

THE EFFECTIVENESS OF CLINICAL ASSOCIATES IN ADDRESSING THE HUMAN RESOURCES CHALLENGE OF SKILLS SHORTAGE: A CASE STUDY OF TSHWANE DISTRICT HOSPITAL (SOUTH AFRICA)

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Abstract

One of the current challenges facing the National Department of Health of South Africa is the shortage of skilled healthcare professionals. Trained South African health professionals have been migrating abroad, largely due to push and pull factors. In response to this, the South African National Department of Health began to explore other available mechanisms of increasing the quantity of skilled healthcare providers. In 2004, a national task team was assembled to establish a training curriculum, identify a scope of practice and outcomes for a new healthcare provider. This new cadre of mid-level providers is known as Clinical Associates. Clinical Associates perform an important part of the medical team and work under the supervision of medical doctors. They undergo three years university training and work in district hospitals throughout South Africa upon completion. Clinical Associates are similar to physician assistants in the United States of America (USA) and non-physician clinicians in the United Kingdom (UK). Similar use has been identified in other African countries such as Kenya, Tanzania and Uganda. They perform many of the tasks previously performed by physicians, including examination, diagnosis, carry out investigations, and treat patients. A full evaluation of the impact of Clinical Associates has not yet been conducted and challenges have already been identified. In this study, both qualitative and quantitative research methodologies were used. The target population comprised of Clinical Associates, medical doctors, allied healthcare professionals and members of senior management. The measuring instrument used was multiple questionnaires, assessing the effectiveness of Clinical Associates in addressing the skills shortage of healthcare professionals at Tshwane District Hospital. The instrument focused on team capacity, efficiency, flexibility, the role and scope of practice of Clinical Associates.

Key Words: Clinical Associates, Human Resources, Skill Shortage, Challenge, Effectiveness, Physicians, Training Curriculum

Introduction

The healthcare workforce is the largest supporting structure of each health system. Its role is vital in the implementation of health actions for future sustainable socio-economic development. Recent reports have indicated that the global shortage of healthcare professionals is enormous. These shortages has negatively affected the sub Saharan African continent, but has benefitted the United Kingdom (UK) and the United States of America (USA). Trained South African health professionals have been migrating abroad. Push factors have driven healthcare workers out of their home countries due to dissatisfaction within their environment in their home countries, and pull factors have drawn most healthcare workers into countries with lucrative job offers or better conditions than their home country. Due to the lack of trained healthcare personnel, the national department of Health began to explore other available mechanisms of increasing the number and quality of skilled healthcare providers. A new training curriculum was assembled and a scope of practice was defined by a national task team in 2004. All these efforts gave birth to Clinical Associates. These new professionals are similar to physician assistants in the United States of America (USA) and non- physician assistants in the United Kingdom (UK). Similar use has been identified in other African countries such as Kenya and Tanzania. This chapter thoroughly presents the aim of the study, which is to explore the effectiveness of Clinical Associates in reducing skills shortage at Tshwane District Hospital. It also explores multiple objectives of the study, and identifies the significance of the study.

Aim of the Research

The study aims to explore the effectiveness of Clinical Associates at Tshwane District hospital, in addressing the human resource crisis of skills shortage in health.

Research Objectives

- To define the role of a Clinical Associate at Tshwane District Hospital.
- To define the scope of practice of Clinical Associates at Tshwane District Hospital
- To explore the effectiveness of their training programme in addressing the skills shortage at Tshwane District Hospital.
- To identify the recruitment strategies utilised for Clinical Associates at Tshwane District Hospital.
- To identify the retention strategies utilised for Clinical Associates at Tshwane District hospital.
- To identify the available opportunities for continuous professional development for Clinical Associates at Tshwane District Hospital.

LITERATURE REVIEW

Introduction

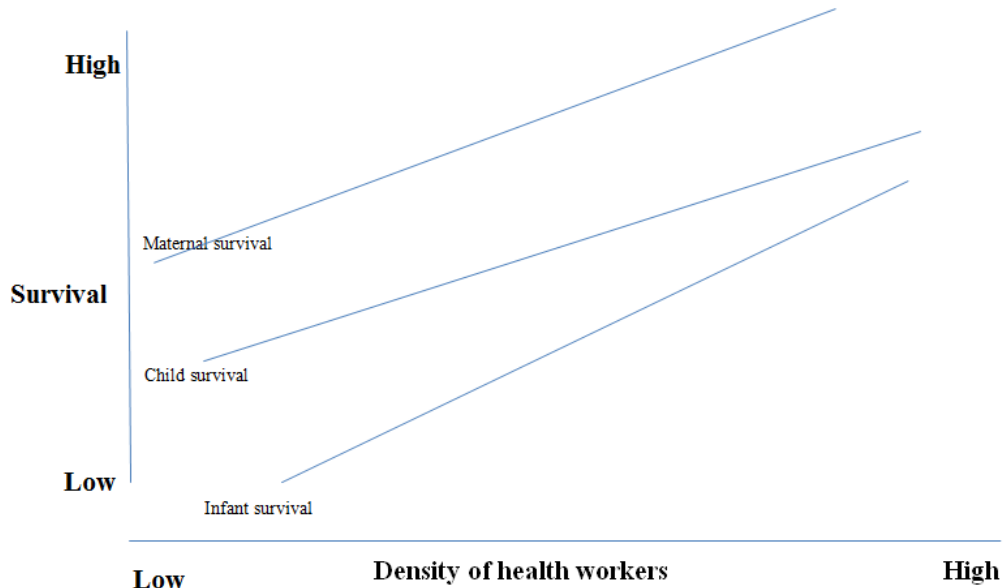
The health system plays a very important role in the rise of global life expectancy that has occurred in the past century. Today, it still continues to contribute to the improvement of the health of most of the world's population (Anyangwe; 2007). The health workforce is the largest supporting structure of each health system, and its function is to facilitate the implementation of health actions for sustainable socio-economic development (Anyangwe; 2007). The world has sufficient financial resources and technologies to tackle most of the challenges seen within the health industry, yet, many national health systems are weak, inequitable and unsafe (WHO; 2006). Currently, a strong political will, together with international cooperation, are required to align resources and to build a robust health system for the prevention and treatment of diseases and promotion of population health. It is essential to develop highly motivated and capable health workers in order to achieve national and global health goals (WHO; 2006). The health care service industry is labour intensive and health care service providers personify the core values of each health system. These providers form a link between knowledge and health action (WHO; 2006). The workforce is essential and forms an important part of advancing the health system of any nation. It is a known factor that the density of the health workforce directly correlates with a

positive health outcome (WHO; 2006). The quality of doctors and the density of distribution have been shown to correlate with positive outcomes in cardiovascular diseases; conversely, an increase was identified in child malnutrition due to staff cutbacks during the reformation of the health sector (WHO; 2006).

Current Picture of the Global Workforce

Density of Health Workers correlation to probability of survival

Figure 2.1 Positive correlation of the density of health workers with the probability of survival.



Source: WHO Report, (2006)

Approximately 59 million people make up the health workforce of full time health workers worldwide (Anyangwe; 2007). However, visible gaps still remain between their actual performance and the potential of each health system. The primary role of each health worker is to improve health. According to the World Health Organisation report (WHO; 2006), health care providers constitute about two thirds of the global health workforce, while the remaining one third consists of health management and support workers. Health care workers forms an integral part of a functioning health team in which each member contributes unique skills and performs different functions. The ratio of doctors to nurses ranges to 1:8 in the African region, while in the Western Pacific region, a ratio of 1; 1, 5 exists (Naicker; 2009). There are many inequalities in the distribution of health workers between countries and within countries (Anyangwe; 2007). Among countries, there are approximately four nurses per doctor in Canada and the United States of America, while countries such as Chile, Peru and Mexico have less than 1 nurse per doctor (Naicker; 2009). The spectrum of essential worker competencies is characterised by imbalances seen in the shortage of public health specialists and health care managers in many countries. The United States of America and Canada are home to fourteen percent of the world's population (Anyangwe; 2007). These countries only bear ten percent of the world's burden of disease but boast thirty seven percent of the global health workforces and spend fifty percent of the world's financial resources for health. On the contrary, Sub Saharan Africa has eleven percent of the world's population and bears over twenty four percent of the global disease burden but is home to only three percent of the global health resources (Anyangwe; 2007). It spends less than one percent of the world's financial resources on health. Typically, more than seventy percent of doctors are males while more than seventy percent of nurses are female- another marked imbalance (WHO; 2006). In most of the developing countries, the workforce is concentrated in the

major towns and cities, while rural areas only accounts for twenty three percent and thirty eight percent of the country 's doctors and nursing staff respectively. This highlights the imbalances that exist in the total numbers of health workers, their geographical distribution and the availability of skills (Anyangwe; 2007). Approximately two-thirds of the workers are in the public sector and one third in the private sector. According to the World Health Organisation (WHO; 2006), fifty seven countries worldwide have a critical shortage of health workers, that is equivalent to a global deficit of 2.4 million doctors, nurses and midwives. Thirty six of these countries are in the Sub Saharan Africa. These countries would need to increase their health workforce by at the least one hundred and forty percent to achieve enough coverage for compulsory health interventions in order to make a positive difference in the health and life expectancy of their population (Naicker ; 2009). To achieve the Millennium Development Goals (MDG), the minimum level of health workforce density is estimated at 2.5 health workers per one thousand people (Naicker; 2009). Out of forty six countries in the sub Saharan Africa region, only six have a workforce density of over 2, 5 per one thousand people (Naicker ; 2009). Thus, Africa's health workforce density is averaged at 0.8 workers per thousand population, which is significantly lower in comparison to other regions and to the median density of five per thousand population (Naicker ; 2009). There are urgent health needs in this region. Of the twenty countries in the world, nineteen are in Africa, eleven of the fifteen countries with the highest incidence of Tuberculosis(TB) are in Africa, malaria is endemic in forty two of the forty six member states of the World Health Organisation Africa Region, and accounts for over ninety percent of estimated clinical cases worldwide (WHO ; 2006). Two –thirds of the world's people are living with HIV/AIDS, and seventy two percent of AIDS deaths occur in Africa (Okoyi; 2008). South Africa is experiencing the largest HIV/AIDS epidemic in the world. Currently, the Provincial HIV/AIDS statistics indicated that an estimated 5,6 million South Africans were HIV positive in 2008, one of the largest numbers of HIV positive people of any country in the world (Rasool; 2011). Almost one in five South African between the ages of twenty and sixty four are HIV positive. Increased attrition rates as a result of this pandemic are currently affecting South Africa adversely as this results in a diminishing pool of skills (Rasool; 2011). Loss of professionals such doctors, nurses and engineers affects services and their delivery.

