

Training needs for primary healthcare clinics in National Health Insurance pilot districts

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Background. The Foundation for Professional Development is providing services to the National Department of Health (NDoH) to recruit and manage the performance of 142 medical practitioners who provide clinical services in the primary healthcare (PHC) clinics in the pilot districts of the National Health Insurance (NHI) initiative.

Objectives. To review the training requirements of recruited medical practitioners in order to identify gaps in competencies and to contribute to the success of the NHI initiative to improve the quality of healthcare services for all South Africans.

Methods. The NDoH's priority clinical conditions were used to inform the design of a self-reported training-needs questionnaire. Respondents had to rate their personal competency in 11 priority clinical conditions, and provide their reasons for not acquiring the necessary competency in each condition. A personal competency score for each priority clinical condition and an overall score on self-reported personal competency were calculated.

Results. The immediate care for, investigation and management of sexual assault and the management of drug-resistant tuberculosis and depression in adults were identified as the clinical conditions with the lowest personal-competency ratings. The overall reasons identified for not acquiring the necessary competencies were insufficient exposure, insufficient training or a combination thereof.

Conclusion. Training in the priority conditions in PHC services should be constantly evaluated and addressed to ensure optimal service delivery. These conditions should receive specific focus in the training at medical schools and during internship, and competencies should be consolidated by targeted education programmes at PHC facilities.

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One of the key requirements for the oversight of the functioning of the recruited medical practitioners is to ensure that they are equipped with the required competencies to deal with the most common conditions they see at the clinics.

The National Health Plan for South Africa (SA) was tabled in 1994, and was the first major initiative to provide comprehensive healthcare services that were accessible to all South Africans, close to where they lived, through a well-co-ordinated district health system.^[1] Despite these efforts to improve health outcomes by rationalising access to the health system, child and adult mortality rates

remain unacceptable. Infectious diseases, particularly HIV/AIDS and the associated TB complications, are the main causes. SA has the third highest TB incidence rate and the second highest multiple-drug-resistant TB incidence in the world.^[2] The escalation of the ARV-therapy rollout, efforts to strengthen voluntary counselling and testing services and the prevention strategies to combat mother-to-child transmission of HIV have made significant inroads in the HIV/AIDS pandemic. Non-communicable diseases such as stroke, heart disease, hypertension, diabetes and cancers are the other key contributors to the high mortality rates.



The maternal mortality ratio remains unacceptably high at 197 per 100 000 live births, even though this has decreased from 281 per 100 000 live births in 2011.^[2]

It is clear that the district health system has made major strides in rationalising the healthcare provided for the majority of citizens of the country; however, the burden of disease remains formidable, particularly in the rural and remote areas of the country. It is thus imperative that health personnel are fully competent in dealing with these common causes of disease morbidity and mortality.

The strategic plan of the NDoH provides guidelines for service provision in district health services, and outlines the priorities for PHC services in programme 4 of the plan.^[3] Non-communicable diseases, particularly cardiovascular diseases, cancers, chronic respiratory diseases and diabetes contribute to 40% of all deaths. Another matter of concern is that only 25% of adults with mental disorders are assessed and receiving treatment. The need for maintenance of the norms and standards for the management of violence, trauma and emergency medical services is highlighted, which more recently includes those for the management of sexual assault.

The strategic plan also identifies the priority areas in communicable disease control, including diarrhoeal diseases, influenza prevention and control programmes and the elimination of malaria.

Methods

An important responsibility of the Foundation for Professional Development in meeting the service requirements rendered at the PHC clinics by the contracted medical practitioners was to establish their level of competency to provide efficient services in the priority PHC conditions identified in the strategic plan. Part of this responsibility was to call on the practitioners to complete a self-evaluation questionnaire aimed at identifying the training needs of the recruited medical practitioners. These practitioners were placed at 260 PHC clinics in eight NHI pilot districts across SA. A message of invitation to participate in the questionnaire was sent to them in an email. Participation in the survey was voluntary, without any form of coercion, and no incentive for participation was offered. The questionnaire was hosted on LimeSurvey (<https://www.limesurvey.org>)

The questionnaire covered a selection of 11 clinical health priorities including: the prevention, investigation and management of HIV and sexually transmitted infections (STIs); the reduction of mother-to-child transmission of HIV; the immediate care, investigation and management of sexual assault; the management of drug-resistant TB; the investigation and management of diarrhoea in children; the comprehensive management

of asthma; the comprehensive management of hypertension and its complications; the comprehensive management of Type I and Type II diabetes mellitus; the management of depression in adults; the pharmaceutical management of epilepsy; and the approach to and management of high blood pressure and pre-eclampsia in pregnancy.

