A review of the 2030 Human Resources for Health Strategy and Vision: Goals and their implications for dentistry

SADJ July 2022, Vol. 77 No. 6 p330 - p335

Ntombizodwa R Nkambule¹, Thomas K Madiba², Ahmed Bhayat³

ABSTRACT

Introduction

The South African National Department of Health (NDoH) released a report in March 2020: "2030 Human Resources for Health (HRH) Strategy: Investing in the Health Workforce for Universal Health Coverage".

Aim

The aim was to analyse the five National Health Goals for 2030 with reference to the impact they could have on dentistry in South Africa.

Methods

This was an independent review of the HRH strategic document with inputs from three specialists in Community Dentistry. The views are that of the authors and not necessarily from the report itself. The strategic document comprised of five goals and each goal's objectives implication to dentistry was analysed based on the SMART criteria.

Results and Discussion

Some of the goals are being attained but to meet the remaining goals, government has to increase its commitment to improving oral health. More posts in the public sector needs to be created, managerial posts need to be filled by community dentistry specialists, current managers need to be upskilled, the number of mid-level workers (MWs) posts (oral hygienists and

Author affiliations:

- Ntombizodwa R Nkambule: B Dent Ther, BDS, MPH, DHSM, MChD, Department of Community Dentistry, University of Pretoria, Pretoria, South Africa. ORCID Number: 0000-0003-2524-6413
- Thomas K Madiba: B Dent Ther, BDS, DHSM, MChD, Department of Community Dentistry, University of Pretoria, Pretoria, South Africa. ORCID Number: 0000-0002-0171-0595
- Ahmed Bhayat: BDS, MPH, MSc, M Dent, Head of Community Dentistry, Department of Community Dentistry, University of Pretoria, Pretoria, South Africa. ORCID Number: 0000-0002-8103-1233

Corresponding author:

Ntombizodwa R Nkambule

Department of Community Dentistry, Oral and Dental Hospital, University of Pretoria, Pretoria, South Africa. Room 6-67, Pretoria, 0001 Tel: 012 319 2447 Cell: 082 772 5135 Email: zodwa.nkambule@up.ac.za

Author contributions:

1.	Ntombizodwa R Nkambule:	40%
2.	Thomas K Madiba:	30%
З.	Ahmed Bhayat:	30%

dental therapists) need to be increased and the MWs financial package needs to be improved. The tertiary institutions need to train oral health workers who are aligned with the oral disease burden, introduce career pathways for MWs and assist in supporting oral health research and training of oral health managers.

Conclusion

In terms of oral health, there is an urgent need to determine and align the disease burden and these goals. There should be an increase in the number of MWs, existing managers need to be upskilled, and adverts for managerial posts need to have clear criteria for the required skills.

INTRODUCTION

The South African National Department of Health (NDoH) released a report in March 2020: "2030 Human Resources for Health (HRH) Strategy: Investing in the Health Workforce for Universal Health Coverage". This report was developed by the Ministerial Task Team (MTT) established by the former Minister of Health (Aaron Motsoaledi) and consisted of various stakeholders and academics from different sectors of health and was one of the most comprehensive HRH reports produced. The MTT was established to draft the report and pave the way forward for the training and planning of health care workers, including dental personnel in South Africa (SA). Hence, this report has direct implications for the training of dental personnel and the planning of dental services in SA.

The report consisted of two sections, the human resources for health needs and the five goals that the South African Department of Health have developed which they intend to attain by the year 2030. The oral health human resources has been critiqued and analysed in terms of the implications for dentistry.¹ This paper critiques the five goals and their implications to dentistry in the South African context.

AIM

The aim was to analyse, summarise and critique the five National Health Goals for 2030 with reference to the impact it could have on dentistry in South Africa.

METHODS

This was an independent review of the HRH strategic document with inputs from three specialists in Community Dentistry. The recommendations and

interpretations are the views of the authors and not necessarily from the report itself. The strategic document comprised of five goals and each goal had numerous objectives to help plan and attain for that goal. Each of the objectives were analysed within the dental context based on the SMART criteria.² These criteria determine whether the goals are Specific, Measurable, Relevant and Timely. It is a thorough analysis of the policy document pertaining to context, implementation and monitoring.³

RESULTS AND DISCUSSION

Goal 1: Effective Health Workforce Planning to Ensure HRH Aligned with Current and Future Needs

Objective 1: Strengthen strategic health workforce planning capability, methodologies and processes at national, provincial, district and facility levels.