The Effect of no HIV/AIDS Scenario compared to an HIV/AIDS Scenario on the labour force

Table 2.1: The effect of no HIV/AIDS scenario compared to an HIV/AIDS scenario on the labour force

| Year | No HIV/ AIDS-scenario (millions) | HIV/AIDS scenario (millions) | % difference |
|------|----------------------------------|------------------------------|--------------|
| 2000 | 14,5 | 14,4 | 4,7 |
| 2005 | 15,8 | 15,1 | -4 |
| 2010 | 17,2 | 15,1 | -12 |
| 2015 | 18,7 | 14,8 | -21 |

Source: WHO, (2006)

The HIV/AIDS epidemic is affecting people of all ages (Rasool; 2011). The impact of the disease is mostly felt by the increasing number of orphans, as many of them have to leave school to take care of their younger siblings (Rasool; 2011). There is global recognition that the health workforce has reached tremendous proportions. The shortage affects nearly all countries across the globe. The World Health Organisation, (WHO; 2006), has estimated that a total of 4.125 million health workers are needed, globally, to fill this gap. The African continent also faces an extreme human resource shortage, estimated at seven hundred and twenty thousand physicians and six hundred and seventy thousand nurses (Naicker; 2009).

Global health workforce, by density

Table 2.2: numerically illustration of the global health workforce, 2006

| <u>WHO region</u> | <u>Total health workforce</u> | | <u>Health service providers</u> | | <u>Health management and support workers</u> | |
|-----------------------|-------------------------------|-------------------------------|---------------------------------|--------------------------------------|--|--------------------------------------|
| | Numbers | Density (per 1000 population) | Number | Percentage of total health workforce | Number | Percentage of total health workforce |
| Africa | 1 640 000 | 2.3 | 1 360 000 | 83 | 280 000 | 17 |
| Eastern Mediterranean | 2 100 000 | 4.0 | 1 560 000 | 75 | 520 000 | 25 |
| South east Asia | 7 040 000 | 4.3 | 4 730 000 | 67 | 2 300 000 | 33 |
| Western Pacific | 10 070 000 | 5.8 | 7 810 000 | 78 | 2 260 000 | 23 |
| Europe | 16 630 000 | 18.9 | 11 540 000 | 69 | 5 090 000 | 31 |
| Americas | 21 740 000 | 18.9 | 11 540 000 | 57 | 9 280 000 | 43 |
| World | 59 220 000 | 9.3 | 39 470 000 | 67 | 19 750 000 | 33 |

NOTE: all data for the latest available year. For countries where data on the number management and support workers were not available, estimates have been made based on regional averages for countries with complete data.

Source: World Health Organisation, Global Atlas of Health Workforce, 2006

<http://www.who.int/gloalatlas/default.asp>2006

The expanding labour markets have intensified the concentration of professional health workers in urban areas (WHO; 2006). This has accelerated international migration from the poorest to the wealthiest countries. Thus, the workforce crisis in many poor countries is characterised by severe shortages, inappropriate skills mixes and gaps in service coverage (WHO; 2006). It has also been noted that countries with a higher per capita gross domestic product (GDP) and incomes have more health workers (Naicker; 2009). Norway and the United States of America are among the countries with the highest per capita income and the greatest density of health workers per thousand population (Naicker; 2009). Most countries in the Sub-Saharan Africa have the lowest per capita income as well as the lowest density of health workers. Inequities exist within countries, with urban and wealthier areas having greater proportions of all trained workers than rural and poorer areas of countries. In an ideal world, countries with the highest burden of disease should have the greatest number of skilled health workers (Naicker; 2009).

Driving forces

There is a growing trend of migration of skilled labourers across national boundaries and continents. Health care providers in health systems around the world are experiencing stressors and insecurities as they react to multiple, yet complex array of forces (WHO; 2006). Demographic and epidemiological transitions drive changes in population-based health threats to the health workforce (WHO; 2006). Technological advances and globalisation have fuelled the shift in demands on the workforce in health systems. This development has resulted in global labour

market imbalances, with developing countries experiencing an increased level of skills shortage and an increase in the threat of skills flight (WHO; 2006). A major challenge in the new millennium is the retention of health care workers, not only in poorer countries, but also within any country in remote and rural areas (WHO; 2006). South Africa is also a victim of skilled emigration. Destination countries include Canada, Australia, United Kingdom, Saudi Arabia and the United States of America. This phenomenon is called the “brain drain”. Published literature on the migration of health professionals have documented that pull and push factors influence the decision to migrate. These wide ranges of factors affect both temporary and permanent migration (WHO; 2006). According to the South African Human Resources for Health Report ; 2012/2013-2016/2017, push factors are factors that drive people out of their home country due to dissatisfaction within their situation in their home country. Included are the following:

- Lack of opportunities for postgraduate training.
- Underfunding of health service facilities.
- Lack of established posts and career development opportunities.
- Poor remuneration.
- Poor conditions of service.
- Lack of provision after retirement.
- Government and health service management shortcomings.
- Civil unrest.
- Personal security.
- Impact of HIV/AIDS and
- Economic instability.

According to the South African Human Resources for Health Strategy; 2012/2013-2016/2017; pull factors draw people into a country due to lucrative job offers or conditions that are better than their home country. These include the following:

- Improved working conditions.
- Greater financial rewards.
- Availability of posts.
- Attraction of centres of medical and educational excellence.
- Opportunities for further training and career advancement.
- Political stability.
- Aid work and
- Travel opportunities.

Migration of South African health professionals

Trained South African health professionals have been migrating abroad. Table 2, 3: below, indicates that in 2003, eight thousand nine hundred and twenty one South African medical practitioners were currently practising out of South Africa at the time when a migration study was done (HRH report; 2012/2013-2016/2017). This amounts to a third of doctors registered in South Africa with the Health Professional Council of South Africa (HRH report; 2012/2013-2016/2017). Multiple, and complex issues have affected the rate of health professionals from South Africa. This is estimated at an annual rate of twenty five percent. This estimation assumes that at the end of each year, twenty five percent of the potential undergraduate and postgraduates health professionals experience difficulties in acquiring employment in the South African health sector post graduating (HRH report; 2012/2013-2016/2017). This attrition rate excludes an additional six percent attrition rate due to change of retirement, change of profession and death. Push and pull factors have been identified as the reasons for most of the South African health professionals migrating abroad (HRH report; 2012/2013-2016/2017).

Distribution of South African health professionals abroad

Table 2.3: The following table shows distribution of South African Health Professionals Abroad

| | Medical Practitioners | Nurses | Other health professionals | Total |
|---------------------------------|------------------------------|---------------|-----------------------------------|--------------|
| Australia | 1114 | 1085 | 12967 | 3496 |
| Canada | 1345 | 330 | 685 | 2360 |
| New Zealand | 555 | 423 | 618 | 1596 |
| United Kingdom | 3635 | 2923 | 2451 | 8999 |
| United States of America | 2828 | 2083 | 2591 | 6956 |
| Total | 8921 | 6844 | 7642 | 23407 |

Source : (NDoH A National Human Resource Plan for Health 2006)

The mobilization of human resources for health has been neglected in many countries. Human resources for health remain a key ingredient in combating the global health crisis in part of the world’s poorest countries (HRH report; 2012/2013-2016/2017). The challenges that are faced are multiple. These include the need to identify basic healthcare issues nationally and globally, and identifying ways to provide quality care (HRH report; 2012/2013-2016/2017). Within the Sub Saharan Africa region, malnutrition and maternal complications still persists in numerous settings (WHO; 2006). Longstanding malaria and the recent upsurge in Tuberculosis (TB) and Ebola are paralleled with the emergence of chronic vascular diseases, diseases of lifestyle such as diabetes and hypertension, cancers, and lower respiratory conditions, which are now the commonest cause of death. There is also a growing recognition of mental illnesses (WHO; 2006). Poor human resources management is a widespread and critical factor. According to the South African Human Resource for Health report 2012/2013-2016/2017, in 2010, there were one hundred and fifty thousand, five hundred and nine health professionals registered with the health regulatory body, the Health Professional Council of South Africa (HPCSA). There were two hundred and thirty one thousand, and thirty six nurses registered with the South African Nursing Council (SANC). In April 2010, the Pharmacy Council had twelve thousand, eight hundred and thirteen pharmacists and nine thousand and seventy one pharmacist assistants registered with the council.

