. Key recommendations are drawn from the conclusions of these studies and suggestions for dissemination are based on the recommendations.

4.2 CONCLUSIONS

The overall aim of the study was to evaluate the quality of service delivery in PC facilities by GPs in the private sector in Nairobi, Kenya. Conclusions are made below in relation to each of the objectives and by integrating the relevant findings from all the articles presented in Chapter 3.

4.2.1 Objective 1: To evaluate first-contact accessibility of primary care services.

Patients were highly satisfied with the assistance given by the receptionists, the regular opening hours of the clinics and short waiting times. However, they were less satisfied in terms of access to the practice in emergency situations after hours. Even though patients expressed the desire to book appointments via the phone, access to this service was limited.

First-contact utilisation was good due to the convenient opening times and geographical proximity, as these facilities were based near the communities that they

served. High levels of satisfaction with the services available masked gaps in the range of services provided, particularly for people with chronic conditions and multi-morbidity.

4.2.2 Objective 2: To evaluate continuity of care in primary care services.

The patients were mostly young and middle-aged adults, who were well educated and employed, and reported good health status. Most of the patients did not have any chronic conditions and appeared to mostly consult for acute episodic and relatively straightforward problems.

Utilisation and long-term affiliation with the practice was reported as good, suggesting reasonable longitudinal continuity. Patients expressed high satisfaction with care enablement and had confidence in GPs' honesty and trustworthiness. However, there were gaps in relational continuity as patients were not committed to any particular GP. The gap in relational continuity was attributed to the lack of chronic conditions, the perception that the GPs were not able to deal with certain conditions such as hypertension, diabetes and cancer, the lack of access to a GP after hours and the lack of comprehensiveness. In addition, the lack of compulsory gate-keeping in this private health system and the availability of insurance coverage, enabled the patients to seek help directly from the family physicians or specialists at the tertiary hospital. GPs also lacked person-centredness, which is important for building relationships and ensuring continuity of care.

Informational continuity was strong due to the use of electronic health record systems. However, high utilisation of the facilities and a good electronic record system did not translate into good continuity of care overall.

4.2.3 Objective 3: To evaluate the comprehensiveness of care in primary care services.

Utilisation was skewed towards younger, employed adults, without chronic conditions. Patients had limited expectations of the services offered by the GPs and did not perceive that GPs could offer fully comprehensive PC services. Patients reported low confidence in the GPs' ability to manage and provide care related to screening for cervical cancer, end of life issues, care of the elderly, perform circumcision and the management of chronic conditions such as diabetes, HIV and cancer.

The clinics were not comprehensive in the range of services available, gaps were evident in areas such as counselling, antenatal care, family planning and vaccinations. The ratings were also poor for the comprehensiveness of services in the areas of health promotion and disease prevention, such as advice for lifestyle modification, women's and men's health screening.

In addition, the practices did not offer a complete primary health care team. Many of the disciplines usually found in PC were located in the tertiary hospital, such as family medicine, social work, physiotherapy, dentistry and dietetics.

The young GPs performed poorly in some of the essential and basic skills required to offer a more comprehensive package of primary care. These were related to specific areas of minor surgery, women's health, ear, nose and throat, ophthalmology and orthopaedics.

The combined observations of all these studies confirms that this private health care system is not yet offering comprehensive primary care.

4.2.4 Objective 4: To evaluate the coordination of care in primary care services.

Primary care clinics were run by relatively young GPs, who conducted brief consultations of low-moderate complexity, and which in general, required little

coordination outside of the consultation. General practitioners showed a substantial commitment to parallel coordination of care in regards to the patient's diagnosis and management within the primary care clinics.

However, ease of access to specialists without the need for referral, contributed to gaps in sequential care coordination. Since patients were rarely referred to the hospital, the assessment of sequential coordination of care was limited.

The information system supported care coordination and was excellent due to the integrated electronic health record system. Thus, the availability and transfer of information could guide the development of an appropriate management plan and contributed to patient satisfaction. Overall, however, the quality of coordination of care was reported as borderline.

4.2.5 Objective 5: To evaluate the person-centredness of primary care services.

Patients were highly satisfied with consultations, care enablement, commitment to confidentiality and their overall experience of the practice. They were positive about the processes of greeting, building rapport, decision making about their care and the management plan. Patients felt that the care provided was of high quality and felt confident with the consultations. It was thought that in the Kenyan context, patients had low expectations of person-centredness and relative to other health services were satisfied with the care received.

Indirect observations of the consultations showed that GPs were able to obtain sufficient biomedical information, make an appropriate diagnosis, as well as formulate and explain an appropriate management plan. However, there were gaps in the provision of whole-person medicine, with little attention being paid to the patient's perspective and context. In addition, the GPs did not fully involve the patients in a

shared decision making process and the diagnosis was not articulated or explained in detail. The GPs varied considerably in their provision of safety netting and closure and ensuring that the patient had understood and agreed with the management plan. These are significant gaps, since exploration of the patient's perspective and shared control of the consultation are two features that distinguish a person-centred consultation from a traditional biomedical approach. The GPs did not actually explore patients' psychosocial and occupational histories, although patients thought they were open to think about the family and were culturally competent.

4.2.6 Synthesis of conclusions

Table 4.1 synthesis the conclusions for each objective in terms of the strengths and weaknesses of that particular domain of quality and shows which underlying studies contributed to these conclusions. The researcher then used the following Likert scale to qualitatively assign an overall score for performance to that domain:

1. Poor performance – strengths +/-, weaknesses +++
2. Weak performance – strengths +, weaknesses ++
3. Average performance – strengths +, weaknesses +
4. Good performance – strengths ++, weaknesses +
5. Excellent performance – strengths +++, weaknesses +/-

This assessment suggested that there was good performance in terms of access, average performance in terms of continuity and coordination and weak performance for comprehensiveness and person-centredness. These scores are further visually depicted in a radar chart as shown in Figure 4.1

Table 4.1 Overview of the conclusions

Domains	Study	Strengths	Weaknesses	Score
Access	2, 4	Patients were highly satisfied with the assistance given by the receptionists, the regular opening hours of the clinics and short waiting times. First-contact utilisation was good due to the convenient opening times and geographical proximity.	They were less satisfied in terms of access to the practice in emergency situations after hours. Access via the phone to the GPs and access to this service was limited.	4
Continuity	2, 3, 4	Informational continuity supported by electronic patient record. Longitudinal continuity supported by good affiliation of patients to the clinics.	Relational continuity undermined by lack of relationship with a specific GP. Lack of gatekeeping and ease of access to tertiary hospital. The gap in relational continuity was attributed to the lack of chronic conditions, the perception that the GPs were not able to deal with certain conditions such as hypertension, diabetes and cancer.	3

			The lack of access to a GP after hours and the lack of comprehensiveness. GPs also lacked person-centredness, which is important for building relationships and ensuring continuity of care.	
Comprehensiveness	1,4,5	They had confidence in the GPs ability to treat common minor illnesses as well as underlying risky behaviours such as tobacco smoking and harmful alcohol use.	Patients had limited expectations of the services offered by the GPs and did not perceive that GPs could offer fully comprehensive PC services. Patients reported low confidence in the GPs' ability to manage and provide care related to screening for cervical cancer, end of life issues, care of the elderly, perform circumcision and the management of chronic conditions such as diabetes, HIV and cancer. The clinics were not comprehensive in the range of services available, gaps were evident in areas such as counselling, antenatal care, family planning and vaccinations. The ratings were also poor for the comprehensiveness of services in the areas of health promotion and disease prevention, such as advice for lifestyle	2

			modification, women's and men's health screening. In addition, the practices did not offer a complete primary health care team, such as family medicine, social work, physiotherapy, dentistry and dietetics. The young GPs performed poorly in some of the essential and basic skills required to offer a more comprehensive package of primary care. These were related to specific areas of minor surgery, women's health, ear, nose and throat, ophthalmology and orthopaedics.	
Coordination	3, 4	General practitioners showed a substantial commitment to parallel coordination of care in regards to the patient's diagnosis and management within the primary care clinics. The information system supported care coordination and was excellent due to the integrated electronic health record system.	The ease of access to specialists without the need for referral, contributed to gaps in sequential care coordination.	3

Person-centredness	2, 3	Patients perspective showed that they were highly satisfied with consultations, care enablement, commitment to confidentiality and their overall experience of the practice. The GPs were open to think about the family and were culturally competent.	Indirect observations showed there were gaps in the provision of whole-person medicine, with little attention being paid to the patient's perspective and context. The GPs did not actually explore patients' psychosocial and occupational histories. The GPs did not fully involve the patients in a shared decision making process and the diagnosis was not articulated or explained in detail. The GPs varied considerably in their provision of safety netting and closure and ensuring that the patient had understood and agreed with the management plan.	2