For each of these priorities, the respondents were asked to rate on a scale of 1 - 5 their personal competency. The scale was coded as 1 = uncomfortable in dealing with the clinical condition and I need to be fully trained; 2 = not fully comfortable in dealing with the clinical condition and I need training; 3 = can deal with the clinical condition reasonably well but I would value full training on the condition; 4 = competent but I would like to improve my knowledge; and 5 = fully competent – no additional training required. Respondents were also asked to indicate where they were trained for each priority clinical condition, including medical school, during internship, during community service or in practice after community service. Open-ended questions provided the respondents with the opportunity to comment on their reasons for not acquiring the necessary competence.

The questions referring to the district where the medical practitioners were placed were quantified. Other data that were quantified were the respondents' reasons for not acquiring the necessary competence.

The quantitative data were analysed using the Statistical Package for Social Sciences (SPSS) version 22.0 (IBM Corp., USA). Mean scores were calculated for each self-reported competency rating. Respondents could attain a minimum mean score of 1 and a maximum mean score of 5 for their competence regarding each clinical condition.

An item analysis was conducted to assess the reliability of the self-reported personal competency-rating subscales. An item analysis is useful in providing researchers with information about the overall and individual reliability of questions, and in the improvement of questionnaires. It was necessary to determine the reliability of the self-reported personal competency-rating subscales because it was the first time that this specific questionnaire was used in practice.

An additional regression analysis was conducted to test the hypothesis that an increase in the number of years of practical experience after community service will lead to an increase in the mean self-reported personal competency score ($H_0: p > 0.05$; $H_1: p < 0.05$).

Results

The questionnaire had 72 respondents (Table 1). The analyst counted each district mentioned in the open-ended question about the name of the district where

the medical practitioners had been placed. It was found that the respondents were representative of all eight districts (Table 1). The majority of respondents worked in the Gert Sibande district. The variable for the number of years working after community service was collapsed into three categories: 0 - 2 years, 3 - 5 years and ≥ 6 years. There were 71 respondents to this question. It was found that an equal number of respondents had either 3 - 5 years or ≥ 6 years of experience practising as a medical practitioner after community service (Table 1). The minority of respondents had 0 - 2 years of experience (Table 1).

The respondents were asked to indicate where they received training/mentorship for each of the 11 priority clinical conditions. A total of 67 responses were received. For the prevention, investigation and management of HIV and STIs, the reduction of mother-to-child HIV transmission and the management of drug-resistant TB, it was found that the majority of the respondents received training/mentorship in practice after community service (Table 2). For the immediate care for, investigation and management of sexual assault, the majority of respondents received training/mentorship during community service (Table 2).

The majority of the respondents indicated that they had received their training/mentorship at medical school for the pharmaceutical management of epilepsy, the management of depression in adults, the comprehensive management of hypertension and its complications, the comprehensive management of asthma and the investigation and management of diarrhoea in children (Table 2). For the approach and management of high blood pressure and pre-eclampsia in pregnancy, and the comprehensive management of Type I and Type II diabetes mellitus, the majority of the respondents indicated that they received training/mentorship during their internships (Table 2).

There were more respondents who completed their

Table 1. District and number of years practising

District	n (%)
Thabo Mofutsanyana	9 (12.5)
Tshwane	10 (13.9)
uMgungundlovu	10 (13.9)
OR Tambo	7 (9.7)
Gert Sibande	15 (20.8)
Dr Kenneth Kaunda	6 (8.3)
Vhembe	12 (16.7)
UMzinyathi	3 (4.2)
Total	72
Number of years working after CS	n (%)
0 - 2 years	19 (26.8)
3 - 5 years	26 (36.6)
≥ 6	26 (36.6)
Total	71

Table 2. Place where trained/mentored (N=67)

Prevention, investigation and management of HIV and STIs	n (%)
Medical school	12 (17.9)
During internship	13 (19.4)
During community service	12 (17.9)
In practice after community service	30 (44.8)
Reduction of mother-to-child HIV transmission	
Medical school	5 (7.5)
During internship	16 (23.9)
During community service	10 (14.9)
In practice after community service	36 (53.7)
Immediate care, investigation and management of sexual assault	
Medical school	12 (17.9)
During internship	10 (14.9)
During community service	29 (43.3)
In practice after community service	16 (23.9)
Management of drug-resistant TB	
Medical school	6 (9.0)
During internship	12 (17.9)
During community service	16 (23.9)
In practice after community service	33 (49.3)
Investigation and management of diarrhoea in children	
Medical school	21 (31.3)
During internship	19 (28.4)
During community service	13 (19.4)
In practice after community service	14 (20.9)
Comprehensive management of asthma	
Medical school	21 (31.3)
During internship	18 (26.9)
During community service	17 (25.4)
In practice after community service	11 (16.4)
Comprehensive management of hypertension and its complications	
Medical school	19 (28.4)
During internship	17 (25.4)
During community service	18 (26.9)
In practice after community service	13 (19.4)
Comprehensive management of Type I and Type II diabetes mellitus	
Medical school	17 (25.4)
During internship	21 (31.3)
During community service	16 (23.9)
In practice after community service	13 (19.4)
Management of depression in adults	
Medical school	25 (37.3)
During internship	17 (25.4)
During community service	16 (23.9)
In practice after community service	9 (13.4)
Pharmaceutical management of epilepsy	
Medical school	23 (34.3)
During internship	21 (31.3)
During community service	14 (20.9)
In practice after community service	9 (13.4)
Approach and management of high blood pressure and pre-eclampsia in pregnancy	
Medical school	19 (28.4)
During internship	21 (31.3)
During community service	13 (19.4)
In practice after community service	14 (20.9)