The Human Resource for Health (2012 / 2013 – 2016/2017) report indicated the following:

- As of 1996 to 2008, there was no growth to negative growth in public sector clinical posts for ten years, from 1997 to 2006.
- Adequate budgeting and planning for clinical posts in the public sector was not undertaken.
- The numbers of health professionals in the public sector have started to grow slowly since 2012.
- Expenditure on health personnel in the public sector has doubled in the past five years due to the Occupation Specific Dispensation (OSD).
- There is high attrition from the key health professions.
- There is insufficient retention of community service professionals with twenty three percent indicating that they are likely to leave the country due to poor working conditions in the public sector.
- There is a lack of retention of health professional graduates in the public health sector due to various “push” factors and limited public sector posts.
- More graduates are being produced, but, less is being absorbed into the public sector.
- There is maladministration of health professionals, especially between rural and urban areas, and the public and private sector, and this pattern has not changed in the past twenty years.

- Foreign recruitment is not managed efficiently and effectively.
 In 2008, the National Department of Health completed a review of the public sector health workforce. The review indicated an overall stagnation in growth of clinical professionals.

Trends in the public sector HRH numbers 2001 to 2006

Table 2.4; Trend in the public sector HRH numbers from 2001 to 2006

| Professional category | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Nursing | 99,618 | 100,079 | 101,090 | 103,387 | 107,762 | 113,153 |
| Medical | 14,759 | 24,980 | 13,752 | 14,219 | 14,659 | 16,006 |
| Management | 555 | 620 | 700 | 800 | 1,314 | 1,091 |
| Hospital and health support | 67,209 | 65,614 | 62,330 | 60,397 | 60,388 | 60,030 |
| Assistant health professionals | 13,824 | 16,955 | 18,307 | 19,363 | 22,470 | 23,349 |
| Administration and management | 27,629 | 27,253 | 26,622 | 28,935 | 32,052 | 37,419 |
| Total | 233,594 | 225,501 | 222,801 | 227,101 | 238,645 | 251,048 |

Source: Adapted from NDoH review of national and provincial Human Resource Public Health Expenditure 2008 cited in HRH Strategy for the Health Sector 2012/13 – 2016/17: 21

According to the report, since 2002, numbers of health professionals in the public sector have been growing slowly. Table 2.4 indicates that numbers of doctors increased by one thousand and forty seven from 2001 to 2006, while the number of nurses also increased by thirteen thousand, five hundred and thirty five of the same years. It shows the overall numbers of workers in the public health sector and that increase has been mainly in the nursing category (HRH report; 2012/2013-2016/2017).

Growth in public sector health professionals, 2002-2010

Table 2.5: Growth in Public Sector Health Professionals 2002-2010

| Occupational classification | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Medical practitioners | 7291 | 7517 | 8039 | 8595 | 9415 | 9989 | 10462 | 11036 | 11664 |
| Medical specialists | 3585 | 3437 | 3579 | 3595 | 4108 | 4091 | 4213 | 4413 | 4513 |
| Professional nurses | 40787 | 41871 | 42676 | 43791 | 44725 | 47863 | 49226 | 51582 | 55309 |
| Dental practitioners | 527 | 545 | 573 | 662 | 739 | 739 | 648 | 792 | 828 |
| pharmacists | 1234 | 1203 | 1381 | 1574 | 1628 | 1742 | 1790 | 2344 | 3285 |
| Ambulance and related workers | 4686 | 5397 | 6071 | 7517 | 8796 | 9705 | 10964 | 10244 | 10560 |
| Emergency services personnel | 58 | 114 | 122 | 186 | 362 | 532 | 538 | 1698 | 2229 |

Source: HRH Strategy for the Health Sector, (2012/13 – 2016/17: 22)

Current numbers by professional category in the public and private sectors

Data from Persal, (2002 – 2010) were obtained regarding the number of health professionals in the public sector, and these were combined with data from the private sector to determine the total number of health professionals working in South Africa (HRH report, 2012/2013-2016/2017). To

correct for people working in both sectors and thus avoid double counting, five percent was subtracted from both Persal (2002-2010) and HPSCA for specialists and two and a half percent for all others. In the HPSCA data, professionals who failed to indicate their location or indicated this as “foreign” were not included from the counts, to allow for those professionals who are practising abroad, but still registered in South Africa. All nursing categories were calculated using SANC data from 2010. Allowance was made for eighteen percent of nurses who were registered but not actively working in South Africa. It was assumed that forty one percent of nurses work in the private sector (HRH Strategy for the Health Sector; 2012/2013-2016/2017).

Health professionals per 10,000 for the public and private sector

Table 2.6: Public and Private sector health professionals per 10, 000 populations

| Professional classification | South Africa | |
|-----------------------------|--------------|-------|
| Medical practitioners | 18147 | 3,7 |
| Medical specialists | 9637 | 1,96 |
| Professional nurses | 93049 | 18,97 |
| Dental practitioners | 5345 | 1,09 |
| pharmacists | 11425 | 2,33 |
| Emergency medical service* | 12789 | 2,61 |

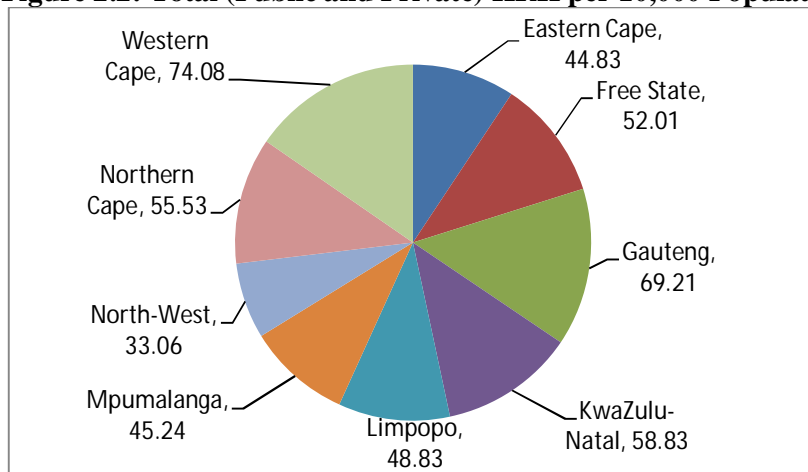
*public sector data only

Source: HRH Strategy for the Health Sector 2012/2013-2016/2017

The total number of both private and public health professionals, as well as the distribution per ten thousand populations for key six professions for all provinces is illustrated in table 2, 6. There are more health practitioners per ten thousand population in the private sector than in the public sector (HRH report; 2012/2013-2016/2017).

Figure 2.2 below is a summary of table 2.6 showing ratios per 10,000 populations for both sectors. This figure shows that there is a large variance between the provinces.

Figure 2.2: Total (Public and Private) HRH per 10,000 Populations per Province, 2010

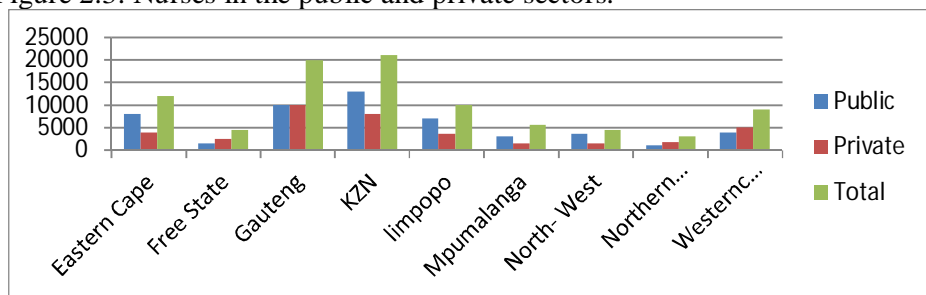


Source: HRH Strategy for the Health Sector 2012/2013-2016/2017)

In figure 2.2, the ratio of HRH per ten thousand per population of thirty three in the North West is less than half of the ratio in Gauteng, and the Western Cape. The Eastern Cape has just over half the density of health professionals per ten thousand compared to that of Gauteng and the Western Cape (HRH report; 2012/2013-2016/2017).

Number of nurses actively working, (not just registered) in the public and private sectors

Figure 2.3: Nurses in the public and private sectors.



*Note that the number of private sector nurses includes both nurses who are formally employed in the private hospital sector (about a third of the total) and elsewhere. The bulk of private sector nurses work for NGOs, mining hospitals, pharmacy clinics. It is important to note that most of these organisations serve mainly the uninsured population, which means that the population ratios for public and private sector would not be entirely correct.

Source: HRH Strategy for the Health Sector 2012/2013 – 2016/17)

Forty four percent of South Africans live in the rural areas. However, this part of the population is only served by twelve percent of the doctors and nineteen percent of the nurses (HRH report; 2012/2013-2016/2017). There are one thousand two hundred medical students graduating annually, but only thirty five ends up working in the rural areas in the longer term. Twenty one percent of all households in metropolitan areas are affiliated to a medical aid in comparison with only five percent of the households in rural districts where access to private care is very limited (HRH report, 2012/2013-2016/2017). The following has been cited as the contributors to a lack of health professionals in rural South Africa:

- Lack of funding.
- No additional benefits for working in inhospitable settings.
- Historical deficiencies in infrastructure.
- Fear of safety.
- Lack of opportunities for schooling for children.
- Lack of work opportunities for spouses of health workers.
- Poor social infrastructure and a
- Lack of strategies to recognise and compensate for these negative factors.

Graduate Unemployment and Lack of Absorption

From 2002 to 2010 employment in the public health sector began to grow (HRH report; 2012/2013-2016/2017). In spite of this, graduates from national medical schools have not been retained in the public health sector. No linear relationship between employment growth and graduate input has been noticed (HRH report; 2012/2013-2016/2017).