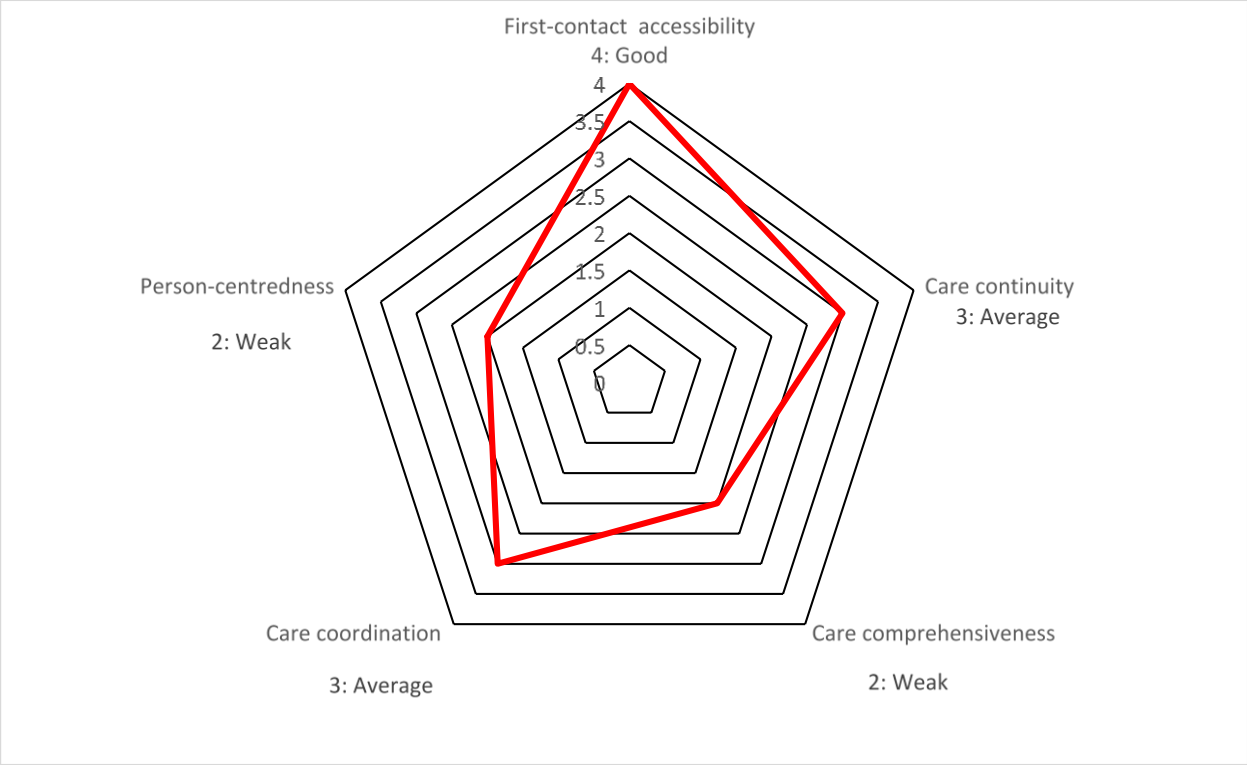

Figure 4.1 Overall scores for performance across the five key elements of high quality primary care.

4.3 RECOMMENDATIONS AND IMPLICATIONS

In considering the recommendations and implications of the dissertation, I have considered the following key target audiences: policy and decision makers in the health services, the GPs and primary care providers, the discipline of family medicine, and researchers.

4.3.1 Policy, decision-makers and senior leadership

Recommendations can be made to the policy and decision makers within Aga Khan University Hospital, but may also be relevant to other private sector settings.

Accessibility

Consideration should be given to improving access to routine primary care, especially in telephonic accessibility to the practice and the GPs for advice. Clinics should open after hours to improve access. An emergency contact should be provided to advise patients after hours with emergency problems.

Comprehensiveness

Comprehensiveness may be improved by defining the expected package of care, designing a system that encourages utilisation of PC, ensuring that care is offered by competent generalists and by employing FPs. The management of the health services need to ensure that the package of primary care is clearly defined and comprehensive. This implies care for the whole burden of disease, across the life course and from health promotion to palliative care. In particular, the services should enable care for chronic conditions such as diabetes, HIV and common mental disorders such as anxiety and depression. In addition, care should include health promotion (e.g. lifestyle modification, behaviour change counselling), disease prevention (e.g. cervical cancer screening) and antenatal care.

Consideration then needs to be given to the inputs required to support this comprehensive package of care in terms of infrastructure, equipment, medications, supplies, the workforce, health information systems and funding.(1) Providing more comprehensive primary care is likely to be more cost-effective and also more convenient for the patients.(2) General practitioners may also need financial incentives to provide a more comprehensive package of care and certain activities could attract a

fee-for-service. In addition, the capability of the GPs to provide comprehensive care should be strengthened by appropriate training and continuous professional development.

In terms of the workforce, consideration needs to be given to providing a more complete primary health care team including family physicians, counsellors, social workers and allied health professionals, perhaps by more active outreach from the tertiary hospital. This will also make services more accessible.

The availability of comprehensive services in primary care should then be actively marketed to the practice populations to inform patients and change their perceptions of the clinic services. Lack of confidence expressed by the patients' in the range of primary care services can be addressed by ensuring that patients' expectations and health-seeking behaviour are modified through effective communication strategies. Furthermore, awareness of the comprehensive services both available, and provided at the primary care facilities can be done at open public forums conducted once a month by AKUH.

Re-designing the health system's approach to gatekeeping and care pathways could encourage patients to obtain more cost-effective, accessible, continuous, coordinated and person-centred services care through trained GPs and FPs at the clinics.

Coordination and continuity

It is likely that if the services are more comprehensive, the need for more relational continuity and coordination of care will increase. Having a more permanent family medicine presence with the younger GPs will support relational continuity. Having older, more complex patients with chronic conditions in the clinics will not only increase the need for ongoing care, but also for referrals to the tertiary hospital and

coordination of their care. A model of shared-care between the hospital and the clinics should be possible, especially as informational continuity is well established.

The promotion of such a referral system will improve the coordination and linkage to care between the primary care clinics and the specialist services at the tertiary care hospital, associated with this organisation. Improved coordination could be useful to enhance the overall comprehensiveness of the facilities.

At an operational level, there is a need to coordinate care through collaborative relationships within multidisciplinary teams as a way of integrating services within the primary care clinics and the specialists. There is also a need for a two-way referral system that ensures that primary care facilities serve as the first point of contact for most people and can refer seamlessly to the hospital, while at the same time the hospital can easily devolve care back to the clinic.

It is unlikely that the practice population and hospital will accept a strict policy of gatekeeping in primary care as both are used to using the insurance cover to access services at whatever level is deemed appropriate by the patient. A managed care model, however, might promote or even require patients to initially access care via primary care. The advantages of this are improved holistic and more efficient care although the disadvantages of this would need due consideration and management. For example, strict gatekeeping can restrict people from accessing specialist care when it is needed if the GP does not manage the patient appropriately.(1)(3)(4)

Community-orientation

Given the non-profit and philanthropic foundation of the organisation, it might be possible to take a more community-orientated primary care (COPC) approach. This would require delineation of the communities served by these clinics and public-private partnerships to collaborate with the public sector that is already committed to such an

approach. These private sector clinics could be an important asset in a broader sense of responsibility to the health of the population at risk in these communities.

Monitoring and evaluation

Specific interventions to address the gaps identified in the core elements of high quality primary care should not only be implemented, but also monitored and evaluated, thereby aiming to improve overall performance in primary care. Furthermore, the use of quality improvement cycles and periodic evaluation with adapted tools such as the KE-PCAT should be considered.

4.3.2 General practitioners

In-service training programmes for the GPs need to target the gaps in their communication skills with the goal of providing more effective whole-person medicine through person-centred consultation. The training can be carried out during the monthly continuous professional development forums of AKUH. Better role-modelling of communication skills in health services will add value to the strengthening of these skills.

The GPs will need to upgrade their skills for the management of different medical conditions commonly seen in primary care. This will help them in their professional development and to improve and expand the scope of services, which will positively affect patient's perceptions and confidence regarding their abilities. Skills training in family planning and women's health can be arranged for the GPs by the Kenya Association of Family Physicians (KAFP) in conjunction with the Kenya Association of Family Planning. Basic training in point-of-care ultrasound can be arranged through the trained FPs.

Creating an environment of continuous learning, professional development and providing workplace-based experiential learning for GPs under the supervision of FPs would help to address the skills gaps. Training in Family Medicine can be offered which aims to deliver an expert generalist.(5) Additional training and skills enhancement of the GPs such as that outlined in the South African Diploma in Family Medicine and other postgraduate programmes in FM could also serve to upgrade the GPs. Some GPs might be attracted to specialise as FPs.

This private healthcare organisation recently received a charter for university status, with both undergraduate and post-graduate programmes. Including more training in communication skills and FM within the undergraduate curriculum may be necessary and could also be a valuable avenue for doctors to learn person-centred care.

4.3.3 Discipline of family medicine

The current model of care in which FPs work in the tertiary hospital and receive referrals from the GPs in primary care could be counter intuitive. While there may be more prestige to work in the tertiary hospital, the natural habitat for FM is in the primary care clinics. The discipline of FM should consider a more active involvement in the primary care services. Such a move should not be thwarted by a reduction in remuneration for FPs. Ideally, each clinic should have a FP as part of the team.

The FPs would then bring a more consistent and comprehensive set of competencies to the practice. Furthermore, deploying trained FPs in these clinics, could go a long way in providing person-centred, continuous, coordinated and comprehensive care, which is aligned with the key domains of high quality PC.(6)

Most of the GPs were recently qualified, some were under temporary employment and ultimately pursuing careers in other disciplines. Encouraging the GPs to enrol for more

formal postgraduate training in family medicine could also bridge the gaps identified in the areas of person-centred consultations, health promotion and disease prevention, technical and procedural skills, as well as management of chronic conditions.(7) Having FPs as role models who provide comprehensive and high quality primary care in the same setting would also motivate GPs to consider this career path.

