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Private General Practitioners' Agreement on Skills and Competencies for Universal Health Coverage in Urban South Africa - A Descriptive Cross-Sectional Survey

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Abstract

Globally, Sustainable Development Goals (SDGs) and Universal Health Coverage (UHC) are designed to ensure equity and quality health care. In South Africa, National Health Insurance (NHI) is the vehicle for it. Strategic purchasing and contracting private general practitioners (GPs) are key strategies. Skills training will prepare GPs for NHI. However, it is not clear as to which GP skills and competencies are currently implemented in practice. The study assessed GPs' agreement on skills and competencies in urban South Africa. A descriptive cross-sectional design and the online semi-structured survey was undertaken between 30 September to 14 October 2020. We targeted 5,212 private GPs registered on Medpages in Gauteng Province. Respondents who answered all questions were conveniently sampled. Data analysis was performed using SAS institute software, version 9.4. A four-point Likert scale was categorized as agree or disagree. A Wald Chi-square test evaluated associations between variables. Findings revealed that most had no government contract (84.3%, n=97) and were solo (53%, n=61). The majority were agreeable to the eye, ear, nose, and throat skills (93.3%, n=207). The least agreeable was the abdominal skill (32.7%, n=72). Logistic regression showed qualifications, work experience and type of practice were significant predictors. The GP contracts affected the skills range. Surveyed GPs did not agree on many listed skills. Significant predictors of an agreement to skills in the current practice were identified. The findings highlight the need to fast-track GP skills training in South Africa.

Keywords: *National health insurance, Private general practitioner, Skills, South Africa, Universal health coverage.*

Introduction

Background: Globally, it is believed that primary health care (PHC) systems should optimally function for the UHC to be realized [1, 2]. Hence, the focus is changing in most African countries towards a single health service where public and private health are integrated to promote equity. South Africa responded by introducing of the NHI with the re-engineering of PHC [3, 4]. The White Paper on NHI indicated that private GPs were to be included as providers based on strategic purchasing and capitation payment for service rendered. However, the exact nature of contracting private GPs as service providers remains unclear [5, 6].

Problem: Private GPs appear to function sub-optimally in the private sector because the country faces a quadruple burden of disease, including high rates of the human immunodeficiency virus (HIV), acquired immunodeficiency syndrome (AIDS) and tuberculosis (TB), high maternal and child mortality, non-communicable diseases, violence, and injuries that constitute the private and public mandate for care. In a study on GP's knowledge on Sexually Transmitted Infections

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(STI), it was demonstrated that doctors were not familiar with the management of STIs [7]. Despite the knowledge gap, there is currently no training pipeline adequate to meet the needs of the new health reforms. Hence, the NHI is a potential springboard to address that gap by accelerating skills acquisition.

Family medicine, as a discipline with postgraduate training, is about strengthening the capacity of PHC clinicians. In South Africa, family medicine became a recognized speciality in 2007. A national consensus on skills required of graduates styled a family physician as a specialist typically working from a rural district hospital. The findings of this study contributed to a list of skills and competencies which formed the basis for a four-year family medicine postgraduate training in South Africa [8]. As an innovative intervention to fast-track skills acquisition of primary care doctors in readiness for NHI, departments of family medicine in South Africa support a national postgraduate diploma [9, 10].

Innovation: As a prelude to the development of a new diploma in family medicine, a study was conducted to evaluate the self-reported learning needs of primary care doctors using 30 guidelines, 85 skills and 12 roles. A descriptive survey was conducted with a convenience sample of 170 private GPs and medical officers (MOs) from eight provinces in South Africa. Gauteng Province contributed 15 private GPs and 12 MOs. Broad roles, skills and competencies associated with learning outcomes for primary care doctors, including private GPs, were identified. The study had a mix of rural-urban and public-private general practitioners who were surveyed [10].

Concurrently, the learning needs survey and two national stakeholder workshops were conducted to strengthen PHC through primary care doctors and align all diplomas and design the national diploma for South Africa. Subsequently, roles and competencies for primary care doctors were conceptualized [11]. This reinforces the need to address findings by Moosa [12] regarding the lack of clarity on family physician roles in urban PHC clinics in Johannesburg, South Africa.