Table 2.7 Retention Gap for Health Professional Graduates 2002-2010

Table 2.7: indicates that graduates are not being absorbed by the public health sector.

| Profession | Graduate output | Public sector post increases | Retention Gap | Retention Gap % |
|----------------------|-----------------|------------------------------|---------------|-----------------|
| MBCHB | 11700 | 4403 | 7297 | 62,4 % |
| Dentistry | 2140 | 248 | 1892 | 88,4% |
| Pharmacy | 3645 | 1960 | 1685 | 46,2 % |
| Physiotherapy | 2934 | 497 | 2437 | 83,1 % |
| Occupational therapy | 1827 | 410 | 1417 | 77,6 % |

| | | | | |
|--------------------|------|-----|------|--------|
| SLP + Audiology | 1413 | 265 | 1148 | 81,2 % |
| Dietetics | 657 | 502 | 155 | 23,6 % |

Sources: Department of Higher Education and National Treasury cited in Source: HRH Strategy for the Health Sector 2012/2013 – 2016/2017)

Between the year 2002 to 2010, eleven thousand , seven hundred doctors graduated in South Africa, but the number employed in the public sector was only up to four thousand, four hundred and three (HRH report;2012/2013-2016/2017). South Africa has fewer doctors, pharmacists and oral health practitioners per 10,000 populations than the other comparable countries. It can be concluded that South Africa has a shortage of doctors and other health professionals, but not a shortage of nurses. It does, however, depend on the type of skills and competencies the nurses have. It is estimated that South Africa needs sixty thousand more doctors to have the same doctor to population ratio as Brazil (HRH report; 2012/2013-2016/2017). In response to this crisis of skills shortage, the South African National Department of Health (DoH), in 2004, began to explore other mechanisms of increasing the quality of skilled healthcare providers, especially for underserved provinces. In 2004, a National task team was assembled to establish a training curriculum, to identify a scope of practice and outcomes for a new mid-level healthcare provider. This new cadre of mid-level provider is known as Clinical Associates (Clinical Associates programme snapshot, 2014). These new professionals are similar to physician assistants in the United States of America (USA) and non-physician clinicians in the United Kingdom (UK). Similar use has been identified in other African countries such as Kenya, Uganda and Tanzania. Physician Assistants are clinicians who are licensed throughout the United States to practice medicine in association with physicians. They perform many of the tasks previously done by their physician partners, including examination, diagnosis, carry out investigations, treat and prescribe medication to patients. All physician assistants are associated with a physician and must practice in an interdependent role (Doherty; 2012). Other terms are in use to describe this same scope of clinical practice (Miller; 2011). Variations of the role with similar scope of practice have been described as:

- ‘Clinical officers’ in Sub Saharan Africa
- ‘Clinical Associates’ in South Africa
- ‘Assistant medical officer’ in Tanzania and Malaysia
- ‘Feldsher’ in Russia and other former Soviet Republics
- ‘Surgical technologists’ in Mozambique
- ‘Assistant medical practitioners’ in Fiji.

Non-physician Assistants training in the United Kingdom

The United Kingdom possesses a healthcare system that is facing numerous challenges. Rising consumer expectations, inadequate access to services by the population and a constraint in the supply of physicians and nurses has been identified as a few of the existing challenges (Sibbard; 2002). Non-physician clinicians have been identified as health professionals who provide services that would have been provided by physicians. Training began in 2006 and they work under the supervision of physicians, to enhance the quality, quantity and range of medical services (Sibbard; 2002). Non-physician clinicians can safely provide numerous services that would have been provided by physicians, thus reducing the demand on physicians. They can be educated and trained quickly and less expensively as compared to physicians (Sibbard; 2002). The health service of England employs an estimated eight hundred and thirty seven thousand, two hundred staff. Twenty seven thousand, eight hundred and forty three general practitioners are contracted with the national health system to provide family healthcare services (Sibbard; 2002). Non-physician clinicians are well represented in the workforce. In most clinical areas, there are nurse

practitioners, advanced practice nurses, and /or clinical nurse specialists who provide care that would otherwise be undertaken by physicians (Sibbard; 2002). There are no formal levels of competency, educational requirements or licensing criteria underpinning these roles. The rising demand for cost of care has increased interest in the possible economies to be made by shifting care from high cost practitioners, such as doctors, to low cost practitioners (Sibbard; 2002). Gains in efficiency are sought by breaking down traditional job demarcations. This will enable staff to be deployed in many ways that can maximise the use of their skills (Sibbard; 2002). The intention is that medical doctors should disinvest in activities that can be delegated to other staff and instead give their time to other activities that can be performed by them. Similar cases exist in the USA, where physician assistants are employed. They are, like in the UK, licensed to practice medicine in association with physicians (Doherty; 2012).

Physician Assistants in the United States of America

Physician assistant's education program began in the mid -1960s (Miller; 2011). Since then, universities have developed accelerated medical programmes to equip physician assistants to work in areas of social need and increase the availability of quality health care. From the beginning, curriculum models have emerged around the central themes of physician-dependent practices and competency-based education (Miller; 2011). All physician assistants must be associated with a physician and must practice in an interdependent role, known as "negotiated performance autonomy". Numerous studies have shown that the quality of care given by physician assistants is at the level of that given by physician in a comparable situation, with high level of patient satisfaction (Mittiman; 2005). Growth of physician assistants programmes in the United States has also been rapid. From fifty accredited programmes in 1971, there are now over one hundred and fifty four physician assistants programmes with more than five thousand seven hundred available first year physician assistants' student positions and an expected five thousand three hundred new clinicians graduating every year (Miller; 2011). According to the 2006 census, seventy thousand, six hundred and twelve individuals were eligible to practice as Physician Assistants. This reflects a growing need to provide more efficient and cost effective health care to a rapidly growing underserved population (Miller; 2011).

The future of Physician Assistants education in the US

Most recent workforce predictions have indicated an increase in the shortage of physicians and a call has been made to increase medical school enrolment by thirty percent within the next ten years. This has been met with a similar request to increase physician assistants programme enrolment (Miller; 2011).

Physician Assistants education programme in Australia and New Zealand

One Physician Assistant education programme has begun in Australia, although many have been planned. This is a two-year Masters programme which began in 2010 (Miller; 2011). It was developed jointly by Physician Assistant academics from the US and the University Of Queensland School Of Medicine. This programme was initiated as a response to perceived shortages of medical clinicians in underserved populations in rural and remote communities and also as an experiment innovative, medical role changes in the Australian health workforce (Miller; 2011).

Physician Assistants training in the Netherlands

The first class of physician assistant students entered the Academy of Health care in Utrecht in 2001. Following the success of this programme, the university of Arnhem/Nijmegen started this programme in 2003 (Miller; 2011).

Physician Assistants training in Germany

Physician Assistants are not yet a registered profession in most parts of Germany, but are permitted to practice under supervision from a medical doctor (Miller; 2011). Three years physician

assistant's programmes leading to the Bachelor of Science degree are available in Berlin. Most Physician Assistants students start their training with a background of health care experience (Miller; 2011).

Physician Assistants training in South Africa

In rural parts of South Africa, many people are exposed to extremely limited access to quality healthcare services. A severe lack of trained human resource for health should be held largely accountable for this. It is estimated that the South African population, the doctor-to –population ratio is 0, 77 per thousand (Clinical Associates Programme snapshot; 2014). Seventy three percent of all general practitioners work in the private sector, leaving just one practising doctor per every four thousand two hundred and nineteen people for the majority of the people. Clinical Associates are similar to Physician Assistants in the United States as well to other mid-level cadres in other countries. They are trained in three medical universities in South Africa and they work primarily at district hospitals throughout the country (Clinical Associates Programme snapshot; 2014). Training of clinical associates began in 2008 and the first graduates entered the job market in 2011. Upon qualification, clinical associates are competent to take history, perform physical examinations, deal with emergencies and conduct routine diagnostic and therapeutic procedures (Doherty; 2012). Their training provides students with generalist skills. In future, clinical associates will be to develop specialised skills, which is also dependent on their personal interests and the requirements of the facility in which they are employed (Doherty; 2012). Clinical associates are required to work under the supervision of a medical doctor. The intention is that they can perform many of the routine tasks that are usually performed by doctors, freeing them to perform tasks that require high- level functioning (Doherty; 2012). This allows doctors to focus on other complex tasks. They are recruited from rural and disadvantaged communities. Clinical associates are not meant to replace doctors or nurses, but to strengthen health care at district hospitals as integral members of the health care team. It also takes less time to train a clinical associate than a doctor (Doherty, 2012).