Family physicians could also introduce a culture of clinical governance with attention to improving the quality of care and patient safety. They are also trained in the COPC approach and would naturally support this development.

Patients, would benefit from improved services and the discipline of FM would become more visible and recognised in the community. This may change the perceptions and health seeking behaviour of patients that is currently focused on hospital-based and expensive specialist services for conditions that are manageable by FPs.

4.3.4 Researchers and future research initiatives

Greater encouragement of and investment in PHC research initiatives in the identified gaps are essential for better health and sustainable development.

This study has led to the creation of a Kenyan version of the PCAT (KE-PCAT) that can be used to assess quality of PC service delivery in both this specific context and also more widely. It would be useful to use the tool to measure the quality of PC service delivery throughout the public sector, even in a national survey, as well as in other private sector contexts. This dissertation has developed a toolkit for assessing the quality of service delivery that could also be applied in similar settings. The validation of the PCAT to the Kenyan context will be published as a scientific paper to boost the dissemination and the use of this tool.

The PCAT tools for service providers and managers could also be developed and validated in future research. In addition, it would be beneficial to re-evaluate the performance of this primary care settings with the FPs on board using the same KE-PCAT tool in the future. The KE-PCAT can also be used to assess the performance of FPs currently based in the family medicine department of the tertiary hospital.

Research to measure the impact of service delivery on health outcomes in this and similar private care settings can guide the changes that need to be made to broaden the scope of service.

Future study will also help to understand the socio-cultural factors within the Kenyan context that may influence the ability of GPs to practice to their full potential. Conducting studies to evaluate communication skills of GPs in similar private and public sector primary care settings, would provide a broader evidence base for comparison.

Future studies could also aim to qualitatively explore the service users' reflective views on the quality of consultations in this context.

All of the studies in this dissertation were quantitative in nature. While the different forms of measurement for the same constructs have been juxtaposed and interpreted, these complex relationships could be further explored and unpacked through qualitative research. The views of both patients and GPs might provide a deeper understanding of some of the issues. Qualitative research could also attain a deeper understanding of why the skills that have been taught during their undergraduate studies are not performed by the GPs in PC. It would be interesting to assess and compare the training and competence in clinical skills of the family physicians.

Ultimately, this private sector health system may need to consider whether, despite high levels of satisfaction, the PC clinics are a resource that can be developed further.

The above recommendations would result in increased use of PC with less reliability on the specialists' services and tertiary care hospital. This will complement the government's strategy for reforming and reinventing the use of primary care as Kenya moves towards the provision of UHC.(8)

4.4 DISSEMINATION AND IMPACT

The key findings and recommendations of this research will be disseminated to five stakeholder groups: researchers, managers and policy makers, family physicians, general practitioners and public. The findings of this study may also be transferable to the health care organisations linked to the Aga Khan University Hospitals in other LMICs such as Tanzania, Uganda, Pakistan and India.

4.4.1 Researchers

Publications in peer reviewed scientific journals

In total, the following five publications in peer reviewed scientific journals are anticipated, out of which two articles are already published.

Study 1 was completed and published in October 2018 in a peer reviewed journal: Mohamoud G, Mash B, Merali M, Orwa J, Mahoney M. Perceptions regarding the scope of practice of family doctors amongst patients in primary care settings in Nairobi. Afr J Prm Health Care Fam Med. 2018;10(1), a1818. https://doi.org/10.4102/ phcfm.v10i1.1818

Study 2 was completed and published in June 2020 in a peer reviewed journal: Mohamoud G, Mash B. Evaluation of the quality of service delivery in private sector, primary care clinics in Kenya: A descriptive patient survey. S Afr Fam Pract. 2020;62(1),

https://safpj.co.za/index.php/safpj/article/view/5148/6418. The abstract for study 2 has also been submitted for inclusion in the Aga Khan University Research journal in 2021.

Study 3. Evaluation of the quality of communication in consultations by general practitioners in primary care settings, Nairobi, Kenya: A descriptive observational cross-sectional study. The study has been completed and the manuscript is ready for submission.

Study 4. The quality of primary care performance in private sector primary care facilities in Nairobi, Kenya: A cross-sectional descriptive survey. The study has been completed and the manuscript has been submitted for publication.

Study 5. General practitioners' training and experience in the clinical skills required for comprehensive primary care, Nairobi, Kenya: A cross-sectional descriptive study. The study has been completed and the manuscript is ready for submission.

Conferences

These studies will be presented at local, and international conferences:

Study 1 has been presented at the first Family Medicine Conference in Kenya, the South African Family Practitioners Congress and the 15th WONCA World Rural Health Conference.

Study 2 and Study 3 have been submitted for presentation at the forthcoming South African Family Practitioners Congress in August 2021 and the Global WONCA conference in Dubai in November 2021.

Presentations are also being planned for the regional and international Aga Khan University researchers' forum in 2021, the weekly faculty academic round for East Africa, the annual national conference of the Kenya Association of Family Physicians and the Primary Health Care Research Consortium.

The findings will also be shared within the academic and scientific world through social media at Aga Khan such as Media@AKU, which provides a daily media summary, and AKU Global news and Stellenbosch University's news and media platform, Research Gate and the AfriWon research theme forum. A podcast of the key findings will also be created for social media.

4.4.2 Managers and policy makers

The thesis was focussed on a private not-for profit organisation in Nairobi, Kenya. However, this organisation operates a chain of similar primary care clinics in other counties in Kenya and continues to expand in the East African region. This private sector organisation prides itself on the accreditation it has received for high quality in service delivery. Competition from other existing and emerging private organisations has created the constant need for on-going improvement and development to maintain its place as one of the top healthcare provider organisations in Kenya.

The findings of the thesis and recommendations will be shared with key stakeholders at AKUH. These stakeholders include the director, top management and managers of the individual PC clinics. A policy brief, based on the dissertation, will be prepared for the AKUH management. Findings will be presented to the managers and unit heads of the PC clinics at their monthly quality improvement and review meetings.

The presentations made to the managers will inform the drive for "better" in terms of policy making, budgeting, and planning implementation. It is optimistic that this ground-up approach to sharing the report with the quality team and managers will elicit their cooperation, and that this will be escalated to the director of these primary care services. Leadership and policy makers can thus play an active role in designing

new models of care and reviewing their performance to drive towards effective, qualitative and comprehensive service delivery in these PC settings.

4.4.3 Discipline of Family Medicine in Kenya

My role as a family physician and lecturer in the department of family medicine at the Aga Khan University hospital, provides an opportunity for presenting these findings and making recommendations. Oral or poster presentations at the Annual Conference of the Kenya Association of Family Physicians and General Practitioners will enable dissemination to the broader family medicine community. It is also hoped that dissemination of the KE-PCAT will lead to collaborative research projects. In addition, it should be possible to share the findings in the annual meeting of the PRIMAFAMED network (a network of departments of family medicine and primary care) to the family medicine community in sub-Saharan Africa.

A focus group discussion is planned for 2021 on improving health outcomes through the practice of whole-person medicine for faculty and residents at the department of family medicine at the Aga Khan University Hospital, Nairobi.

4.4.4 General Practitioners in Kenya

Outcomes of this study will be shared with GPs at medical education forums organised by the Kenya Association of Family Physicians as well as at the weekly clinical meetings of GPs of the PC facilities of the AKUH. This process should inform and motivate GPs in terms of continuing professional development and quality improvement.

4.4.5 Patients, users and public

The findings of the study will be published in The Conversation Africa, which is aimed at an educated lay audience. The articles published here are regularly re-used in general media such as newspapers, radio and TV. The media and communication office of AKUH may also assist with access to the general media.

The university facilitates community-health camps on a regular basis. These could be opportunities for providing information leaflets to increase awareness on the scope of services available at the PC facilities.

The entertainment and information modules located in all the waiting rooms, patient care centres and PC clinics could be used to share the findings and information can also be shared via the AKUH newsletter.

4.5 CONCLUSION

This is the final chapter of the dissertation, which has presented the conclusions for each of the study objectives. In addition, the implications of these conclusions have been discussed and recommendations made for four different audiences – policymakers and managers, GPs, the discipline of FM and researchers. A plan to disseminate the findings of this dissertation to these groups, including the patients and general public, has also been presented. It is hoped that this process of knowledge translation will lead to an impact in terms of policy and practice.

4.6 REFERENCES

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ADDENDA

Addendum A: Stellenbosch University HREC Ethics approval for thesis

UNIVERSITEIT STELLENBOSCH UNIVERSITY

Approved with Stipulations

New Application

27/08/2020

Project ID: 17045

HREC Reference No: S20/07/167 (PhD)

Project Title: An evaluation of the quality of service delivery in primary care facilities in Nairobi, Kenya.

Dear Prof Robert-James Mash

The **New Application** received on 15/07/2020 06:14 was reviewed by members of the **Health Research Ethics Committee** via Full Committee Review procedures on 19/08/2020 and was approved with stipulations.

Please note the following information about your approved research protocol:

Protocol Approval Period: **27-August-2020 – 26-August-2021.**

The stipulations of your ethics approval are as follows:

1. Please clarify how participants will be compensated for their time? (study 4 and 5)
2. With regards to Study 4 please provide
   - Clarity is needed with regards to who and how will patients be recruited at the clinics.
   - Information on at what stage participants will sign the informed consent form.
   - Information on who will capture the data? And will there be a way of checking the data for accuracy?
3. With regards to Study 5:
   - Please indicate how the GPs will be recruited, and how informed consent will be obtained – such should be explained in more detail.