Rationale: It is envisaged that under the NHI, the majority of primary care doctors will be private GPs, especially in the urban environment [5]. Whilst rural needs are important, the urban settings will be increasingly greater and more of the norm. Private GPs may be disinclined to do a course that they perceive unsuited to the needs of an urban setting. There is a dearth of studies on private GPs agreeing to learning outcomes of the national diploma in family medicine. Understanding this could position private practice better by targeting and accelerating GP training. The research question was: What clinical skills and competencies listed in the learning outcomes of the SA diploma in family medicine do private GPs agree to in their current practice?

What we already knew about the topic included the fact that implementation of universal health coverage required strengthening of primary health care through GP skills, and there was consensus on core clinical skills and competencies as listed in the learning outcomes for the family medicine national diploma [10] and postgraduate training in South Africa. No studies had compared GP skills with learning outcomes of national diploma in family medicine for South Africa, and elsewhere.

Study purpose and objectives: The study assessed private GPs agreement to clinical skills and competencies, as listed in the learning outcomes of the SA diploma of family medicine. Objectives were to describe socio-demographics, the agreement on clinical skills and competencies among private GPs' current practice and to describe associations between clinical skills and social demographics. We hypothesized that the extent to which private GPs agreed or disagreed on the listed clinical skills and competencies provided a knowledge gap and learning need. Ideally, the diploma

qualification should be the minimum bridge between the trained and untrained GP.

Materials and Methods

The study design was a descriptive cross-sectional online survey. Study setting: We recruited participants from Gauteng Province. It was the largest province by population, dense and highly urbanized. It had the highest concentration of private GPs in South Africa [13, 14].

Study population: Using Medpages, a database that supplied healthcare provider contact information across the African continent, we targeted 5,212 registered GPs and family medicine specialists [15]. Sampling: After simple randomization of 5,212 private GPs registered on the Medpages in Gauteng, we invited 2,780 private GPs to participate in the on-line survey from 30 September to 7 October 2020. The focus of our study was on private GPs as opposed to full-time public sector ones.

Inclusion and exclusion criteria: Those registered on Medpages at the time of the study and consented to participate in the study. Exclusion: General practitioners and trained family physicians in full-time public sector employment were excluded. The sample size was determined by conveniently including all 115 respondents who completed the online questionnaire in full. Incomplete questionnaires were not considered for analysis. We had pre-determined a response rate of at least 10% as acceptable as this was conducted at the height of the Covid-19 pandemic.

Data collection: Selected private GPs on the Medpages database were e-mailed the study information letter, consent form and the link to the survey monkey questionnaire to determine the degree of agreement on the listed skills and competencies derived from the learning outcomes of the national diploma in family medicine [10, 11]. The first question was about consent. Questions 2-8 were on socio-demographics, and questions 10-22 on the degree of agreement on clinical skills. Questions 23-25 addressed agreement on the listed competencies. Hence, respondents were surveyed over 86 questions on a four-point Likert scale, namely: “strongly agree, agree, disagree and strongly disagree”. Also, there was a question on the NHI. A pilot study was conducted with 10 pilot respondents within the researcher’s networks to identify the average time, which was needed to complete the questionnaire. Thus, researchers tested connectivity and other logistics. The pilot respondents were not added to the main study.

Data analysis was performed on the SAS (SAS Institute Inc, Carey, NC, USA), Release 9.4. Respondent demographic characteristics and options on a four-point Likert scale were key variables. The Likert scale assessment was further categorised broadly as agree or disagree. The categorical data were reported as frequencies, numbers, and ratios. Nominal and ordinal data were reported as scores in means, median, and interquartile range. Independent variables were socio-demographic characteristics such as age, race, gender, postgraduate qualifications, the nature of employment contract with the State and the type of private practice. The dependent variables used were the level of agreement on the listed core clinical skills and competencies as stated above. Differences between respondent socio-demographic characteristics and the degree of agreement on core clinical skills and competencies were analysed. A Wald Chi-square test evaluated the associations between categorical variables.