Positive Features of the Clinical Associates Programme

Table 2.8: Shows the positive features of the clinical associates programme

| Feature | Potential value |
|---|--|
| <p>Linking to training and regulation of doctors Training of clinical associates is located within medical schools and takes three years to complete. The programme is regulated by the Health Professional Council of South Africa.</p> | <p>Confers status on the new cadre. Fosters synergy between clinical associates and doctors, and there will have to work closely together. Training is quicker and less costly than for a doctor, and there will be no brain drain overseas as the degree is not internationally recognised. Enables further post-graduate training with supports career progression.</p> |
| <p>National curriculum and exam A national curriculum framework guides the course at different universities.</p> | <p>Ensures comparable training and maintains standards. Allows flexibility and innovation.</p> |
| | <p>The programme works in co-ordination with</p> |

| | |
|---|---|
| <p>Clearly defined position within the district hospital health care team The clinical associate is conceptualised as a collaborative district level clinical team that includes the doctor working with a primary health care nurse at the clinic and health centre. The doctor also works with clinical associates at district level. The scope of practice of the clinical associates has a specific context that is specifically tailored for district hospital level. There is emphasis on generalist skills and flexibility in response to the particular situation of the individual hospital and health worker.</p> <p>Rural recruitment and training. Students are recruited from disadvantaged and rural areas. Most training occurs in rural facilities.</p> <p>Supervision by doctors Adequate supervision and support is ensured through making the presence of a doctor integral to the functioning of a clinical associate.</p> <p>Service –based learning. Service-based learning. Creation of District training complexes where other categories of health professional can also be trained.</p> | <p>national policies to improve district management capacity, relieves the workloads of doctors and nurses. It responds to the patient profile at district hospitals (patients do not have complex conditions that warrants specialist care). Identifies differences in scopes of practice and reporting lines and avoids overlap of roles with primary health care nurses. Diffuses concerns of other health professionals Encourages a sense of belonging to a team. Clinical associates are able to perform different tasks. Creates a new mode of entry into the medical industry, especially for students from marginalised communities. Produces health workers with better communication skills Enforces retention with rural areas. Improves quality of care delivered. Provides opportunities for practical learning. Allows students to familiarise with local circumstances, which is the district hospital and the community in which they will work. Assists in recognising the goal of decentralised, multi-disciplinary training that helps health workers to be better equipped and responsive. Provides motivation and support for staff, improves recruitment and retention.</p> |
|---|---|

Source: Doherty J. South African Medical Journal, 2012:102(11)

According to Doherty; 2012, current concerns about Clinical Associates have been identified as follows:

- They have the potential to become a second best option for rural and poor communities in response to skills shortage within the public health sector.
- They are a mechanism of cutting costs, without regards to the effect on quality of care.
- They could become a device to avoid having to address the on-going human resource concerns of doctors and nurses.
- They could be exploited in the private sector by performing activities that doctors should perform but will be paid for.

- They could end up working without appropriate supervision secondary to the shortage of doctors.

Future of Clinical Associates

There are indications that the implementation of this programme has been successful. Good quality training has been identified with the programme and pass rates are reportedly high (Doherty; 2012). New graduates are reported to be competent and available training hospitals appreciate the contributions made by students in alleviating expected workloads. The first group of graduates entered the job market in 2011 and have been received favourably (Doherty; 2012). Up to date, no full evaluation of the impact of clinical associates has been conducted and several challenges have been identified. The current government's minimum target of five clinical associates per districts hospital is not yet achievable.

Doherty; 2012) has indicated the following challenges:

- Expansion of training capacity which will require additional funding, teaching staff and training sites.
- New posts will have to be created to recruit newly graduates, along with recruitment of doctors to ensure adequate supervision.
- In order to retain clinical associates in the public sector, clear career pathways should exist and working conditions will have to be improved.
- Emerging tensions between different categories of staff around remuneration levels will have to be dealt with.
- Boundaries with regards to a scope of practice have to be identified.
- Prescribing competencies of clinical associates also needs to be addressed; currently they are not allowed to prescribe any medication.
- Assessing the quality of care provided by clinical associates will in future be a priority.

Tshwane and Metsweding have merged into one metropolitan municipality, in-line with the new municipal demarcation. The District has a total of 2,708,702 people. The population density is high at 472.9 people per square kilometre. Tshwane district in one of the districts in the country with a high percentage of the population which has medical insurance coverage. According to the general household survey 2007, twenty five percent of the population of Tshwane and sixteen percent of the population of Metsweding have coverage with medical insurance. Tshwane District Hospital currently employs four clinical associates.

Target population

A target population is defined as the entire set of units for which the survey data is to be used to make inferences (Strauss; 2007). It is also defined as the eligible population that is included in research work. The target population of this study consisted of different healthcare professionals of the healthcare team. These groups consisted of one hundred participants: medical officers, allied health professional, three members of senior management and Clinical Associates. Allied health professionals are made up of the following categories: physiotherapists, occupational therapists, speech therapist and audiologist, psychologists, radiographers, dieticians and pharmacists.

Limitations of the study

- **Time**
Six months was not adequate to complete the study.
- **Sample size**
The key limitation of this study was that the research was restricted to medical officers, clinical associates and allied health professionals only employed at Tshwane District Hospital. The number of allied healthcare professionals was limited within each department. This study may not be representative of views of most allied healthcare professionals.

- **Lack of prior research studies**
 No full evaluation of the impact of Clinical Associates has been conducted. Currently, no similar studies have been found in South Africa about the impact of Clinical Associates. This can serve as an opportunity for further research.
- **Lack of available data**
 No full evaluation of the impact of Clinical Associates has been conducted.
- **Unreturned questionnaires**
 The unavailability of respondents resulted in non- collection of few questionnaires. This will affect the results of the study.
- **Incomplete questionnaires**
 The results of incomplete questionnaires could not be included in this study. This has affected the results of the study and the assumptions about various age groups.

RESULTS, DISCUSSION AND INTERPRETATION OF FINDINGS

Data collection

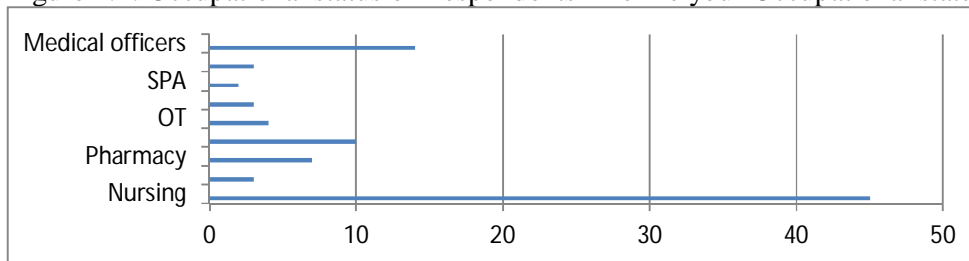
The data for section A to D was gathered from four different questionnaires completed by one hundred healthcare professionals. Section A consists of responses from questionnaire C, which is a quantitative questionnaire filled in by members of the Allied Healthcare Professionals. This group consists of the following: forty five nurses, four physiotherapists, four occupational therapists, ten pharmacists with their assistants, eleven radiographers, three dieticians, three psychologists, one speech therapist and one audiologist. Section B consists of quantitative questionnaires that were administered to fifteen medical officers that supervise all Clinical Associates. Section C contains responses that were collected from four Clinical Associates and section D explores the data collected from three senior members of management; Head of Clinical Department, Family Medicine, the Clinical

Data from the primary findings was analysed and interpreted to address the objectives of the study. Responses were converted to percentages which were rounded off to the nearest whole number.

SECTION A

Occupational status of Respondents

Figure 4.1: Occupational status of Respondents –Define your Occupational status

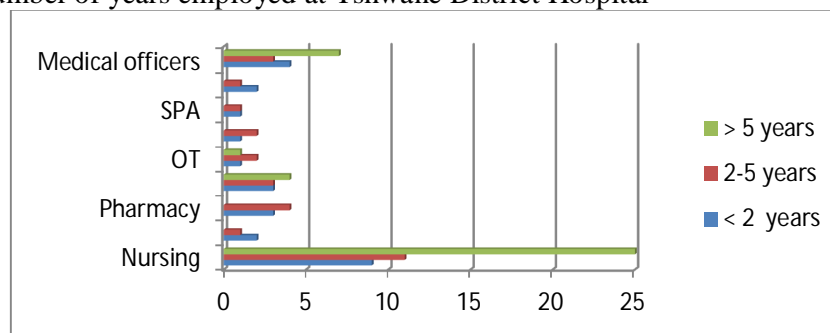


The study consists of one hundred participants. Ninety seven participants responded to the questionnaires distributed. Forty seven questionnaires were distributed to nursing personnel employed at five different locations within Tshwane District Hospital. According to figure 4.1, a total of forty seven questionnaires were distributed to the nursing personnel. Only forty five questionnaires were collected. Ninety six percent of the questionnaires were obtained from the nurses. Tshwane District Hospital only employs only four physiotherapists. Four questionnaires were distributed to the chief physiotherapist and only three were returned. One employee was not available during the collection period. Seventy five percent of the questionnaires distributed to physiotherapist were successfully collected. Ten pharmacists and their assistants were also asked to participate in the study. Five qualified pharmacists and their assistants were provided with ten questionnaires. Five questionnaires were distributed to the Antiretroviral Clinic (ARV) pharmacy

and five were distributed to the Out Patient Department (OPD) Pharmacy. Only seven (seventy percent) questionnaires were returned. The Radiography Department employs eleven radiographers. Eleven questionnaires were distributed. Ten were collected from the Head of Department. Ninety one percent of the questionnaires were collected. Four Occupational Therapists, three Psychologists, one Speech Therapist, one Audiologists and three dieticians are employed at the hospital. All twelve healthcare professionals received questionnaires and all twelve questionnaires were completed successfully and were collected. Fifteen questionnaires were distributed to fifteen senior medical officers. The medical officers are employed at different sections within the hospital. Four medical officers from emergency and trauma unit, three officers from the Outpatient Department, two from maternity ward, two from the paediatric and medical wards, one from Antiretroviral Clinic (ARV) and one medical officer from the nearest district clinic participated in the study. Fourteen questionnaires were collected, one questionnaire was not analysed as the participant misplaced it (ninety three percent of the questionnaires were retrieved and the response rate was ninety three percent).