Dental workforce forecasting is crucial to the planning of training needs, service delivery and health budgets. Various factors influence workforce forecasting including demographic changes such as an ageing population and the burden of dental diseases. Planning also needs to consider the dental training capacity, the package of services to be provided with the possibility of the NHI, the most effective and efficient mix of skills required and the appropriate workloads to ensure quality care. The oral disease burden and treatment options change over time. These changes have major implications for the size and mix of the oral health workforce, yet the methods used to plan the training of the oral health workforce have remained rigid and isolated from the oral healthcare services and healthcare expenditures.⁴

In order to strengthen the workforce planning, the oral health disease burden and treatment needs must be determined. To ensure that the country's oral health needs are aligned to the health workforce, regular national surveys need to be conducted. Unfortunately, there has been no National Oral Health Survey (NOHS) conducted in South Africa for almost twenty years.⁵⁻⁶ Since then, there have been localised studies in different provinces and regions to determine the prevalence of oral conditions. However, there has been no calibration of these studies and as such, it is difficult to compare the results with confidence.

In terms of treatment provided, studies form Gauteng and Western Cape have shown that dental extractions were the most common procedure.⁷⁻⁸ This could indicate that dental caries and periodontal diseases are likely the most common oral health diseases that patients are seeking help with. Dental therapists are capable of carrying out extractions and as such more DTs could be trained to meet this goal. OHs are trained to prevent these diseases and more OHs are required to improve the dental IQ of the South African patents.

Inequalities for oral health in SA can be avoided by collaboration of oral health workers with other primary health care service providers in the provision of health services.⁹ In addition, it is suggested that primary oral health care providers are constantly up-skilled with regards to diagnosis, service rendering and

management of patients. Integrated oral health planning and service delivery have the potential to improve access to oral health services and redress the historical inequities in oral health care.¹⁰

Studies have shown that the current number of oral health professionals in SA are not adequate to meet the population's oral health needs in the public sector.9 For SA to achieve the required numbers of oral health workers, we suggest that there be an increase in the number of training of DT and Oral Hygienists to form part of Midlevel workers (MWs).

The current rate of training Dental Therapists (DTs) is very low compared to dentists and SA should consider increasing the number of DTs trained as an alternative dental workforce model to increase access to dental care and potentially reduce costs of care as done in other countries.⁷ The utilization of community workers to improve oral health education and practices has shown to be effective in other countries and this cadre must be actively involved in the prevention and education of oral diseases.¹¹ This community –based model could be implemented in SA to help deal with HRH planning.

Objective 2: Apply strategic health workforce modelling and planning to optimise investments in HRH.

Research has shown that currently and in the future, there is likely to be an even greater shortage of dental human resources.¹ This could be due to a reduction in posts in the public sector, increased emigration of health professionals and low throughput of dental students due to the limited number of dental schools in the country. This objective can best be accomplished with coordination and discussion with all stake holders being the department of health, the department of higher education and training, the South African dental association (SADA) as well as oral hygiene and dental therapist's organizations. This is because the previous models have been shown to have gaps.

To optimise investments in HRH, the country should train MWs who can address the huge burden of dental caries and who are more cost effective to train and to employ than dentists. This is based on the fact that the OH and DT degrees take three years to complete compared to dentistry which is 5 year degree with one year of community service.

There is a need for dentists and specialists to deal with the specialised and rehabilitative services, but given the current types of services being rendered in public facilities, the demand is for prevention and curative care of basic dental conditions such as caries and periodontal diseases. As per the previous objective, more posts need to be created in the public sector. An increase in the DT and OH salaries need to be considered and career pathways need to be strengthened for these cadres to ensure they do not leave the profession or come back and train as dentists. Something to be borne in mind is that DTs, OHs and dentists work with the assistance of dental assistants and therefore this cadre needs to be considered also in terms of career pathing and salaries for provision of oral health services. Goal 2: Institutionalise data-driven and researchinformed health workforce policy, planning, management and investment.

Objective 1: Institutionalise health workforce data analytics, the standardisation and monitoring of core health workforce indicators and reporting and use at every level of the health system.

Currently within the public sector, the workforce data of all full and part time employees including community service dentists are captured in the persal system and this can be analysed when necessary.