For multivariate logistic regression analyses the predictor variables were age, race, highest postgraduate qualification, years of work experience and the type of private practice. The logistic regression tested the strength of association between statistically significant skills, competencies, and predictor variables. Odd ratios (OR) with 95% CI and p-value $\leq$ 0.05 considered statistically significant were tabulated.

Ethical approval was obtained from the University of Witwatersrand Human Research Ethics Committee and four district research ethics committees in Gauteng. This study's approved protocol reference number was M1811115, and the National Health Research Database reference number was GP_201903_02(1).

Each respondent was availed of participant information and an option to consent and opt-out at any stage of the research. Information collected was anonymous, confidential, and secured by the lead researcher. Also, we acknowledged that respondents might have experienced discomfort and lost time when completing the questionnaire.

Publication of this manuscript is supported and consented for by both authors. Data and material availability: All data and material used for the analysis of this research findings can be obtained from the corresponding author at any given time and no cost.

Results

Of the 2,702 (97.2%) messages sent to participants, 78 (2.8%) were undelivered, while 1,249 (46.2%) clicked through and 11 (1.4%) were unsubscribed. Consent was obtained from 162 participants, while 2 skipped the consent. of the participants who completed the questionnaire in full were 115. The response rate was 13.1% of the recipients.

Socio-Demographic Characteristics of Private General Practitioners

The mean age of respondents was 49.5 years, between ages 27 and 79 years old. Many were male (53%) and white (49.7%). The most common additional qualification was a diploma or higher diploma.

The vast majority had no formal employment contract with the government, and over half of them were in solo practice (53%), summarized in Table 1.

Clinical Skills agreed to as Needed in Current Practice by Private General Practitioners

The eye, ear, nose, and throat were the most agreed skill in the GP's current practice (93.3%, n=207 responses), followed by respiratory, general surgery and communication. The skills which were less agreed to were postpartum care (59.3%, n=192), antenatal (52.7%, n=117) and forensic medicine (43.5%, n=94). The least agreed to being the abdominal skill such as proctoscopy (32.7%, n=35) and summarized in Table 2.

Clinical Competencies which Private General Practitioners agreed were Needed in their Practice

All listed competencies, except one, were agreed to by GPs practice with responses of more than 80%. The least agreed to was community advocacy (63.3%, n=136 responses) and summarized in Table 3.

Approval rating on NHI: Of all 115 respondents to the NHI question, there was a combined approval rating of 46.1% (n=65) with a disapproval rating of 53.9% (n=62). However, 13.9% of respondents (n=16) strongly approved NHI, while 24.3% (n=28) strongly disapproved it.

Associations between Variables and Degree of Agreement

The dependent variable was the four (4) Likert scale: strongly disagree, disagree, agree, or strongly agree. These responses among GPs on the utilization of skills and competencies in practice were then combined as agree or disagree. Listed skills and competencies were matched against significant predictor variables, which were qualification (degree, diploma, and certificate), work experience in years (1-10, 11-20, 21-40, 40+) and the type of private practice (solo, group or contracted). Age was not a significant predictor for agreeing on any skill.

Associations between agreed Skills and Respondent Qualification

Doctors with a postgraduate diploma were more than two-fold more likely to agree with communication and consultation skills compared to those with certificates. Also, GPs had 1.38 times more likely to agree with an emergency than paediatric care.

Associations between Orthopaedic Skill and Work Experience

Work experience was the most significant predictor of association with using orthopaedic skills. General practitioners with 40+ years of experience had six-fold more likely to agree with orthopaedic skills compared to doctors with 1-10 years experience. There was an inverse relationship between years of experience and agreeing with orthopaedic skills.

The type of private practice had the most clinically significant association with emergence care, although the general medicine skill had the highest likelihood to agreeing. Group practice doctors were almost four-fold more likely to agree to general medicine skills compared to contracted doctors. As summarized in Table 4, this was followed by general surgery, where group practice doctors were also almost four-fold more likely to agree to the skill compared to contracted doctors.