Please remember to use your project ID 17045 and ethics reference number S20/07/167 (PhD) on any documents or correspondence with the HREC/UREC concerning your research protocol.

Translation of the consent document(s) to the language(s) applicable to your study participants should now be submitted to the HREC.

Please note that this decision will be ratified at the next HREC full committee meeting. HREC reserves the right to suspend approval and to request changes or clarifications from applicants. The coordinator will notify the applicant (and if applicable, the supervisor) of the changes or suspension within 1 day of receiving the notice of suspension from HREC. HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:

Please note you can submit your progress report through the online ethics application process, available at: https://apply.ethics.sun.ac.za and the application should be submitted to the Committee before the year has expired. Please see Forms and Instructions on our HREC website for guidance on how to submit a progress report.

The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility, permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Please consult the Western Cape Government website for access to the online Health Research Approval Process, see: https://www.westerncape.gov.za/general-publication/health-research-approval-process. Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and instructions, please visit: Forms and Instructions on our HREC website (www.sun.ac.za/healthresearchethics)

If you have any questions or need further assistance, please contact the HREC office at 021 938 9677.

Yours sincerely,

Mrs. Brightness Nxumalo

HREC 2 Coordinator

Page 1 of 2

Addendum B: AKU-REC Ethics approval for Study 1

THE AGA KHAN UNIVERSITY

Ref: 2014/REC-50(v3)
28th January 2015

Faculty of Health Sciences
Medical College

Dr. Gulnaz Mohamoud,
Principal Investigator,
Aga Khan University-EA, Nairobi

Dear Dr. Mohamoud,

Re: The knowledge and perceptions regarding the role of Family Doctors among patients in primary care settings in Nairobi

The Aga Khan University, Nairobi Health Research Ethics Committee (REC) confirms receipt of your rejoinders submitted to the REC on 19th December, 2014. The committee records that concerns earlier raised as per the REC letter Ref: 2014/REC-50(v2) have been conclusively addressed. This proposal is also in compliance with the Aga Khan University Research Ethics Regulations.

The committee has granted ***conditional approval*** for this project based on core ethical standards which have been fully instituted in the protocol. Prior to commencing the study, you will be expected to obtain a research permit from the National Commission for Science, Technology and Innovation and institutional approval from the applicable primary care outreach clinics. Copies of the same should be submitted with the RSU. Consequently, you are authorized to conduct this study from **01st February, 2015**. This approval is valid until **30th January, 2016.**

The study should be conducted in full accordance with all the applicable sections of the R&EC guidelines and you should notify the R&EC immediately of any changes that may affect your research project. You should report any unanticipated problems involving risks to the participants to the R&EC. You must provide an interim report before expiration of the validity of this approval and request extension if additional time is required for study completion. As the principal investigator you must advise the R&EC when this study is finished or discontinued and a final report submitted to the RSU. Further approval from the hospital administration should be sought before publishing the results. If you have any questions, please contact Research Support Unit - kamanda.ciru@aku.edu or call 020-366 2148.

Sincerely,

Dr Amyn Lakhani
Chair, Health Research Ethics Committee, AKU (N)

3rd Parklands Avenue, off Limuru Road, P. O. Box 30270, GPO 00100, Nairobi, Kenya
Tel: +254 20 366 2107/2109; Fax: + 254 20 374 4035
Email: medicalcollege.enquiries@aku.edu

Addendum C: Questionnaire survey for study 1

LOCATION: REF:

Your age 18-30 31-45 46-60 Above 61

Gender Male Female

Occupation Self-employed Employed Student Retired Other

Education Up to O' level Up to A' level University/College

Marital status Single Married Other

Do you have any children? Yes No Prefer not to answer

Residential area Nairobi Nairobi Metropolitan

Have you heard about Family Medicine? Yes No Not sure

Have you heard about Family Doctors Yes No Not sure

Have you heard about Family Physicians? Yes No Not sure

Do you think that a Family Doctor would be able to treat any of the following?

Small babies	Yes	No	Not sure
Young children	Yes	No	Not sure
Adolescents/Teenagers	Yes	No	Not sure
Adult Men and Women	Yes	No	Not sure
The elderly/aged	Yes	No	Not sure

Do you think that a Family Doctor can treat **BABIES AND CHILDREN AGED 1 DAY TO 12 YEARS** presenting with sickness such as?

Diarrhoea	Yes	No	Not sure
Fever	Yes	No	Not sure
Cough	Yes	No	Not sure
Flu	Yes	No	Not sure
Vomiting	Yes	No	Not sure
Sore Throat	Yes	No	Not sure
Pneumonia	Yes	No	Not sure
Ear infections	Yes	No	Not sure
Eye infections	Yes	No	Not sure
Asthma	Yes	No	Not sure
Skin diseases	Yes	No	Not sure

Do you think that a Family Doctor can treat **TEENAGERS AGED 13 YEARS TO 17 YEARS** presenting with any of the following? Please circle

Cough	Yes	No	Not sure
Malaria	Yes	No	Not sure
Diarrhoea	Yes	No	Not sure
Headache	Yes	No	Not sure

Flu and cold	Yes	No	Not sure
Skin diseases	Yes	No	Not sure
Diabetes	Yes	No	Not sure
HIV infection	Yes	No	Not sure
TB infection	Yes	No	Not sure
Sexually transmitted infections	Yes	No	Not sure
Asthma	Yes	No	Not sure
Injuries	Yes	No	Not sure
Accidental poisoning	Yes	No	Not sure
Cancer	Yes	No	Not sure

Do you think that a Family Doctor can treat **ADULTS-AGED 18-60**, presenting with any of the following? Please circle

Cough	Yes	No	Not sure
Malaria	Yes	No	Not sure
Diarrhoea	Yes	No	Not sure
Headache	Yes	No	Not sure
Flu and cold	Yes	No	Not sure
Diabetes	Yes	No	Not sure
High Blood Pressure	Yes	No	Not sure
HIV infection	Yes	No	Not sure
TB infection	Yes	No	Not sure
Sexually transmitted infections	Yes	No	Not sure
Asthma	Yes	No	Not sure
Injuries	Yes	No	Not sure
Heart attacks	Yes	No	Not sure

Cancer	Yes	No	Not sure
Thyroid problems	Yes	No	Not sure

Do you think that a Family Doctor can treat the **ELDERLY AGED 61 YEARS & ABOVE** for:

Arthritis	Yes	No	Not sure
Joint pains/stiffness	Yes	No	Not sure
Injuries from falling	Yes	No	Not sure
Depression	Yes	No	Not sure
Anxiety	Yes	No	Not sure
Urinary incontinence	Yes	No	Not sure
Diabetes	Yes	No	Not sure
High blood pressure	Yes	No	Not sure
Sleep problems	Yes	No	Not sure
Asthma	Yes	No	Not sure
Skin diseases	Yes	No	Not sure
Thyroid problems	Yes	No	Not sure

Do you think that a Family Doctor can provide any of the following services?

Ante-natal care	Yes	No	Not sure
Do Pap smear tests	Yes	No	Not sure
Family planning services	Yes	No	Not sure
Childhood Immunisation	Yes	No	Not sure
Adult Vaccinations	Yes	No	Not sure
Circumcision	Yes	No	Not sure

Do you think that a Family Doctor can provide advice on:

Diet care for Chronic Diseases	Yes	No	Not sure
Childhood Nutrition	Yes	No	Not sure
Obesity and Weight loss	Yes	No	Not sure
Psychosocial Counselling	Yes	No	Not sure
End of life issues	Yes	No	Not sure
Alcohol, smoking or drugs	Yes	No	Not sure

Is there any difference between a General Practitioner and a Family Physician?

Yes (Please explain) …….. No Not sure

Thank-you for your time Your input is most valuable to us.

Addendum D: AKU-REC Ethics approval study for 2 and 3

THE AGA KHAN UNIVERSITY

Ref: 2018/REC-137 (v2)
1st March 2019

Dr. Gulnaz Mohamoud– Primary Supervisor
Senior Lecturer, Faculty - Department of Family Medicine
Aga Khan University, Kenya

Dear Dr. Mohamoud and team,

Re: TO EVALUATE PATIENTS' SATISFACTION WITH CONSULTATION AND THE QUALITY OF CONSULTATIONS BY GENERAL PRACTITIONERS IN PRIMARY CARE SETTING WITHIN NAIROBI, KENYA

The Aga Khan University, Nairobi, Research Ethics Committee (REC) is in receipt of your response resubmitted to the Research Office on 13th February 2019. With reference to our communication dated Ref: 2018/REC-137 (v1) dated 25th January 2019, the committee records that concerns earlier raised have been adequately addressed.

The committee has approved this project (as per attached official stamped protocol) based on core ethical standards, which have been fully instituted in the protocol. You are authorized to conduct this study from **4th March 2019**. This approval is valid until **3rd March 2020**. You are expected to ensure the protocol complies with relevant institutional administrative regulations.

The study should be conducted in full accordance with all the applicable sections of the REC guidelines and you should notify the REC immediately of any changes that may affect your research project. You must immediately report any unanticipated problems involving risks to the participants to the REC. All consent forms must be filed in the study binder, further, ensure a copy of the patient consent form is filed in the respective hospital record. You must provide an interim report before expiration of the validity of this approval and request extension if additional time is required for study completion. You must inform the REC when this study is finished or discontinued and a copy of final report submitted to the Research Office.