In the public sector, the key performance areas within the Performance Management and Development System needs to be aligned to the disease burden and treatment needs of the community in which the practitioner is employed. Managers need to monitor the employees and ensure that their targets are being met, that they are standardized for all staff and that they are being analysed on a regular basis. The results need to be fed back to the employee in order to ensure that he/ she has an idea of their strengths and weaknesses. It is recommended that each province employ a community dentistry specialist to assist with the data collections and analysis as this cadre is trained in data management and policy. The cadre will then be able to advice about the implications of the analysed data to service delivery

In order to build capacity, dental universities should host workshops to train clinical and provincial managers on the data collection and analysis. Going forward it is suggested that new clinical manager posts should be filled by community dentistry specialists or oral health care practitioners with a background in biostatistics or public health The Department of Health also need to review the dental indicators to ensure the appropriate and relevant data is being collected.

Objective 2: Build capacity for the collection, analysis and utilisation of HRH data.

Specialists in community dentistry should be employed to assist with dental HRH data, its analysis and needs for future planning. Currently there is a gap with the Health Professions Council of South Africa register in terms of the whereabouts of health care providers. Many oral health care providers registered on the HPCSA currently, are no longer practicing in SA and hence this provides an over estimation of the HRH. The public sector register needs to be updated regularly regarding the human resources employed in the public sector.

Objective 3: Develop and coordinate an essential national HRH research agenda.

Dentistry staff should be encouraged to carry out research aligned with the services rendered. These research projects should utilise universal data collection tools and indices and ensure that examiners are calibrated. This will ensure that the collected data can be compared and analysed across different settings and different countries. The results should then be used to inform services so that services are evidence based. Dental training institutions should support the public sector staff members in carrying out research and in providing platforms for them to present their results and publish in accredited and peer reviewed journals. Collaboration between private, public and training institutions need to be encouraged in order to support each other and develop a practical and appropriate research agenda for human resources.

Goal 3. Produce a competent and caring multidisciplinary health workforce through an equityoriented, socially accountable education and training system

Objective 1: Institutionalise the governance and financing mechanisms that will sustain a transformative and socially accountable health workforce education and training system, covering quality pre-service, in-service and continuous professional education and training.

These impacts on all dental schools and currently these principles are being followed in dentistry. Currently all dental schools have a quota system to try and ensure equity and produce socially accountable oral health care workers.

The Department of Higher Education is working with universities to provide funding for those who cannot afford fees. It is recommended that multiple and innovative funding mechanisms be looked into to ensure that those students who are accepted into oral health degrees have the resources to graduate. It is also recommended that there be in house training courses to upskill the qualified workforce. These two recommendations will go a long way in addressing this objective.

Objective 2: Revolutionise selection and recruitment of health professional students to overcome health workforce inequities, between urban and rural areas, and between the public and private health sectors.

This is being done at all dental schools by allocating specific number of seats to previously disadvantaged races, especially Black students. This allocation procedure is determined by the respective dental schools and faculties. Currently, the only indicators used are the grade 11 and 12 results to gualify for entry to university. Other parameters like the candidate's home area and type of school attended during grade 12 should be included. Another option is to possibly stratify recruitment of students according to the province in which they reside then make it compulsory for them to go and to do community service in those provinces. Another option would be to only allow compulsory community service to be carried out in rural provinces. This, would require more facilities to be established with adequate and appropriate equipment. All the dental training institutions have an outreach platform which allows students to be exposed to rural and underserved communities. One of the objectives is to create social responsibility and accountability and hopefully instil in them a desire to render services in rural areas.

Provide incentives for people to stay in rural areas like sponsoring their postgraduate training and then letting them come back to those areas and provide specialised services. If the status quo remains, more dental facilities and posts need to be created in underserved communities in order to address the public private inequalities. However, if National Health Insurance (NHI) is introduced in the near future this could address this public private inequality.

Objective 3: Ensure transformed and modernised curricula and training platforms to imbue the health workforce with the requisite values, knowledge and population-centred competencies so that they are able address the quadruple burden of disease and meet current and future health system needs.

The dental curriculum is constantly being revised through the HPCSA 4 year accreditation programs. This accreditation process allows for dental schools to benchmark themselves with other dental schools in order to standardise. External examiners moderate exam papers and curriculum content, this also allows for annual standardization of assessments.