In summary, respondents were on average, 49.5 years old, male, and white. The most common additional qualification was a diploma. A vast majority had no formal employment contract with the State. Over half were in solo practice. Most GPs agreed to the eye, ear, nose, and throat skills (93.3%, n=207). Generally, respiratory, general surgery and communication were other skills agreed to by GPs (Table 2). The least agreed was the abdominal skill like proctoscopy (32.7%, n=72). Also, GPs agreed to all competencies, except community advocacy (63.3%, n=136) as summarized in Table 3.

Table 1 shows the mean age of respondents was 49.5 years, between ages 27 and 79 years old. Many were male and white. The most common additional qualification was a diploma or higher diploma. The majority had no formal employment contract with the government, and over half of them were in solo practice.

Table 1. Socio-demographic Characteristics of Private General Practitioners (N=115)

Characteristic	
Age in years (N=115)	
Mean (±SD)	49.5 (±11.91)
Median (IQR)	49 (40 – 57)
Minimum / maximum	27 / 79
Gender (N=115)	
Male	61 (53%)
Female	54 (47%)
Race (N=115)	
Asian	22 (19.1%)
Black	32 (27.8%)
Coloured	2 (1.7%)
White	57 (49.7%)
Other	2 (1.7%)
Qualifications (N=115)	
Master's degree	28 (24.3%)
Diploma / higher diploma	34 (29.6%)
Diploma / higher diploma + master's degree	4 (3.5%)
Certificate	27 (23.5%)
Certificate + diploma / higher diploma	4 (3.5%)

Certificate + diploma / higher diploma + master's	4 (3.5%)
Certificate + diploma + master's + doctorate	1 (0.9%)
None	13 (11.2%)
Employment contract with the State (N=115)	
Contract part-time or sessions	3 (2.6%)
Permanent part-time or sessions	1 (0.9%)
Permanent full-time	14 (12.2%)
None	97 (84.3%)
Type of private practice (N=115)	
Contracted to a private company	6 (5.2%)
Contracted to another individual	11 (9.6%)
Group practice	37 (32.2%)
Solo independent practice	61 (53.0%)

Table 2 shows overall, the eye, ear, nose, and throat skill was the most agreeable to in the current GP practice (93.3%, n=207). The least agreeable skill was the abdomen skill, for example, proctoscopy (32.7%, n=35).

Agreeable skill meant combined agreeable and strongly agreeable responses from above.

#Total responses differed with each skill and added up to 100% of respondents.

Table 2. Agreeable skills and Responses in the Current Practice by Private General Practitioners (N=115 General Practitioners; 7117 Responses)

Skill	**Number (%)**				**Total (Responses differed per skill) #**
	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**	
General medicine	44 (10.1)	48 (11.0)	153 (35.0)	192 (43.9)	437 (100)
Abdomen/ gastrointestinal	37 (34.6)	35 (32.7)	25 (23.4)	10 (9.3)	107 (100)
Chest/ respiratory	22 (4.1)	49 (9.3)	167 (31.8)	288 (54.8)	526 (100)
Antenatal care	67 (30.2)	38 (17.1)	72 (32.4)	45 (20.3)	222 (100)
Intra-partum care	228 (41.6)	132 (24.1)	118 (21.5)	70 (12.8)	548 (100)
Post-partum care	74 (22.8)	58 (17.9)	123 (38.0)	69 (21.3)	324 (100)
Women's health	23 (7.1)	57 (17.7)	111 (34.5)	131 (40.7)	322 (100)
Pediatric	86 (15.9)	82 (15.1)	206 (38.0)	168 (31.0)	542 (100)
General surgery adult	66 (7.7)	99 (11.5)	261 (30.4)	433 (50.4)	859 (100)
Orthopedic	68 (12.5)	109 (20.0)	194 (35.7)	173 (31.8)	544 (100)
Emergency care	131 (12.2)	216 (20.0)	364 (33.8)	367 (34.0)	1078 (100)
Eye, ear, nose, and throat	3 (1.3)	12 (5.4)	128 (57.7)	79 (35.6)	222 (100)
Skin health	39 (11.8)	65 (19.7)	143 (43.3)	83 (25.2)	330 (100)
Forensic medicine	58 (26.9)	64 (29.6)	49 (22.7)	45 (20.8)	216 (100)
Clinical administration	25 (7.8)	43 (13.4)	145 (45.2)	108 (33.6)	321 (100)
Communication and consultation	40 (7.7)	53 (10.2)	230 (44.3)	196 (37.8)	519 (100)
Total responses	1011 (14.2)	1160 (16.3)	2489 (35.0)	2457 (34.5)	7117 (100)