Further approval from the hospital management should be sought before publishing the results. If you have any questions, please contact Research Office - research.supportea@aku.edu or call 020-366 2148/1136.

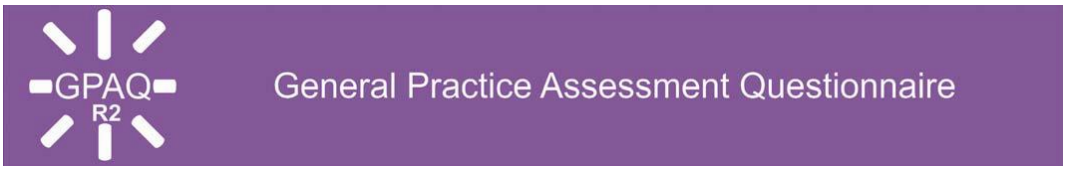
With best wishes,

Dr. Amyn Lakhani, Chairman
Research Ethics Committee, AKU (Kenya)

3rd Floor, Park Place Building, 2nd Parklands Avenue, Off Limuru Road
P. O. Box 30270, GPO 00100, Nairobi, Kenya
Tel: +254 20 366 1200; Website: www.aku.edu

AK 958

Addendum E: GPAQ survey for study 2



GPAQ-R2 © 2014 is reproduced with the kind permission of the University of Manchester & University of Cambridge. GPAQ incorporates the Primary Care Assessment Survey (PCAS); with

permission from Dr Dana Gelb Safran creator of PCAS. www.gpaq.info
GPAQ-R2 Page 1 of 4

We would be grateful if you would complete this survey about your doctor and general practice. They want to

provide the highest standard of care. A summary from this survey will be fed back to them to help them identify

areas for improvement. Your opinions are very valuable. Please answer ALL the questions you can by putting an **X**

in one box unless more than one answer is allowed. There are no right or wrong answers and your doctor will NOT

be able to identify your individual answers. Thank you.

The Doctor / Nurse I saw today was……..for **myself**1 / **my child**2/ **other**3

How good was the GP at:

Q1 Putting you at ease?

□1 Very good

□2 Good

□3 Satisfactory

□4 Poor

□5 Very poor

□6 Does not apply

Q2 Being polite and considerate?

□1 Very good

□2 Good

□3 Satisfactory

□4 Poor

□5 Very poor

□6 Does not apply

Q3 Listening to you?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q4 Giving you enough time?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q5 Assessing your medical condition?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Please add any comments about the GP:

How good was the GP at:

Q6 Explaining your condition and treatment?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q7 Involving you in decisions about your care?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q8 Providing or arranging treatment for you?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q9 Did you have confidence that the GP is honest and trustworthy?

1 Yes, definitely

2 Yes, to some extent

3 No, not at all

4 Don’t know / can’t say

Q10 Did you have confidence that the doctor will keep your information confidential?

1 Yes, definitely

2 Yes, to some extent

3 No, not at all

4 Don’t know / can’t say

Q11 Would you be completely happy to see this GP again?

1 Yes

2 No

About Your Visit to the GP Today

Q12 How helpful do you find the receptionists at your GP practice?

1 Very helpful

2 Fairly helpful

3 Not very helpful

4 Not at all helpful

5 Don’t know

Q13 How easy is it to get through to someone at your GP practice on the phone?

□1 Very easy

□2 Fairly easy

□3 Not very easy

□4 Not at all easy

□5 Don't know

□6 Haven't tried

Q14 How easy is it to speak to a doctor or nurse on the phone at your GP practice?

□1 Very easy

□2 Fairly easy

□3 Not very easy

□4 Not at all easy

□5 Don't know

□6 Haven't tried

Q15 If you need to see a GP urgently, can you normally get seen on the same day?

□1 Yes

□2 No

□3 Don't know / never needed to

Q16 How important is it to you to be able to book appointments ahead of time in your practice?

□1 Important

□2 Not important

Q17 How easy is it to book ahead in your practice?

□1 Very easy

□2 Fairly easy

□3 Not very easy

□4 Not at all easy

□5 Don't know

□6 Haven't tried

Page 2

Q18 How do you normally book your appointments at your practice?

(please X all boxes that apply)

□1 In person

□2 By phone

□3 Online

□4 Doesn't apply

Q19 Which of the following methods would you prefer to use to book appointments at your practice? (please X all boxes that apply)

□1 In person

□2 By phone

□3 Online

□4 Doesn't apply

Thinking of times when you want to see a particular doctor:

Q20 How quickly do you usually get seen?

□1 Same day or next day

□2 2-4 days

□3 5 days or more

□4 I don't usually need to be seen quickly

□5 Don't know, never tried

Q21 How do you rate how quickly you were seen?

□1 Excellent

□2 Very good

□3 Good

□4 Satisfactory

□5 Poor

□6 Very poor

□7 Does not apply

Thinking of times when you are willing to see any doctor:

Q22 How quickly do you usually get seen?

□1 Same day or next day

□2 2-4 days

□3 5 days or more

□4 I don't usually need to be seen quickly

□5 Don't know, never tried

Q23 How do you rate how quickly you were seen?

□1 Excellent

□2 Very good

□3 Good

□4 Satisfactory

□5 Poor

□6 Very poor

□7 Does not apply

About Receptionists and Appointments

Thinking of your most recent consultation with a doctor or nurse

Q24 How long did you wait for your consultation to start?

□1 Less than 5 minutes

□2 5 – 10 minutes

□3 11 – 20 minutes

□4 21 – 30 minutes

□5 More than 30 minutes

□6 There was no set time for my

consultation

Q25 How do you rate how long you waited?

□1 Excellent

□2 Very good

□3 Good

□4 Satisfactory

□5 Poor

□6 Very poor

□7 Does not apply

Q26 Is your GP practice currently open at times that are convenient to you?

□1 Yes **…….Go to Q28**

□2 No

□3 Don't know

Q27 Which of the following additional opening hours would make it easier for you to see or speak to someone?

(please X all boxes that apply)

□1 Before 8am

□2 At lunchtime

□3 After 6.30pm

□4 On a Saturday

□5 On a Sunday

□6 None of these

Q28 Is there a particular GP you usually prefer to see or speak to?

□1 Yes

□2 No **…….. Go to Q30**

□3 There is usually only one doctor

in my surgery **……. Go to Q30**

Q29 How often do you see or speak to the GP you prefer?

□1 Always or almost always

□2 A lot of the time

☐3 Some of the time

☐4 Never or almost never

☐5 Not tried at this GP practice

(If you haven't seen a nurse in the last 6 months please go to Q37)

How good was the Nurse you last saw at:

Q30 Putting you at ease?

☐1 Very good

☐2 Good

☐3 Satisfactory

☐4 Poor

☐5 Very poor

☐6 Does not apply

Q31 Giving you enough time?

☐1 Very good

☐2 Good

☐3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q32 Listening to you?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q33 Explaining your condition and treatment?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q34 Involving you in decisions about your care?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q35 Providing or arranging treatment for you?

1 Very good

2 Good

3 Satisfactory

4 Poor

5 Very poor

6 Does not apply

Q36 Would you be completely happy to see this nurse again?

1 Yes

2 No

Page 3

Thinking about the care you get from your doctors and nurses overall, how well does the practice help you to:

Q37 Understand your health problems?

1 Very well

2 Unsure

3 Not very well

4 Does not apply

Q38 Cope with your health problems

1 Very well

2 Unsure

3 Not very well

4 Does not apply

Q39 Keep yourself healthy

1 Very well

2 Unsure

3 Not very well

4 Does not apply

Q40 Overall, how would you describe your experience of your GP surgery?

1 Excellent

2 Very good

3 Good

4 Satisfactory

5 Poor

6 Very poor

Q41 How likely are you to recommend your GP surgery to friends and family if they need similar care or treatment?

1 Extremely likely

2 Likely

3 Neither likely nor unlikely

4 Unlikely

□5 Extremely unlikely

□6 Don't know

It will help us to understand your answers if you could tell us a little about yourself

Q42 Are you ?

□1 Male

□2 Female

Q38

Q43 How old are you?

□1 Under 16

□2 16 to 44

□3 45 to 64

□4 65 to 74

□5 75 or over

Q44 Do you have a long-standing health condition?

□1 Yes

□2 No

□3 Don't know / can't say

Q45 What is your ethnic group?

□1 White

□2 Black or Black British

□3 Asian or Asian British

□4 Mixed

□5 Chinese

□6 Other ethnic group

Q46 Which of the following best describes you?