4.2. Number of years employed at Tshwane District Hospital

Figure 4.2: Number of years employed at Tshwane District Hospital



According to figure 4.2, fifty six percent of the nursing participants have been employed at Tshwane District Hospital for more than five years, twenty four percent between two and five years and twenty percentage for less than two years. Sixty seven percent of physiotherapists have been employed for less than two years and thirty three percent has been employed for two to five years. No physiotherapist has been employed for more than five years. Forty three percent of all pharmacists and their assistants have been employed for less than two years and fifty seven percent have been employed at Tshwane District Hospital for two to five years. Thirty percent of radiographers have been employed for less than two years; another thirty percent has been employed for a period of two to five years and forty percent for more than five years. Twenty five percent of occupational therapists have been employed at Tshwane District Hospital for less than two years, fifty percent between two and five years and another twenty five percent for more than five years. Thirty three percent of psychologists have been employed for less than two years and sixty seven percent have been employed for a period of two to five years. No psychologist has been employed for more than five years. Fifty percent from the speech pathology, language and audiology participants have been employed for less than two years and another fifty percent has been at employed at Tshwane District Hospital for a period of two to five years. Sixty seven percent of dieticians have been at the dietetics department for less than two years and only thirty three percent has been employed at Tshwane District Hospital for a period between two and five years. Twenty nine percent of medical officers have been employed at Tshwane District Hospital for less than two years, twenty one percent between a period of two to five years and fifty percent for more than five years. Clinical Associates were first introduced at Tshwane District Hospital in 2012. All the participants in the study have daily contact with Clinical Associates.

Recognition of Clinical Associates at Tshwane District Hospital

Figure 4.3: Recognition of Clinical Associates

Ability to recognise Clinical Associates employed at Tshwane District Hospital

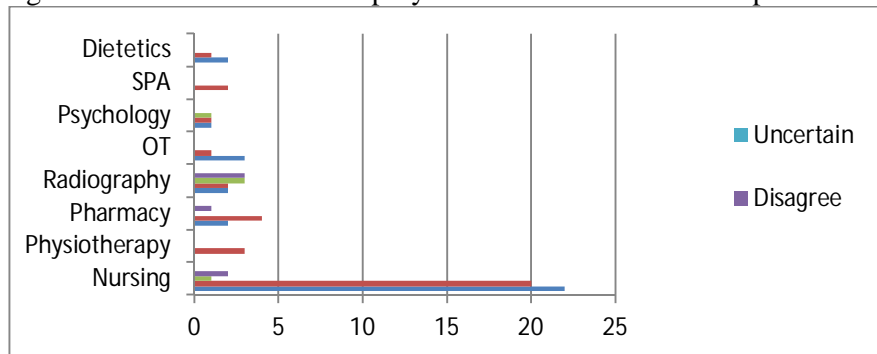
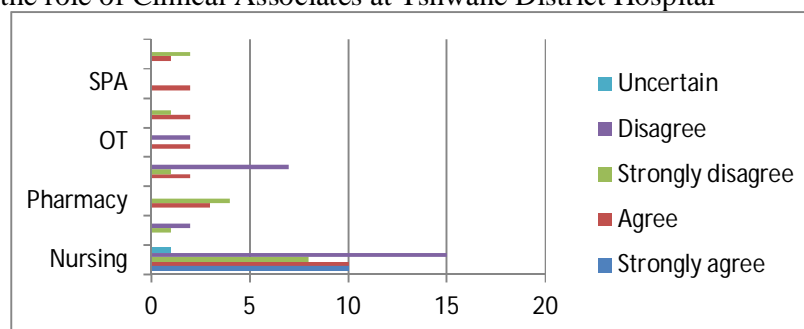


Figure 4.3 reveals that forty nine percent of nursing staff strongly agree that they can recognise Clinical Associates employed at Tshwane District Hospital. Forty four percent agree that they can recognise them and only two percent strongly disagree to recognising Clinical Associates. Four percent disagree to recognising Clinical Associates. Clinical Associates rotate throughout all departments at the hospital. They also have a characteristic uniform that they can all be identified with. One hundred percent of physiotherapists agree to recognise Clinical Associates. Twenty nine percent of pharmacy department strongly agree to recognise them, fifty seven percent agrees and fourteen percent disagree to being able to recognise Clinical Associates. Twenty percent of radiographers strongly agree to recognise them, twenty percent agree, thirty percent strongly disagree and another thirty percent disagree to recognising them. Seventy five percent of occupational therapist strongly agrees to recognise them and twenty five percent also agrees. Thirty three percent of psychology department can strongly agree to the recognition of Clinical Associates, thirty three percent agree and another thirty three percent strongly disagree. Hundred percent of the speech pathology, language and audiology department strongly agree with the statement. Sixty seven percent of dieticians strongly agree while thirty three percent agree to be able to recognise Clinical Associates.

Understanding the role of Clinical Associates

Figure 4.4: The role of Clinical Associates

Understanding the role of Clinical Associates at Tshwane District Hospital



According to figure 4.4, twenty two percent of nurses strongly agree that they understand the role of Clinical Associates. Another twenty two percent agrees that they understand their role, eighteen percent strongly disagrees, thirty three percent disagrees and two percent are uncertain. Thirty three percent of physiotherapists strongly disagree and sixty seven percent disagrees to understanding the role of Clinical Associates. Forty three percent of the pharmacy department agree, and fifty seven percent strongly disagree. Twenty percent of radiographers strongly agree, ten percent strongly disagree and seventy percent disagree. Fifty percent of occupational

therapist agrees and another fifty percent disagree in understanding the role of Clinical Associates. Sixty seven percent of psychologists strongly agree to understand the role of Clinical Associates, and thirty three percent strongly disagrees. One hundred percent of the speech pathology, language and audiology department agree. Thirty three percent of dieticians agree and sixty seven percent strongly disagree to understanding the role of Clinical Associates.

The scope of practice of Clinical Associates

Figure 4.5: Identifying the scope of practice of Clinical Associates

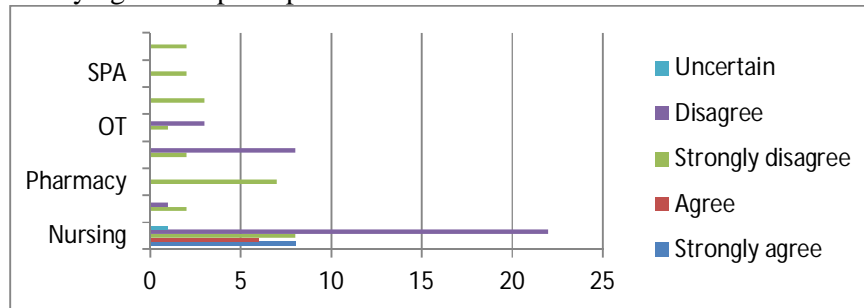
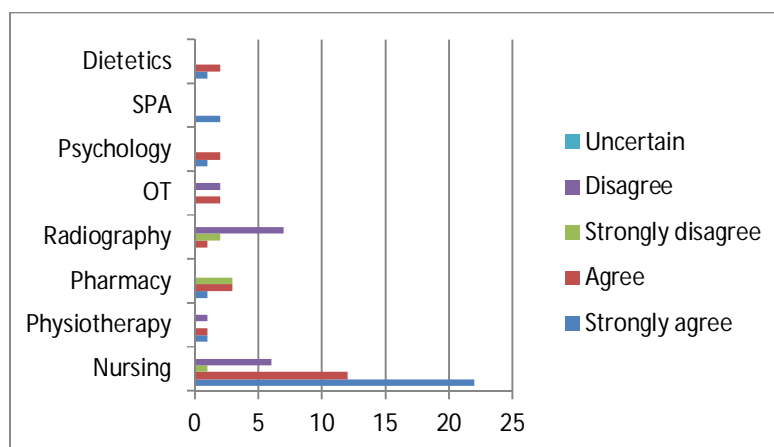


Figure 4.5 demonstrates that eighteen percent of the nurses strongly agree that they can identify the scope of practice of Clinical Associates, thirteen percent agree, eighteen percent strongly disagree, forty nine percent disagree to the above mentioned statement. Only two percent was uncertain. Sixty seven percent of physiotherapists strongly disagree and thirty three percent disagree with the above mentioned statement. One hundred percent of the pharmacy department strongly disagree. Twenty percent of radiographers strongly disagree and eighty percent disagree. Twenty five percent of occupational therapists also strongly disagree and seventy five disagree with the statement. One hundred percent of the psychologist strongly disagree with the statement, similarly, one hundred percent of the speech, language pathology and audiology department also strongly disagrees with the statement. Thirty three percent of the dieticians agree, thirty three percent strongly disagrees and thirty three percent are uncertain of the scope of practice of Clinical Associates. Boundaries with regards to a scope of practice still have to be identified (Doherty; 2012). Currently, no scope of practice has been finalised, this could explain the above mentioned results.

Working closely with Clinical Associates

Figure 4.6: Working closely with Clinical Associates



According to figure 4.6, forty nine percent of all nurses strongly agree to working closely with Clinical Associates. Thirty six percent agree, two percent strongly disagrees and thirteen percent disagree with this statement. Thirty three percent of physiotherapists strongly agree, another thirty

three percent agrees and thirty three percent strongly disagree. Fourteen percent of pharmacists strongly agree, fifty seven percent agrees, fifteen percent strongly disagree. Fourteen percent are uncertain. Ten percent of radiographers agree, twenty percent strongly disagrees and seventy percent disagree with the statement. Fifty percent of occupational therapists agree while another fifty percent disagree with the statement. Thirty three percent of psychologists strongly agree and sixty seven percent agree to the statement. Hundred percent of the respondents from the speech, language pathology and audiology department strongly agree, thirty three percent of dieticians strongly agree and six seven percent agree with the statement.