Table 3 shows overall, GPs agreed to all listed competencies in the current practice of at least 80% responses across. The least agreeable skill was community advocacy (63.3%, n=136).

Table 4 shows the type of private practice had the most clinically significant association with emergence care. General medicine skills had the highest likelihood to the agreement. The group practice doctors were almost four-fold more likely to agree to general medicine skills compared to contracted doctors.

Table 3. List of agreeable competencies in the current practice by private general practitioners (N=115 general practitioners ; N=1067 responses)

Competence	Number (%)				Total (Responses differed per skill)#
	Strongly Disagree	Disagree	Agree	Strongly Agree	
Competent clinician	-	2 (0.9)	60 (28.3)	150 (70.8)	212 (100)
Change agent	4 (1.9)	16 (7.5)	75 (35.2)	118 (55.4)	213 (100)
Critical thinker	3 (2.8)	14 (13.1)	51 (47.7)	39 (36.4)	107 (100)
Capacity builder	1 (0.9)	4 (3.8)	55 (51.9)	46 (43.4)	106 (100)
Collaborator	3 (1.4)	7 (3.3)	107 (50.0)	97 (45.3)	214 (100)
Community advocate	28 (13.0)	51 (23.7)	87 (40.5)	49 (22.8)	215 (100)
Total	39 (3.6)	94 (8.8)	435 (40.8)	499 (46.8)	1067 (100)

Table 4. Associations between agreeable skills and type of private practice

Skill	Type of practice	Odd Ratio	Wald Chi-Square	P-value	95% CI
General medicine	Solo vs contract	3.28	9.76	0.008	1.41-7.61
	Group vs contract	3.63		0.008	10.50-18.54
General surgery	Solo vs contract	2.48	18.63	0.001	1.41-4.34
	Group vs contract	3.56		0.001	1.98-6.38
Orthopaedic	Solo vs contract	1.86	8.13	0.017	0.99-3.50
	Group vs contract	2.56		0.017	1.34-4.87
Emergency care	Solo vs contract	1.68	15.15	<0.001	1.07-2.62
	Group vs contract	2.54		<0.001	1.59-4.06

Discussion

This study described skills and competencies agreed to by private GPs as currently practiced and needed to function optimally under NHI. Most GPs agreed with the eye, ear, nose, and throat skills because they were probably the most challenging clinical disciplines in which to refer patients. Generally, respiratory, general surgery and communication skills were agreed to because they may be common clinical presentations in private practice. Also, GPs agreed less with postpartum care, antenatal, and forensic medicine, probably because these skills may frequently be prone to medico-legal risks. The least agreeable was the abdominal skill such as proctoscopy followed by intrapartum care, which may be attributed to both needing special preparations and environments to perform.

A diploma was the most significant predictor for GPs agreeing to the orthopaedics skill. Private GPs who possessed a postgraduate diploma were more likely to agree to the orthopaedic skill compared to certificate holders. However, the finding should be considered with caution because our study did not specify the type of diploma. Under NHI, GPs will need to be appropriately skilled, accessible, and function optimally [10, 11]. This means training should be enhanced, targeted, and based on skills and competencies agreeable by general practitioners. Also, there was no difference between family physicians and private GPs in fee for service at the time of the study in South Africa. This observation underscores the need for fee recognition based on additional qualifications. Importantly, the performance of PHC systems in developing countries, particularly in Africa, and the impact of family medicine in the South African district

health services needed much improvement [16-20] Nevertheless, the national diploma in family medicine was a good start, though advocacy and synergy among stakeholders were needed even more.