□1 Employed (full or part time, including

self-employed)

□2 Unemployed / looking for work

□3 At school or in full time education

□4 Unable to work due to long term

sickness

□5 Looking after your home/family

☐6 Retired from paid work

☐7 Other

Finally, please add any other comments you would like to make about your GP practice:

Addendum F: SUOT-Skills Observation tool for study 3

Skills assessed in the Stellenbosch University Observation Tool

Checklist score Each of the items below is an important skill in the consultation and should be rated separately.	Shown (2 points)	Partially shown / not sure (1 point)	Not shown (zero points)
Initiating the session			
Makes appropriate greeting / introduction and demonstrates interest and respect Greets patient, obtains name, introduces self, attends to physical comfort of patient, shows interest and respect, and establishes initial rapport.			
Identifies and confirms the patient's problem list or issues Gives an opportunity for the patient to list all their issues or problems before exploring the initial problem "So headache, fever - anything else you'd like to talk about?". Summarises and confirms the list with the patient.			
Gathering information			
Encourages patient's contribution / story By use of open as well as closed questions, attentive listening, facilitation skills and summarization and responding to cues. As opposed to cutting off the patient, use of only closed questions in an interrogatory style.			
Makes an attempt to understand the patient's perspective Elicits spontaneously and acknowledges the patient's perspective or uses specific questions– beliefs, concerns, expectations, and feelings.			
Thinks family, and obtains relevant family, social and occupational information Elicits relevant information about the patient's household, family, occupation, and environment.			
Obtains sufficient information to ensure no serious condition is likely to be missed Elicits enough clinical information to establish a working diagnosis and ensure no serious condition is likely to be missed.			
Explanation and planning			
Appears to make a clinically appropriate working diagnosis The apparent diagnosis is clinically appropriate according to the subjective and objective evidence.			
There is a clear explanation of the diagnosis and management plan The explanation is well organized, in small chunks, avoids jargon, where appropriate makes use of visual methods, leaflets, repetition, signposting.			
Gives patient an opportunity to ask for other information and / or seeks to confirm patient's understanding The patient is asked if they would like other information and / or their understanding is checked by reverse summarizing or opportunity to clarify			

The explanation takes account of and relates to the patient's perspective The explanation connects, responds to or takes into account the patient's beliefs, concerns and expectations			
Involves the patient where appropriate in decision making The patient is offered insight into doctor's thought processes, suggestions, options and invited to participate in decision making through use of choice, expression of preferences or ideas. The doctor does not just give orders, directives or instructions of what must be done.			
Chooses an appropriate management plan The management plan is based on scientifically sound evidence and is appropriate for the diagnosis. Reference will be made to PACT guidelines			
Coordination of care Is there any verbal attempt made to utilize other members of the multidisciplinary staff in the management plan?			
Continuity of care Is there any verbal attempt made to follow up patient themselves.			
Closure			
Closes consultation successfully in the time available Brings the consultation to a conclusion rather than running out of time. Deals with any remaining issues from the patient.			
Provides appropriate safety netting for the patient Shows evidence of having considered how certain they are of the diagnosis, what might go wrong with the treatment, how they will know if things do not go well, side effects occur or more serious sequelae develop. Shows this in an appropriate plan of safety netting with the patient.			

Addendum G: AKU-IERC Ethics approval for study 4 and 5

THE AGA KHAN UNIVERSITY

Faculty of Health Sciences
Medical College

Ref: 2020/IERC-119 (v2)
September 30, 2020

Dr. Gulnaz Mohamoud – Principle Investigator,
Faculty, Department of Family Medicine
Aga Khan University, Kenya.

Dear Dr Mohamoud and team,

Re: **An evaluation of the quality of service delivery in primary care facilities of the Aga Khan University Hospital in Nairobi, Kenya.**

The Aga Khan University, Nairobi Institutional Ethics Review Committee (IERC), is in receipt of your protocol resubmitted to the Research Office (RO) on September 28, 2020. With reference to the IERC letter Ref: 2020/IERC-119 (v1) dated September 17, 2020, the IERC reviewed and approved this project {*as per attached official stamped protocol and attachments - version Ref: 2020/IERC-119 (v2)*}.You are authorized to conduct this study from **September 30, 2020**. This approval is valid until **September 29, 2021** and is subject to compliance with the following requirements:

1. All applicable national and international laws, rules and regulations shall govern the conduct of the study at all times. IERC guidelines and Aga Khan University Hospital policies shall also apply and you should notify the committee of any changes that may affect your research project (amendments, deviations and violations)
2. Researchers desiring to initiate/reinstate/continue research activities during COVID-19 pandemic must comply with the COVID-19 SOPs for Research as well as submit to the Research Office a Request Form to Initiate, Reinstate or Continue Research During COVID-19 Pandemic.
3. Prior to human subjects' enrolment you must obtain a research license from the National Commission for Science, Technology and Innovation (NACOSTI) and file a copy with the Research Office (RO).
4. Where applicable, prior to export of biological specimens/data, ensure a Material Transfer Agreement (MTA)/Data Transfer Agreement (DTA), is in place as well as seek shipment authority/permit from the relevant government ministry. Copies of these approvals should be submitted to the RO for records purpose.
5. All Serious Adverse Events and the interventions undertaken must be reported to the IERC as soon as they occur but not later than 48 hours. The SAE shall also be reported through the AKUHN quality monitoring mechanism(s) at Client Relations Department of the Chief of Staff's Office.
6. All consent forms must be filed in the study binder and where applicable, patient hospital record.
7. Further, you must provide an interim Progress Report Form **60 days before expiration** of the validity of this approval and request extension if additional time is required for study completion.

If you have any questions, please contact Research Office at research.supportea@aku.edu or 020-366 2148/1136.

With best wishes,

Professor Wangari Waweru-Siika,
Chair - Institutional Ethics Review Committee (IERC)
Aga Khan University, (Kenya)

Copy: Co-Investigators

AK 963

3rd Parklands Avenue, off Limuru Road, P. O. Box 30270, GPO 00100, Nairobi, Kenya
Telephone: +254 20 366 2107/2109; Fax: +254 20 374 4035

Addendum H:NACOSTI-Kenya Approval for study 4 and 5

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **110054**

Date of Issue: **15/October/2020**

RESEARCH LICENSE

This is to Certify that Dr.. Gulnaz Mohamoud of The Aga Khan University Hospital, has been licensed to conduct research in Nairobi on the topic: An Evaluation of the Quality of Service Delivery in Primary Care Facilities of the Aga Khan University Hospital in Nairobi, Kenya for the period ending : 15/October/2021.

License No: **NACOSTI/P/20/7046**

110054

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Addendum I: IERC-AKU Approval for continuation of study during Covid-19 pandemic for study 4 and 5

The Aga Khan University
Office of Research and Graduate Studies

Request Form to initiate/reinstate/continue research during COVID-19 Pandemic

1. Name of PI:	Gulnaz Mohamoud	2. Designation:	Faculty/Senior Lecturer
3. Department:	Family Medicine	4. Entity: Medical University	
5. Email:mmgulnaz@yahoo.com		6. Contact #+254733613820	

7. Project Title:

An evaluation of the quality of service delivery in primary care facilities of the Aga Khan University Hospital in Nairobi, Kenya.

8. Purpose of research/field work:

To evaluate the quality of service delivery in primary care facilities of the Aga Khan University Hospital in Nairobi, Kenya. The study aims to highlight gaps in service delivery in the private primary care(PC) facilities run by the General Practitioners (GPs). The findings of this study will serve as a means of identifying gaps and ways at improving the service provision and overall patient experience with primary care.

9. Activities involved in research/field work:

This will be cross-sectional descriptive survey of primary care users and the general practitioners. Data collection will be done using the Primary Care Assessment Tool (PCAT) and a South African tool designed for a national survey of primary care doctors. The data will be collected using the self-administered questionnaires.

10. Does your study involve collection of biological samples (respiratory/urine/feces /environmental)? If yes, have you taken a fresh approval from Institutional Biosafety Committee (IBC) for risk assessment of such samples during COVID-19 pandemic?

No

11. Location of field work (if applicable and please specify if it includes over-night stay)

Place(s) of Visit	Duration (hours)	Frequency per week	No. of persons	No. of Vehicle
Outreach clinics of the Aga Khan University Hospital, Nairobi	8hrs	5	2	N/A

12. Duration of research/field work:

Addendum J: KE-PCAT for study 4

ZA PCAT AS_Oct2014_FPImpact_Aug2015_accept changes 0

Facility code: C Interviewer code: Interviewer Case No Study number

Date ___ ___ ___

English

PRIMARY CARE ASSESSMENT TOOL

ADULT PCAT AE

(SHORT VERSION)

Originally developed by
Barbara Starfield, MD, MPH
Primary Care Policy Center
School of Hygiene and Public Health
Johns Hopkins University Baltimore,
USA

2020 KENYAN PCAT
ADAPTED VERSION
FROM ZA PCAT
Validation done by the
Kenyan Family Physicians

Validated for use in primary care in the Kenyan context
2020

	Name	Signature	Date
Quality check (Interviewer)			
Quality check (Supervisor)			

ADMINISTRATIVE INFORMATION

Interviewers name: _____

Date: ☐☐ ☐☐☐ ☐☐☐☐ (D D M M Y Y Y Y) Time interview began: ☐☐ : ☐☐ Time interview finished: ☐☐ : ☐☐

INTRODUCTION / SCREENING QUESTIONS

RECRUITING & PURPOSE OF THE SURVEY. Interviewer: ***Hello, my name is*** _____ ***I'm working with health services in this District doing a survey of what patients' think about the health care they receive. All the information given is private and confidential and will remain anonymous. I will not record your name and address on this form. I only need your name and signature on the consent form to show that you gave your permission to be asked questions about your experience and agreed to be part of the study.***

Would you be willing to answer a few questions about your experience of health care while you are waiting?