Social responsibility and accountability are crucial domain that should reflect from all health professionals. Studies have shown an increase in students social responsibility and personal growth following participation in community projects.¹¹ To further increase the growth in social responsibility and accountability in oral health care workers, the government and training institutions should ensure adequate provision of dental resources such as mobile dental units for outreach settings.

Studies amongst dental students in SA have also shown that the introduction of service learning lead to an increase in social responsibility and personal growth following participation in community projects.¹¹⁻¹² Therefore universities need to strengthen service learning activities to ensure that health care workers have a sense of social responsibility

Objective 4: Facilitate the development and innovative expansion of educators (faculty) to ensure the production of a socially-accountable health workforce.

All staff members at teaching institutions are empowered to continue their studies by completing Masters and PhD degrees. Dental schools also offer training workshops for staff members to improve their skills and presentation styles.

Certificates, Diplomas and Masters Degrees are offered at a reduced fee to the dental personnel employed a Tertiary training Institutions whilst those employed at public institutions are subsidised in a form of bursaries for career development. Dental personnel attend Continuous Professional Development (CPD) workshops to keep up to date with the latest techniques and materials as stipulated by the HPCSA. Government should try and increase posts at training institutions which will assist in having a wide pool of academics and clinicians which could improve the student's' exposure and training.

Objective 5: Leverage existing and new funding streams and partnerships for adequate and the equitable supply and distribution of human, infrastructural and operational resources.

Within dentistry, leverage of funds is a challenge as the funding of human, infrastructural and operational resources

is predetermined by the budget constraints. Clinical managers need to identify shortages of human resources and infrastructure and possible maintenance that might arise and plan in advance to ensure that funding is directed where it is needed most.

Currently some dental programmes are sponsored by private companies but more are required in order to achieve the goal of reducing the oral disease burden.

With regards to new funding streams, additional stakeholders like non-government organisations (NGO) and international organisations should be identified who could assist in addressing the inequitable supply of infrastructure. Unfortunately, drawing financial investment in the public sector is ridden with policies and regulations that often make donors reluctant to invest.

Goal 4: Ensure optimal governance; build capable and accountable strategic leadership and management in the health system

Objective 1: Revitalise HRH regulatory structures to enhance the education, performance and accountability of the health workforce.

The HPCSA is currently monitoring the education, performance and accountability of the health force. The public is in turn doing their part by reporting unethical behaviour of health professionals to the HPCSA. A study from 2007 till 2016 on dental malpractices reported to the HPCSA revealed a total of 118 cases. Of these, the majority of cases were fraud related and 75% were against dentists.¹³ The HPCSA ensures that oral and other health workers are adequately trained by insisting on attaining CPD points on a regular basis. The recommendation by the HRH document is to instate a Health Workforce Consultative and Advisory structure comprised of a diverse group of stakeholders. This will ensure that gaps are identified, and innovative ideas are suggested in order to build capacity and increase accountability.

Objective 2: Implement good governance principles and practices in national and provincial Departments of Health and HRH intergovernmental, private sector and civil society structures.

There is movement in this direction as observed in the dental sector with the appointment of more dental staff and the filling of management dental posts. The NHI mentions contracting of private practitioners in the third phase of the NHI which is scheduled for 2022 to 2026. In this phase there will be Contracting for Accredited Private Hospital and Specialist Services.¹⁴

Audits of staff must be done to ensure good governance principles and identify strengths and weaknesses.

Objective 3: Institutionalise a critical mass of empowered, competent, accountable and capacitated HRH leaders and managers at national, provincial and district levels.

The objective to create a critical and empowered HRH leaders would do well in achieving the goals in the three spheres of government and ensure a productive and capable workforce. There is a move by the Department of

334 > RESEARCH

Health to achieve this but there are notable deficiencies in the managers appointed in the senior management system (SMS) positions in the public sector. Many of them are appointed because of their professional qualifications but they lack postgraduate qualifications in management. Potential managers should attend managerial workshops, courses or complete postgraduate qualifications in managerial skills.

To mitigate for this gap, the Gauteng provincial department of health has an agreement with Gijima Company to do competency tests for senior managers. Currently a tool to monitor all public personnel is in place. All employees contract in a form of Performance Management Development System (PMDS) to monitor their performance.