Distinctly, there was a skill chasm between public and private GPs in South Africa [7] and probably beyond its borders. The private GPs were often untrained in the discipline of family medicine and entered private practice soon after medical degree graduation. The NHI demands GPs who are clinically skilled and competent to build trust and confidence in the service provided [21]. Hence, the training of most GPs should be facilitated to meet a pre-determined accreditation level and tracking improvements. This reinforces findings globally, which indicated that measuring changes in communication skills among primary care physicians before and after a part-time diploma in family medicine showed that the skills could be taught and improved upon [22].

Although age was not a significant predictor of agreeing to any skill, work experience was inversely related to agreeing to the orthopaedic skill. The GPs with 40+ years of experience were six-fold more likely to agree to the skill compared to those with 1-10 years experience. This may be due to the fact that opportunities to work in the clinical domain of orthopaedics were not guaranteed in the private sector. The finding suggests that more attention is needed to expose orthopaedic skills to less experienced doctors in the post medical internship years.

The type of private practice was the most significant predictor for agreeing to the general medicine skill compared to others. The group of private practitioners were almost fourfold more likely to agree to this skill compared to contracted ones. Additionally, group practice doctors were fourfold more likely to agree to general surgery skills compared to the contracted ones (Table 4). The reason in both instances may be attributed to contracted private practitioners who worked under controlled conditions and may not have been in a position to explore their skills to full potential.

The approval rating for the NHI nearly split participants into half, which reinforces the work by Mathew and Mash [23]. They conducted a qualitative study in Cape Town and showed anxieties by GPs relating to the government's strategy and impact on private practice. The finding emphasises the government's need to provide sustained conversations with private GPs and to explain this needed strategy to strengthen primary healthcare in South Africa.

Study Limitations and Biases

The study had some limitations. However, the design was appropriate in this context to describe the clinical skills and competencies of a large private GP population which was surveyed online during the Covid-19 pandemic. The selection of participants and findings were confined to Gauteng Province and may not be generalizable to other provinces in South Africa or the continent. Nevertheless, researchers believe findings will provide leadership, policymakers and academics with information for targeted GP training which is a keystone to preparedness and implementation of NHI in South Africa.

Selection bias led to participation bias and non-response. The later occurred because some GPs were excluded from the survey. Hence, the absence of randomisation introduced confounding bias and compromised the internal validity of the study. Further, the self-reporting of skills by GPs could be influenced by social desirability, recall and rumination biases. Reliability may be affected by a small sample size, which leads to higher variability and bias.

However, the large number of responses from the questionnaire mitigated that assertion because 115 respondents were surveyed over 86 questions which represented 9,890 responses. Notwithstanding, statistical adjustments were used to further reduce the risk of confounding bias. The multivariate logistic regression was chosen for this purpose. Further, we had pre-

determined the response rate of at least 10% as acceptable, considering the COVID-19 pandemic at the time and its effect on the GPs' social, economic, and psychological well-being. Nonetheless, individual respondents' interest in the subject may influence their willingness to participate in the study.

Conclusion

Private GPs did not use many of the clinical skills and competencies listed in the learning outcomes for the SA diploma in family medicine. This finding may suggest a re-think on the existing consensus of listed learning outcomes of the national diploma in family medicine, South Africa.

What this study adds is that qualifications, work experience, and type of practice were significant predictors of agreeing to a skill. Identified predictors of agreement may be considered in future as necessary ingredients in broadening the GP's skills and competencies which could improve service delivery at primary health care under new health reforms sweeping South Africa in particular and the African continent in general. Age was not a significant predictor of agreeing with any skill. Hence, an opportunity exists for a qualitative study to explore reasons for private GP's disagreement with listed skills. Further, the need for dialogue between private GPs and the government on various aspects of the NHI has been highlighted. We reinforce the need to focus on accelerated GP training and readiness for the NHI in South Africa.

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