1☐ Yes **If Yes, in which language would you prefer to speak? (Go to separate consent form)**

2☐ No **If No, terminate interview by saying: Thank you for your time. I apologize for any inconvenience.**

AFTER CONSENT COMPLETED:

THANK YOU FOR AGREEING TO ANSWER A FEW QUESTIONS ON YOUR EXPERIENCE OF HEALTH CARE. FIRST, I WOULD LIKE TO ASK YOU A FEW GENERAL QUESTIONS BEFORE ASKING ABOUT YOUR EXPERIENCE

A. EXTENT OF YOUR AFFILIATION (RELATIONSHIP) WITH A PRIMARY CARE PLACE OR PERSON
(CLINIC / HOSPITAL / GENERAL PRACTICE / DOCTOR / NURSE)

A1. Where do you **usually** go when you are ill or need to talk to someone about your health? Please give the **name of the place or person:** _____

A2. Is there another place / person you sometimes go for health care?

a ☐ No

b ☐ Yes Please give **name of place or person**:_____

A3. Which place / person mentioned above knows you best regarding your health care? ***Ring*** A1 or A2

For the interviewer: ***'YOU HAVE BEEN TO THIS CLINIC 3 TIMES OR MORE. ALL THE QUESTIONS ARE ABOUT YOUR EXPERIENCE OF PRIMARY CARE AT THIS CLINIC.'***

A5 About how many times in the last 2 years have you been to your clinic? _____times

A6 How long have you been going to your clinic?

1☐ Less than 6 months
2☐ Between 6 months and one year
3☐ 1 - 2 years
4☐ 3 - 4 years
5☐ 5 or more years
6☐ Difficult to say (too variable to specify)
7☐ Not sure/don't remember

A7 Did you choose this clinic yourself?

1☐ Yes 2☐ No 3☐ Other 9☐ Not sure/don't remember

B. FIRST CONTACT – UTILIZATION

Please check the one best answer		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
B1	When you need a regular checkup, do you go to your clinic before going somewhere else?	4☐	3☐	2☐	1☐	9☐
B2	When you have a new health problem, do you go to your clinic before going somewhere else?	4☐	3☐	2☐	1☐	9☐
B3	Can you see a specialist doctor (e.g. a heart specialist at a hospital) without a letter or appointment from your clinic?	4☐	3☐	2☐	1☐	9☐

C. FIRST CONTACT – ACCESS

Please check the one best answer		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
C1	Is your clinic open on Saturday or Sunday?	4☐	3☐	2☐	1☐	9☐
C2	Is your clinic open in the evenings for at least some weekdays?	4☐	3☐	2☐	1☐	9☐
C5	When your clinic is *closed* is there a phone number you can call when you get sick?	4☐	3☐	2☐	1☐	9☐
C6	When your clinic is *closed on Saturday and Sunday* and you get sick, would someone from there see you the same day?	4☐	3☐	2☐	1☐	9☐
C7	When your clinic is *closed* and you get sick *during the night*, would someone from there see you that night?	4☐	3☐	2☐	1☐	9☐

D. ONGOING CARE

Please check the **one** best answer

		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
D1	When you come to this clinic are you taken care of by the ***same*** doctor or nurse each time?	4☐	3☐	2☐	1☐	9☐
D3	Are your questions answered in ways that you understand?	4☐	3☐	2☐	1☐	9☐
D4	If you have a question about your health, can you phone your clinic and talk to the doctor or nurse who treated you before?	4☐	3☐	2☐	1☐	9☐
D5	Does your health care provider give you enough time to talk about your worries or problems?	4☐	3☐	2☐	1☐	9☐

D7	Does your health care provider know you very well as a *person*, rather than as someone with a medical problem?	4☐	3☐	2☐	1☐	9☐
D9	Does your health care provider know what problems are most important to you?	4☐	3☐	2☐	1☐	9☐

Please check the **one** best answer

		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
D10	Does your health care provider know your complete medical history?	4☐	3☐	2☐	1☐	9☐
D13	Does your health care provider know about all the medications you are taking? (e.g. getting elsewhere including traditional medicines)	4☐	3☐	2☐	1☐	9☐
D15	If it was easy to do, would you change your clinic to somewhere else?	4☐	3☐	2☐	1☐	9☐

E. CO-ORDINATION

Please check the **one** best answer						Not sure / don't remember
		Definitely	Probably	Probably not	Definitely not	
E1	Are you given the results of your laboratory tests in any form? (e.g. blood or sputum; the actual results or whether good or bad)?	4☐	3☐	2☐	1☐	9☐

E2 Have you ever been referred to a specialist or hospital service? (E.g. Lung or heart specialist doctor)

1 ☐ Yes If **Yes, what specialist or hospital was it?** (the last visit if more than one visit) _____

2 ☐ No **(Skip to question F1)**

9 ☐ Not sure/don't remember **(Skip to question F1)**

The following questions E6-E13 refer to the specialist or service in E2.1 above (i.e. answered YES)

Please check the **one** best answer						Not sure / don't remember
		Definitely	Probably	Probably not	Definitely not	
E6	Did your health care provider send you to the specialist or hospital?	4☐	3☐	2☐	1☐	9☐
E7	Does your health care provider know whether you went for your specialist / hospital appointment or not?	4☐	3☐	2☐	1☐	9☐
E9	Did your clinic (or someone at your clinic) help you make the appointment for that visit?	4☐	3☐	2☐	1☐	9☐

E10	Did your health care provider give you a letter for the specialist/hospital about the reason for the visit?	4☐	3☐	2☐	1☐	9☐
E11	Does your health care provider know what the results of the visit were?	4☐	3☐	2☐	1☐	9☐
E12	After you went to the specialist or hospital did your health care provider talk with you about what happened at that visit?	4☐	3☐	2☐	1☐	9☐
E13	Does your health care provider seem interested in the quality of care you get from that specialist or hospital?	4☐	3☐	2☐	1☐	9☐
E14	Would the clinic assist you to get medical-legal or insurance reports if required?	4☐	3☐	2☐	1☐	9☐

F. CO-ORDINATION (INFORMATION SYSTEMS)

Please check the **one** best answer

		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
F1	When you visit your clinic do you take any immunization cards, medical records or results from other health services that you visited?	4☐	3☐	2☐	1☐	9☐
F2	Can you look at your medical records at your clinic if you wanted to?	4☐	3☐	2☐	1☐	9☐
F3	When you go to your clinic is your folder (medical records) always available?	4☐	3☐	2☐	1☐	9☐

G. COMPREHENSIVENESS (SERVICES AVAILABLE)

Please check the **one** best answer

		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
Following is a list of services that you or your family might need at some time. For each one, please indicate whether it is available at your clninc?						
G2	Vaccinations / immunizations/injections to prevent diseases such as (e.g. flu vaccine/or polio)	4☐	3☐	2☐	1☐	9☐
G3	Checking to see if anyone in your family qualifies for any social grants e.g. disabilities.	4☐	3☐	2☐	1☐	9☐
G4	Dental check-up – checking and cleaning your teeth	4☐	3☐	2☐	1☐	9☐
G6	Family planning or birth control methods	4☐	3☐	2☐	1☐	9☐

(Continue with one best answer)

		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
G7	Alcohol or drug abuse counseling or treatment	4☐	3☐	2☐	1☐	9☐
G8	Counseling for mental health problems	4☐	3☐	2☐	1☐	9☐
G9	TB Testing	4☐	3☐	2☐	1☐	9☐
G10	Stitching up a cut that needs stitches	4☐	3☐	2☐	1☐	9☐
G11	Counseling and testing for HIV/AIDS	4☐	3☐	2☐	1☐	9☐
G12	Checking your hearing	4☐	3☐	2☐	1☐	9☐
G13	Checking your eyesight	4☐	3☐	2☐	1☐	9☐
G15	Plastering fractures	4☐	3☐	2☐	1☐	9☐
G17	Screening for cervical cancer	4☐	3☐	2☐	1☐	9☐
G18	Tests for cancer of the bowel e.g. examining the back passage.	4☐	3☐	2☐	1☐	9☐
G19	Counseling to stop smoking	4☐	3☐	2☐	1☐	9☐
G20	Ante-natal care i.e. care for pregnant mothers	4☐	3☐	2☐	1☐	9☐
G21	Treatment for an ingrown toenail i.e. removing part of the toenail.	4☐	3☐	2☐	1☐	9☐
G22	What to do in case someone in your family cannot make decisions about his/her care e.g. very old (senile) or severe mental illness.	4☐	3☐	2☐	1☐	9☐
G23	Support when there are changes in mental or physical abilities that are normal with getting older e.g. when too frail or disabled by a stroke?	4☐	3☐	2☐	1☐	9☐
G24	Suggestions for nursing home care for someone in your family?	4☐	3☐	2☐	1☐	9☐
G24b	Suggestions for home-based care e.g. a visit from a home-based carer?	4☐	3☐	2☐	1☐	9☐

H. COMPREHENSIVENESS (SERVICES PROVIDED)

The next questions deal with different types of health care services that you sometimes get.

Please check the one best answer		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
In visits to your clinic, are any of the following subjects discussed with you?						
H1	Advice about healthy and unhealthy foods	4☐	3☐	2☐	1☐	9☐
H2	Home safety, like storing medicines safely; safe use of paraffin stoves; pesticides	4☐	3☐	2☐	1☐	9☐
H4	Ways to handle family conflict problems; arguments; disagreements (that may arise from time to time)	4☐	3☐	2☐	1☐	9☐
H5	Advice about appropriate exercise for you	4☐	3☐	2☐	1☐	9☐
H6	Tests for cholesterol levels in your blood	4☐	3☐	2☐	1☐	9☐
H7	Checking and discussing the medications you are taking	4☐	3☐	2☐	1☐	9☐
H12	**For females**: how to prevent osteoporosis (i.e. softening of the bones); breast examination.	4☐	3☐	2☐	1☐	9☐
H14	**For males**: Prevention of prostate cancer.	4☐	3☐	2☐	1☐	9☐
H15	Advice and treatment on Sexually Transmitted Infections.	4☐	3☐	2☐	1☐	9☐

I. FAMILY-CENTREDNESS

The next questions are about the relationship of your health care provider with your family.