Recognising Clinical Associates as effective part of the medical team

Figure 4.7: Recognising Clinical Associates as effective part of the medical team

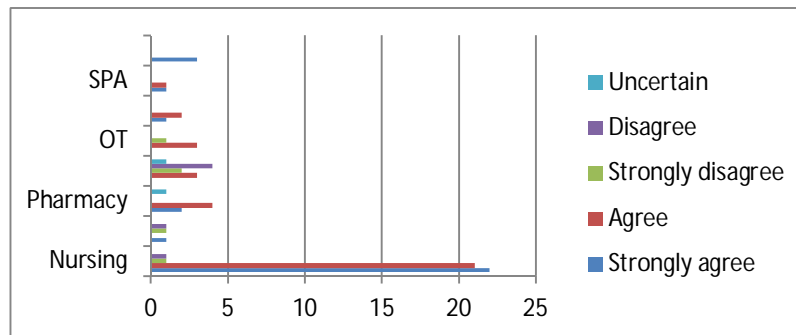
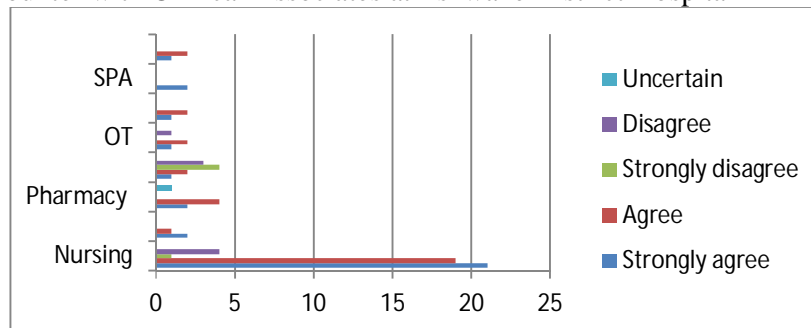


Figure 4.7 illustrates that forty nine percent of nurses employed at Tshwane District Hospital strongly agree with the statement of recognising Clinical Associates as an effective part of the medical team. Forty seven percent agree, two percent strongly disagree and two percent disagree. Thirty three percent of physiotherapists strongly agree, thirty three agrees and another thirty three percent disagrees with the statement. Twenty nine percent of pharmacists strongly agree, fifty seven percent agree and fourteen percent are uncertain. Thirty percent of radiographers are in agreement to the statement, twenty percent strongly disagree, forty percent disagree and ten percent is uncertain. Seventy five percent of occupational therapists agree and twenty five disagree. Thirty three percent of psychologists strongly agree while sixty seven percent agree with the statement. Fifty percent of the speech therapy and audiology department strongly agree and the other fifty percent agrees with the statement. All dieticians, strongly agree with the statement. According to Doherty; 2012, Clinical Associates can perform many of the routine tasks that are usually performed by doctors. They work very closely with nurses and doctors.

Encounter with Clinical Associates

Figure 4.8: Encounter with Clinical Associates at Tshwane District Hospital



According to figure 4.8, forty seven percent of the nurses strongly agree that they had a pleasant encounter with Clinical Associates employed at Tshwane District Hospital. Forty two percent agree, two percent strongly disagree and nine percent disagree with the statement. Sixty seven

percent of physiotherapists strongly agree and thirty three percent agrees with the statement. Twenty nine percent of pharmacists and their assistants strongly agree, fifty seven percent agrees and fourteen percent was uncertain. Uncertainty is secondary to the fact that pharmacist have limited contact with Clinical Associates. Ten percent of radiographers strongly agree, twenty percent agrees, forty percent strongly disagrees and thirty percent disagrees with the statement. Twenty five percent of the participants from the occupational therapy department strongly agree, fifty percent agrees and another twenty five percent disagrees with the statement. Figure 4.8 also reveals that thirty three percent of psychologists strongly agree while sixty seven percent agrees with the statement. All participants from the speech therapy and audiology department strongly agrees. Thirty three percent of the dieticians strongly agree and sixty seven percent agrees with the statement.

Effectiveness of Clinical Associates in addressing skills shortages

Figure 4.9: Effectiveness of Clinical Associates in addressing skills shortages at Tshwane District Hospital

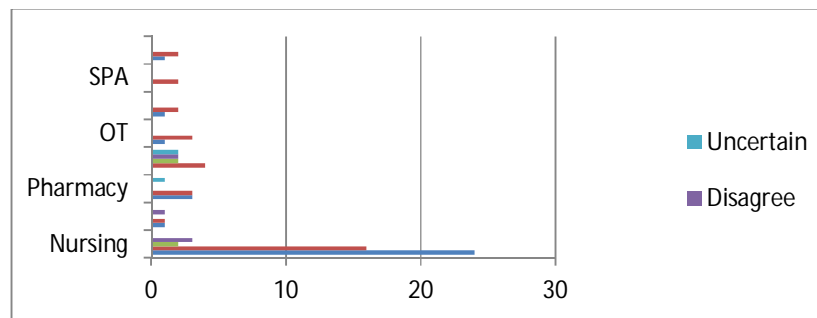


Figure 4.9 demonstrates that fifty three percent of nurses strongly believe that Clinical Associates are effective in addressing skills shortage at Tshwane District Hospital. Thirty six percent agree, four percent strongly disagree and seven percent disagree to the above mentioned statement. Thirty three percent of physiotherapists strongly agree, thirty three percent agree and another thirty three percent disagrees with the statement. Forty three percent of pharmacist strongly agrees, another forty three percent agree and fourteen percent is uncertain. Forty percent of radiographers also agree, twenty percent strongly disagree, twenty percent disagree and twenty percent is uncertain. Twenty five percent of occupational therapists strongly agree, and seventy five agree with the statement. Twenty five percent of psychologists strongly agree and seventy five percent agree that Clinical Associates are effective in addressing skills shortage. The speech therapist and audiologist agree with the statement one hundred percent, thirty three percent of the dieticians strongly agree and sixty seven percent agree with the statement. There are indications that the implementation of the BCMP programme has been successful. New graduates are competent and available training facilities appreciate the contributions made by students in alleviating expected workloads. The first group of graduates entered the job market in 2011 and have been received favourably (Doherty; 2012).

Clinical Associates at Tshwane District Hospital

Figure 4.10: More Clinical Associates are required at Tshwane District Hospital

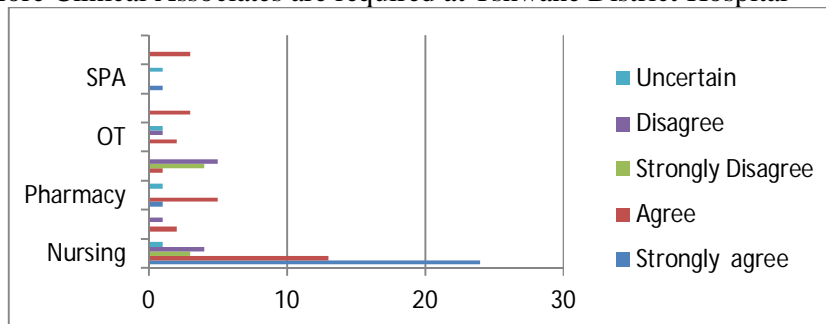
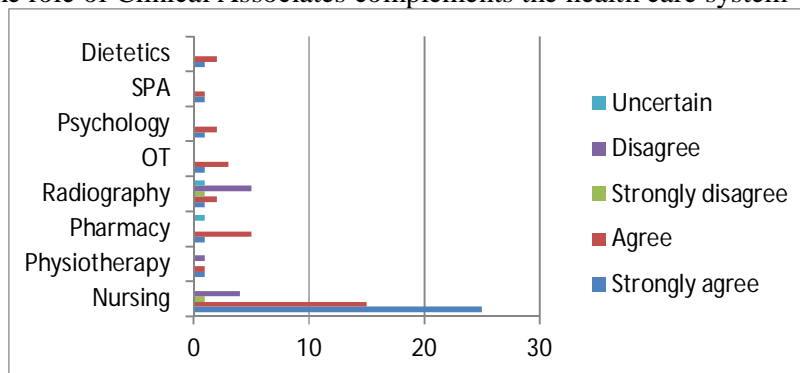


Figure 4.10 reveals that fifty three percent of nurses strongly agree that more Clinical Associates are needed at Tshwane District Hospital. Twenty nine percent agree, seven percent strongly disagree, nine percent disagree and two percent are uncertain. Sixty seven percent of physiotherapists agree to the statement and thirty three percent disagree. Fourteen percent of all pharmacists strongly agree with the statement, seventy one percent agrees and fourteen percent are uncertain. Ten percent of radiographers strongly agree that more Clinical Associates are required at Tshwane District Hospital, forty percent strongly disagree and fifty percent disagree. Fifty percent of occupational therapists agree that more Clinical Associates are needed at Tshwane District Hospital, twenty five percent disagree with the statement and another twenty five are uncertain. Hundred percent of psychologists agree with the statement, similarly, all of dieticians also agree with the statement. Currently, only four Clinical Associates are employed at Tshwane District Hospital. The current government’s minimum target of five Clinical Associates per district hospital is almost achievable.