community service between 2010 and 2014 than those who completed their community service between 1981 and 2009 (Fig. 1).

The 11 self-reported personal competency subscales all had high reliabilities and all Cronbach's $\alpha=0.908$.

For the prevention, investigation and management of HIV and STIs, the mean score was 3.94, meaning that the majority of the respondents felt that they were competent, but also open to improve their knowledge about these clinical conditions (Fig. 2). Similarly, the mean score for the reduction of mother-to-child HIV transmission was 3.81, and for the investigation and management of diarrhoea in children it was 3.79, meaning that the majority of the respondents also felt that they were competent but willing to improve their knowledge for these two clinical conditions (Fig. 2). Also, the mean scores for the comprehensive management of hypertension and its complications, asthma, Type I and Type II diabetes mellitus, high blood pressure and pre-eclampsia in pregnancy were 3.93, 3.96, 3.94, 3.60, and 3.61, respectively (Fig. 2). This indicates that the majority of respondents perceive themselves as competent in these five clinical conditions, but would value further knowledge.

Low mean scores were recorded for the immediate care, investigation and management of sexual assault (3.19) and for the management of depression in adults (3.39) (Fig. 2). These scores indicate that the majority of the respondents feel that they can deal with these clinical conditions but would value further training.

The lowest mean score of all the clinical conditions was for the management of drug-resistant TB, with a score of 2.94 (Fig. 2). This indicates that the majority of respondents feel that they can deal with the clinical

condition, but would value further training in the management of drug-resistant TB.

An overall score was calculated for all the respondents who answered this section of the questionnaire ($n=68$). The overall score was 3.64 out of a maximum of 5. This score indicates that the average respondent felt that he/she was competent in all of the priority clinical conditions but was also open to improving his/her knowledge.

A regression analysis between the number of years practising after community service and the mean self-reported competency rating score indicated that no significant relationship exists between these two variables, as the number of years practising after community service only accounts for 0.45% of the variation in the mean self-reported competency rating score, $F(1, 66)=0.293$, $p=0.59$ for a confidence level of 95% and an R^2 of 0.0045 (Fig. 3).

It was found under each priority clinical condition that the respondents' reasons for not acquiring full competency were insufficient exposure to the clinical condition, insufficient training, or a combination of both.

Conclusion

The fact that the regression analysis revealed that 99.6% of the variation in the mean self-reported competency rating score cannot be explained by the number of years practising after community service means that there must be other variables that have a greater influence on the respondents' self-reported competencies. This finding is partly supported by the qualitative accounts of the medical practitioners; not all of them felt that they were sufficiently exposed to the clinical conditions, and therefore the number of years of experience as an independent variable has a negligible influence on their self-perceived competencies. It is recommended that an objective assessment of the medical practitioners' competencies should be conducted and compared with the subjective self-reported competencies. Such an assessment should provide a more accurate indication of knowledge or competency.

It is imperative that health-science training at both undergraduate and postgraduate levels that ensures the acquisition of high levels of competence in dealing with the core elements contributing to the high burden of disease is strengthened.

However, as expected, the greatest experience in dealing with the above core diseases is acquired in the work-based learning experiences of medical practitioners, particularly during and following community service. This is suggested for two of the disease entities with the lowest mean scores, which fell below the