Please give the one best answer		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
I1	Does your health care provider ask you about *your* ideas and opinions when planning treatment and care for you or a family member?	4☐	3☐	2☐	1☐	9☐
I2	Has your health care provider asked about illnesses or problems that might run in your family? e.g. alcohol in the family?	4☐	3☐	2☐	1☐	9☐
I3	Would your health care provider meet with members of your family if you thought it would be helpful?	4☐	3☐	2☐	1☐	9☐

J. COMMUNITY ORIENTATION

Please check the **one** best answer

		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
J1	Does anyone at your clinic ever make home visits?	4☐	3☐	2☐	1☐	9☐
J2	Do you think your health care provider knows about the important health problems of your area?	4☐	3☐	2☐	1☐	9☐
J3	Does your clinic get opinions and ideas from people or organizations with knowledge to help provide better health care? E.g. the local health committee, churches, other organizations?	4☐	3☐	2☐	1☐	9☐

Does your clinic do any of the following to help determine the effectiveness of services?

J11	Surveys of patients to see if services are meeting people's needs?	4☐	3☐	2☐	1☐	9☐
J12	Surveys in the community to find out about health problems it should know about?	4☐	3☐	2☐	1☐	9☐
J18	Ask members of your community to be on the local health committee?	4☐	3☐	2☐	1☐	9☐

K. CULTURALLY COMPETENT

Please check the one best answer

		Definitely	Probably	Probably not	Definitely not	Not sure / don't remember
K1	Would you recommend your clinic to a friend or relative?	4☐	3☐	2☐	1☐	9☐
K2	Would you recommend this clinic to someone who **does or does not** speak your home language?	4☐	3☐	2☐	1☐	9☐
K3	Would you recommend your clinic to someone who uses traditional medicine or home remedies such as herbs, or has special beliefs about health care?	4☐	3☐	2☐	1☐	9☐
K4b	Do you think your health care provider understands/respects your culture?	4☐	3☐	2☐	1☐	9☐
K4c	Do you feel comfortable discussing religious or cultural issues that affect your health with the staff at the clinic?	4☐	3☐	2☐	1☐	9☐

P. PRIMARY HEALTH CARE TEAM (ngt)

The following questions deal with health care services that you may need from other members of the PHC team.

Please check the one best answer.	Definitely	Probably	Probably not	Definitely not	Not sure/ don't remember
If you need it, can you see any of the following health workers to assist with your care at this clinic?					
P1. Can you see a social worker if you need to? E.g. for help with counseling for a family problem or advice about social services?					
P2. Can you see a physiotherapist (and occupational therapist) at your clinic if you need to? e.g. to help with muscle sprains or movement following a stroke.					
P3. Can you be visited in your home by a community health worker linked to your clinic if you need it? E.g. for home-based care for TB, HIV or basic care such as wound dressings.					
P4. Can you be seen by a health promoter / dietician for advice on these topics?					
P5. Can you be seen by a mental health worker at your clinic for help with any mental health problems?					
P6. Can you be seen by a dental / oral health worker at / or linked to your clinic if you need it? E.g. any problems with your teeth					

M. HEALTH ASSESSMENT

Please check the one best answer

M1 Would you say your health is:
1☐ Excellent 2☐ Very good 3☐ Good 4☐ Fair 5☐ Poor

M2 Do you have any physical, mental, or emotional problem that has lasted or is likely to last longer than one year?
1☐ Yes 2☐ No 9☐ Not sure/don't remember

N. DEMOGRAPHIC & SOCIOECONOMIC CHARACTERISTICS

These are several questions about you and your family.

N1 Are you: 1☐ Male 2☐Female

N2 What is your age in years? _____years

N5 What is your preferred language?
1. English ☐
2. Kiswahili ☐
3. Others_____
98 Refuse to Answer ☐

N8 Which of the following best describes your work situation now? **(Choose one)**
1. Employed full-time ☐
2. Employed part-time ☐
3. Self-employed (informal sector) ☐
4. Self-employed (formal sector) ☐
5. Student ☐
6. Homemaker ☐
7. Retired / pensioner ☐
8. Disabled ☐
9. Unemployed ☐
98 Refuse to Answer ☐

N9 What is the highest level of education you have obtained? **(Choose one)**
0 No schooling ☐
1. Primary ☐
2. Secondary ☐
3. College ☐
4. University ☐
5. Other ☐
98 Refuse to Answer ☐

N10 Do you have piped water in your compound?
1 Yes **If yes, go to N13**
2 No
98 Refuse to Answer ☐

N11 Do you have piped water in your yard?
1. Yes **If yes, go to N13**
2. No
98 Refuse to Answer ☐

N12 Do you have piped water nearby? (neighbor, school)
1. Yes
2. No
98 Refuse to Answer ☐

N13 Do you have electricity in your home?

1. Yes
2. No
98 Refuse to Answer ☐

N14 Which of the following best describes your home? **(Choose one)**
0 Semi-permanent
1 Permanent
2 Other
98 Refuse to Answer ☐

N15 Is the head of your household employed? (it could be you)
1. Yes
2. No
98 Refuse to Answer ☐

N16 Do you have a toilet YES / NO **If Yes**, inside / outside (circle). **If NO**, bucket etc.

THANK YOU FOR CONTRIBUTING TO IMPROVING HEALTH SERVICES

Addendum K: Clinical skills for study 5

Survey of performance of key clinical skills

Demographic Data

Age _____years

Gender (select correct option): Male / Female

In what year did you receive your MBChB degree (or equivalent)?.....

How long have you been practicing as a General Practitioner?.....

Please list any postgraduate qualifications (Diplomas or Degrees) below:

Clinical Skills

For each of the clinical skills listed below please select **ONE** of the four possible responses:

	Have not had training in this skill	**Have been trained, but have not performed this skill in the last year**	**Have performed this skill in the last year**	**Have taught this skill to others in the last year**
General				
Femoral vein puncture				
Intra dermal injection				
Intra muscular injection				
Subcutaneous injection				
Interpret Chest X ray				
Interpret Abdominal X ray				
Abdomen				
Proctoscopy				
	Have not had training in this skill	**Have been trained but have not performed this skill in the last year**	**Have performed this skill in the last year**	**Have taught this skill to others in the last year**
Chest				
ECG setup, record and interpret (Stress & Non Stress ECG)				
Pleural tap				
Measure PEF (peak expiratory flow)				
Nebulise a patient				
Demonstrate use of inhalers and spacers				
Ante Natal Care				
Plot and Interpret ante natal profile.				
Assess foetal movement/well being				
Perform an obstetric ultrasound				
Post-Partum/new born Care				
Teach a mother Kangaroo Care				
Well new- born check				
Women's health				
Insert IUCD (Intra uterine contraceptive device)				

Insert Implants				
Cervical smear				
Drain a Bartholin cyst				
Paediatrics				
Plot and interpret Growth Charts				
Assess child abuse: sexual/non sexual				
Capillary blood sampling				
Developmental assessment				
IV access in a child				
Intra osseous line				
Surgery/General				
Wound care dressings				
Suturing of laceration				
Debride wounds and burns				
Perform a circumcision				
Administer a ring block				
Administer a regional block				
Incise and drain an abscess				
Orthopaedics				
Aspirate and inject a knee				
Inject a tennis / golfer's elbow				
Inject into the sub acromial space				
Apply finger and hand splints				
Apply POP (plaster of paris)				
Reduce shoulder dislocation				
Immobilize suspected fracture for transport				
Emergencies				
CPR- adult/child (cardio pulmonary resuscitation)				
Manage choking				
Primary/secondary survey				
Manage airway appropriately (Bag Mask)				
Insert urinary catheter				
Administer oxygen				
Insert a chest drain				
Relieve tension pneumothorax				
Measure GCS (Glascow coma scale)				
Insert Naso- gastric Tube				
Immobilise the spine				
Ear Nose and Throat				
Hearing Test (Rinnes/Webers test)				

Visual Acuity (Snellens chart)				
Red reflex test				
Assess retina with Opthalmoscope				
Remove foreign body from the eye				
Remove foreign body from the ear				
Remove foreign body from the nose				
Manage epistaxis-pack the nose				
Wash out the eye				
Skin				
Excise sebaceous cyst				
Cryotherapy/cauterization				
Trucut /punch biopsy				
Fine needle aspiration biopsy (FNAB)				
Forensic				
Assess/manage and document sexual assault (rape protocol)				
Clinical Administration skills				
Complete a Police surgeons form(harm/injury/assault) (P3 Form)				
Complete a Death Notification Form				
Complete a Workman compensation form (Injury on duty)				
Communication and consultation skills				
Patient-centred consultation				
Brief behaviour change counselling				
Break bad news				
Counsel for HIV prevention or test				
Counsel patient after sexual assault				
Mini mental examination				
Use a genogram				

Work effectively with an interpreter to overcome language barriers				
Include family members appropriately in the consultation				