For personnel occupying management posts, line managers should ensure that the key performance on management constitute a larger percentage on leadership which should be assessed during annual reviews. An audit of personnel skills and competencies in the public sector should be introduced. This will assist in identifying personnel occupying management positions who require training on leadership and management. This can be achieved by universities providing part time and tailor-made modules on leadership and managerial courses in a form of diplomas for public sector employees to build and upskill public personnel managers so that personnel who will be appointed in such management post are well trained.

For an example the current existing Master of Public Health (MPH) offered by a number of universities in South Africa can be tailor made to suit the dental personnel. The green paper on NHI has pointed out that one of the things that will make the NHI to be successful is that competent and qualified Chief Executive officers must be appointed to head hospitals and that part of the required competencies is a qualification in management.¹⁴

Objective 4: Encourage distributed leadership and management through teamwork, with collective and holistic, value based competencies (knowledge, skills, attitudes and behaviours), and supported by an enabling working environment and culture of continuous learning and accountability.

This objective can be achieved by ensuring that dental managers are appropriately trained and capable of carrying out their tasks professionally and efficiently. Workshops must be held regularly amongst dental managers to discuss common problem areas and solutions that will assist and improve their management skills. A mentorship program can be introduced where junior managers are paired with more senior managers for skills transfer when and where necessary.

Objective 5: Ensure role clarity and improved competence and capacity of HR Managers and line managers in HR functions.

Line managers need to discuss with their supervisors what their roles are and ensure they are capable of fulfilling their roles. New managers, before being appointed, should have experience in performing managerial duties and the necessary qualifications in their different roles they would need to perform. The HR managers and line managers need to deal with all personnel in the public sector.

Goal 5. Build an enabled, productive, motivated and empowered health workforce

Objective 1: Embed a positive practice environment and culture, which is based on the values of equity, gender transformation, decent work and respect for rights.

Health systems can only function with health workers; improving health service coverage and realizing the right to the enjoyment of the highest attainable standard of health is dependent on their availability, accessibility, acceptability and quality.²⁴ The mere availability of health workers is not sufficient, only when they are equitably distributed and accessible by the population, when they possess the required competencies and are motivated and empowered to deliver quality care that is appropriate and acceptable to the sociocultural expectations of the population, and when they are adequately supported by the health system.²⁵ It is necessary to ensure a healthcare environment where the health workforce is valued and supported and has the opportunity to develop while providing high-quality care.²⁶

Objective 2: Establish, promote and maintain infrastructure and conditions of service that ensure effective and respectful care.

Workers can only thrive in what they do if the conditions of service are conducive. Managers of dental staff need to carry out regular meetings and identify challenges in the work place which must then be addressed. By so doing, the work environment will become conducive to both staff and patients. The environment should be supportive and take the wellbeing of staff as a priority to prevent burnout. An example is wellness and occupational safety programmes which are recommended for workplaces.

Objective 3: Optimise health worker recognition, supervision, performance management and development.

In the oral health field, as with all public sector health workers, the implementation of the PMDS and its subsequent modification is expected to address these issues. As the strategy clearly points out sometimes the PMDS is not applied uniformly in the same districts and within one institution. Care should be taken that this tool is applied to achieve the objective of employees feeling recognised and intensified for the work well done. Managers in institutions should therefore make sure that the PMDS is workshopped and applied to achieve the intended objectives.

SA has a shortage of oral health workers and this has had a severe impact on the health system.¹⁵ SA needs to identify the underlying reasons for the shortages, determine what motivates oral health workers to remain in the health sector, and evaluate the incentives required for maintaining a competent and motivated health workforce. Low levels of worker satisfaction persist for MWs as there is little room for financial improvements over time.

This has resulted in dissatisfaction among MDWs. Research findings from the Asia-Pacific region indicated that salaries and benefits, together with working conditions, supervision and management, and education and training opportunities are important to achieve a well-motivated workforce.¹⁶

Objective 4: Ensure safety and security for both patients and health workers.

It is correctly stated that there should be safety and security for both patients and health workers as this factor is important. Once health workers can feel safe then they can concentrate in delivery of services. Engage professional associations and trade unions to achieve a safe and people-centred work environment. There are specific workplace issues related to burnout and mental health, and the widespread reports on violence in the workplace is one of them. Addressing these problems will require investments in staff incentives, occupational health and safety and employee wellness programmes, and mainstreaming of work-related safety and security programmes, developed in collaboration with other government departments such as safety and security and police. In general, most of these measures are available for oral health workers in the public sector.