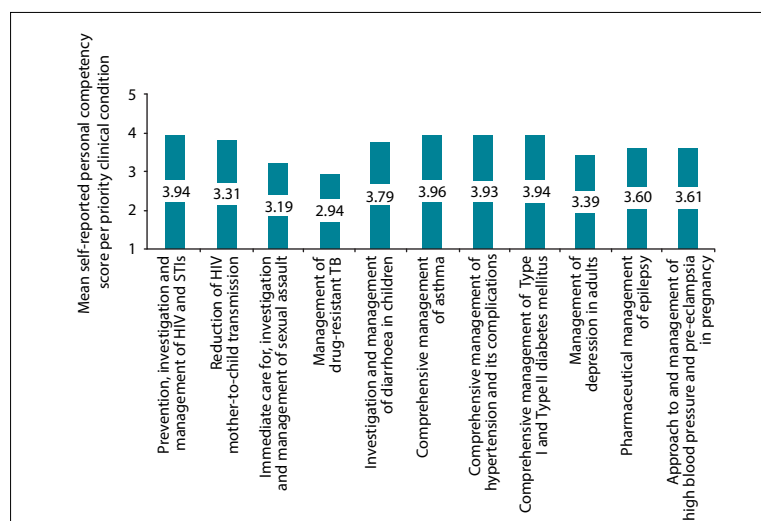


Fig. 1. Mean self-reported competency scores. Rating: 5 = fully competent; 4 = competent; 3 = can deal with condition; 2 = not fully comfortable; 1 = uncomfortable



average score of 3.64 for all the conditions surveyed. These were the immediate care for, investigation and management of sexual assault, with a mean score of 3.19, where 77.2% of respondents indicated that they had received their training during community service and in practice after community service, and the management of drug-resistant TB, with a mean score of 2.94, and where only 26.9% indicated that they had received their training at medical school or during internship. This indicates a need for a special focus on these conditions by medical schools, so that medical practitioners are well-grounded in the management of these conditions of national importance in healthcare.

This is in contrast to the third clinical condition with a mean score below the mean overall score of 3.64: the management of depression in adults. Unlike the first two conditions mentioned above, here 62.75% of respondents indicated that they received their training in medical school and during their internship, with only 36% indicating that they acquired their training during community service or in practice after community service. This uncertainty is probably related to the finding that less than 50% of patients with major depression are recognised by the primary-care physician and given an appropriate diagnosis.^[4]

The above finding suggests that continuity of training is essential for practitioners involved in primary healthcare, and that the role of the district clinical management teams as indicated in Section 4.2.4 of the NDoH human-resources strategy is paramount in ensuring that the gaps in knowledge and competencies are identified and effectively addressed.^[1] This will also facilitate the safety and efficiency of the functioning of the referral mechanisms between the various levels of the health service. The efficient organisation of the functioning teams will be an essential feature for the success of the much-anticipated full rollout of the NHI initiative.^[2]

Effective monitoring of the participation of all medical professionals in continuous professional development remains a high priority for the maintenance of satisfactory levels of knowledge and competencies of medical practitioners. The content of all these programmes should keep abreast with recent developments in the field, including the value and cost-effectiveness of new technologies, as well as with any revisions to national health policy priorities and protocols of care.

Study limitations

The study focused specifically on the self-reported training needs of the medical practitioners, and no objective assessments were conducted to test their competencies or knowledge.

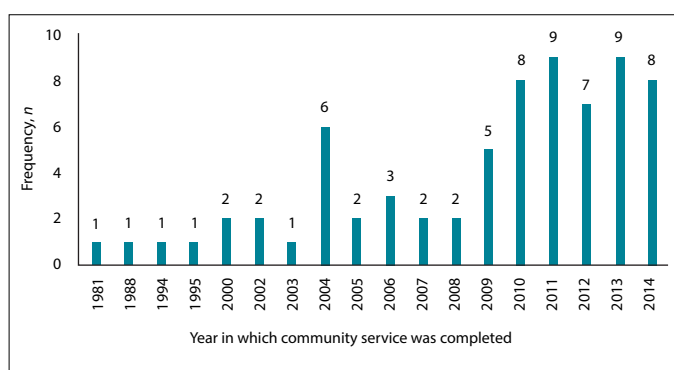


Fig. 2. Mean self-reported personal competency score per priority clinical condition.

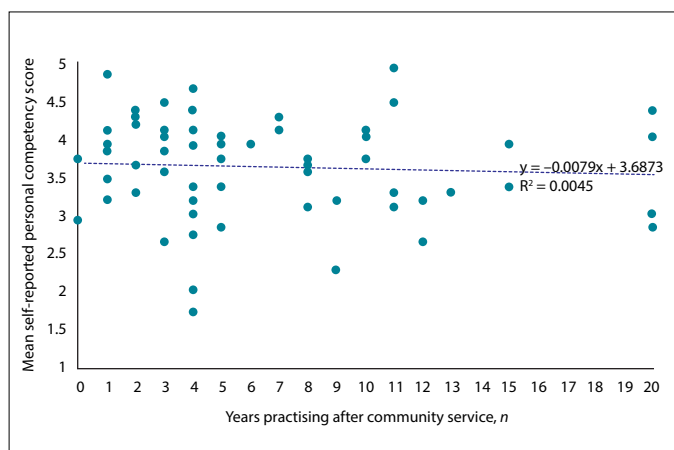


Fig. 3. Scatterplot with regression line.

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