CONCLUSION

The goals are realistic and relevant to the current health disease status and outcomes in SA. In terms of oral health, there is an urgent need to determine and align the disease burden and these goals.

Although the majority of these goals are currently being achieved or will probably be achieved by 2030, COVID and the unpredictability of disease burdens, training of health workers and lack of public sector posts, it is unclear how oral health will progress within the next few years.

There is a huge shortage of trained managers in the dental field and this has resulted in many managerial posts being filled by individuals who may not be aware of their roles or be competent to carry them out. The existing managers need to be upskilled, new appointees need to be thoroughly interviewed to ensure they have skills, managerial diplomas and degrees for future managers should be strengthened. Adverts for managerial posts need to be specific and have clear criteria for the required skills. Although these goals are attainable and have the potential to improve the oral health sector in South Africa, much more commitment is required from the government. Government will have to address the shortage of oral health public sector posts, address the low financial remuneration for MWs and assist tertiary institutions in increasing the training of oral health workers and in carrying out national oral health surveys.

Recommendations

1. We suggest that the partnership with other stakeholder need to be strengthened, like the Phelophepa train and provision of mobile units from those sponsors.

2. A blueprint for others in their efforts to implement a systematic approach for enhancing collaborative academic practice in their organizations.

REFERENCES

- 1. Bhayat A, Nkambule NR, Madiba TK. A review of the 2030 human resources for health strategy: Implications for dentistry in South Africa. South African Dental Journal. 2021; 76(6):367-72.
- 2. Les MacLeod EdD M. Making smart goals smarter. Physician executive. 2012; 38(2):68.
- Mukhari-Baloyi NA, Bhayat A, Madiba TK, Nkambule NR. A review of the South African National Oral Health Policy. South African Dental Journal. 2021; 76(9):551-7.
- Birch S, Ahern S, Brocklehurst P, Chikte U, Gallagher J, Listl S, et al. Planning the oral health workforce: Time for innovation. Community Dentistry and Oral Epidemiology. 2021; 49(1):17-22.
- 5. Van Wyk PJ,Van Wyk C. Oral health in South Africa. International Dental Journal. 2004; 54:373-7.
- 6. Van Wyk P, Louw A, Du Plessis J. Caries status and treatment needs in South Africa: Report of the 1999-2002 National Children's Oral Health Survey. South African Dental Journal. 2004; 59(6):238-240.
- Bhayat A, Madiba TK, Nkambule NR. A three-year audit of dental services at primary health care facilities in Gauteng, South Africa: 2017 to 2019. Journal of International Society of Preventive & Community Dentistry. 2020; 10(4):452.
- Smit D, Barrie R, Louw A. The burden of dental caries in the Western Cape and a recommended turnaround strategy. South African Dental Journal. 2017; 72(8):360-5.
- 9. Thema LK, Singh S. Integrated primary oral health services in south africa: The role of the phc nurse in providing oral health examination and education: Open forum. African Journal of Primary Health Care and Family Medicine. 2013; 5(1):1-4.
- Singh S. Dental caries rates in south africa: Implications for oral health planning. Southern African Journal of Epidemiology and Infection. 2011; 26(4):259-61.
- 11. Bhayat A, Vergotine G, Yengopal V, Rudolph MJ. The impact of service-learning on two groups of south african dental students. Journal of Dental Education. 2011; 75(11):1482-8.
- 12. Phalwane MG. Perceptions of newly-qualified oral healthcare professionals about their exposure to service learningintheirfinalyearoftrainingattheSefakoMakgatho Health Sciences University, South Africa: Stellenbosch: Stellenbosch University; 2019. https://scholar.sun. ac.za/bitstream/handle/10019.1/107102/phalwane_perceptions_2019.pdf?sequence=1&isAllowed=y
- Makwakwa N, Motloba PD. Dental malpractice cases in South Africa (2007-2016). South African Dental Journal. 2019; 74(6):310-5.
- 14. Klinck E. Department of Health releases Human Resource Strategy (continued). Occupational Health Southern Africa. 2012; 18(1):32-3.
- Labonté R, Sanders D, Mathole T, Crush J, Chikanda A, Dambisya Y, et al. Health worker migration from South Africa: Causes, consequences and policy responses. Human resources for health. 2015; 13(1):1-16.
- 16. Henderson LN, Tulloch J. Incentives for retaining and motivating health workers in Paciffic and Asian countries. Hum Resour Health. 2008:6(1):1-20.