4.11 The role of Clinical Associates complements the health care system

Figure 4.11: The role of Clinical Associates complements the health care system



According to figure 4.11, fifty six percent of the nurses strongly agree that the role of Clinical Associates complements the health care system, thirty three percent agree, two percent strongly disagree and nine percent disagree. Thirty three percent of physiotherapists strongly agree, thirty three percent agree and another thirty three percent disagree. Fourteen percent of pharmacists strongly agree, seventy one percent agree and fourteen percent is uncertain. Ten percent of radiographers strongly believe that the role of Clinical Associates complements the health care system, twenty percent agree, ten percent strongly disagree, fifty percent disagree and ten percent is uncertain. Twenty five percent of occupational therapists strongly agree with the statement, and seventy five percent agree. Thirty three percent of psychologists strongly agree and sixty seven percent agree with the statement. Fifty percent of speech pathology and language department strongly agree and fifty percent agree with the statement. Thirty three percent of dieticians

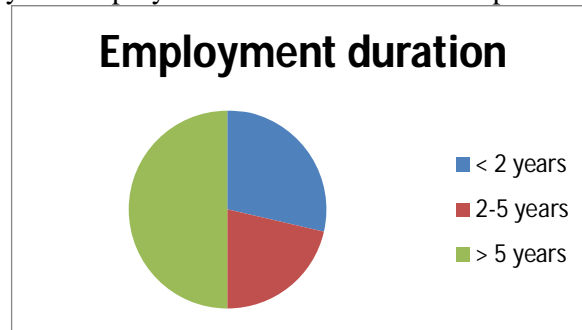
strongly agree and sixty seven percent agree with the statement. According to Doherty; 2012, clinical associates have the potential to strengthen the current public sector and could help South Africa fast track the dream of a National Health Insurance Policy.

SECTION B

This section consists of responses from fourteen medical officers that work closely and supervise Clinical Associates. Fifteen questionnaires were distributed, fourteen were successfully collected. One questionnaire was not collected as the employee was not available during the time of collection. The response rate from medical officers is ninety three percent.

Number of years employed at Tshwane District Hospital

Figure 4.12: Number of years employed at Tshwane District Hospital



According to figure 4.12; twenty nine percent of medical officers that responded to the questionnaire have been employed at Tshwane District Hospital for less than two years, twenty one percent between two and five years and fifty percent of medical officers have been employed at Tshwane District Hospital for more than five years.

Working with Clinical Associates at Tshwane District Hospital

Figure 4.13: Working with Clinical Associates at Tshwane District Hospital, providing the appropriate supervision to them.

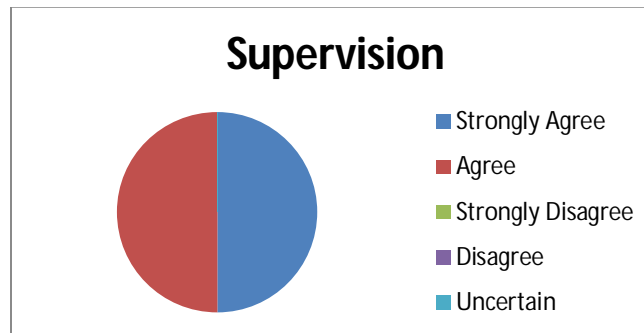


Figure 4.13 reveals that fifty percent of medical officers strongly agree to working closely with Clinical Associates and provide appropriate supervision to them. The other fifty percent agree with the statement. Clinical Associates are required to work under the supervision of a medical doctor. The intention is that they can perform many of the routine tasks that are usually performed by doctors (Doherty; 2012).

Effectiveness of Clinical Associates

Figure 4.14: Impact of Clinical Associates on service delivery at Tshwane District Hospital.

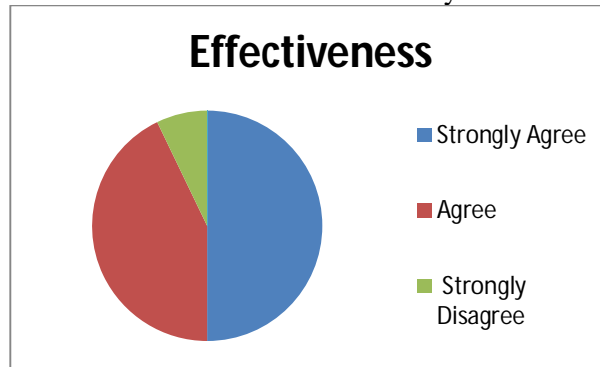
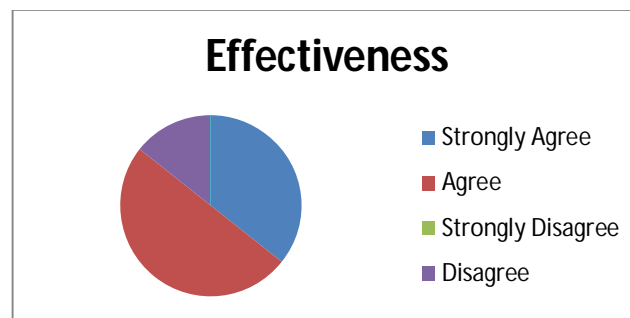


Figure 4.14 reveals that fifty percent of medical officers strongly agree that Clinical Associates have a positive impact on service delivery at Tshwane District Hospital, forty three percent agree and seven percent disagree with the statement. According to literature, up to date, no full evaluation of the impact of Clinical Associates has been conducted (Doherty; 2012). The above mentioned results are obtained from Tshwane District Hospital. No other results from another study done are available for comparison.

Services provided by Clinical Associates

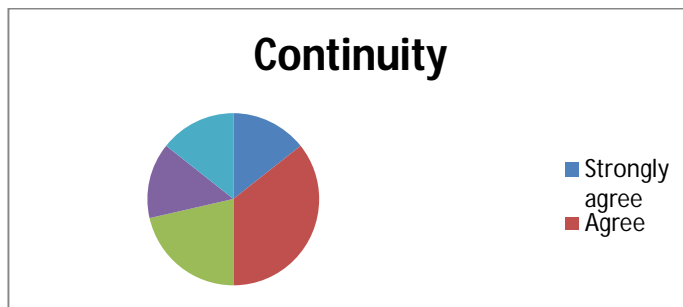
Figure 4.15: Services provided to all patients by Clinical Associates is based on scientific knowledge.



According to figure 4.15; thirty six percent of medical officers strongly agree that Clinical Associates provide services based on scientific knowledge to all patients, fifty percent agree and fourteen percent disagree. According to Doherty; 2012, a national curriculum framework guides the BCMP programme at different universities. The programme works in co-ordination with the national policies to improve district management capacity. It relieves the workload of doctors and nurses. Once the BCMP programme is completed, clinical associates are competent to take history, perform physical examinations, deal with emergencies and conduct routine diagnostic and therapeutic procedures. Their training provides students with generalist skills.

Continuity of the role of Clinical Associates

Figure 4.16: The role of Clinical Associates can be referred to as “go-between” for nurses and doctors.



According to figure 4.16; fourteen percent of medical officers strongly agree that the role of clinical associates can be referred to as a “go-between” for the nurses and doctors. Thirty percent agree with the statement, twenty one percent strongly disagree, fourteen percent disagree and another fourteen percent are uncertain. Clinical Associates are required to work under the supervision of doctors. They can perform many of the routine tasks that are routinely performed by doctors, freeing them to perform tasks that require high level functioning. They are not meant to replace doctors and nurses, but to strengthen health care at a district hospital level (Doherty; 2012).

Ability to respond to nursing enquiries about medical problems

Figure 4.17: Clinical Associates have the ability to respond to nursing enquiries about medical problems

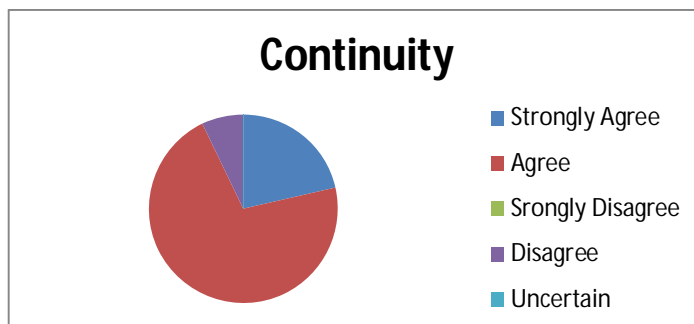


Figure 4.17 reveals that twenty one percent of medical officers strongly agree with the statement that Clinical Associates have the ability to respond to nursing enquiries about medical problems. Seventy one percent agree and seven percent disagree with the statement.

Task Delegation

Figure 4.18: The presence of Clinical Associates enables doctors to re-distribute tasks to those most clinically able

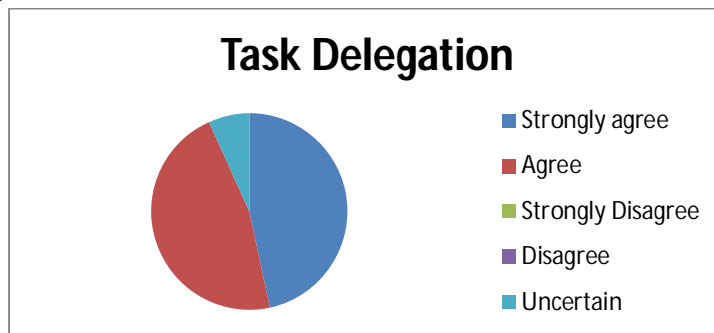


Figure 4.18 reveals that fifty percent of medical officers that participated in this study strongly agree that the presence of Clinical Associates enables doctors to redistribute tasks to those most clinically able while the other forty three percent agree with the above mentioned statement. Seven percent of the medical doctors are uncertain and indicated that all tasks should remain a priority to all medical officers at all times. According to Doherty; 2012, the intention of the BCMP programme is to have Clinical Associates work under the supervision of doctors in order for the doctors to focus on tasks that require high-level functioning.

Ease of workload on Doctors

Figure 4.19: The presence of Clinical Associates enables doctors to give attention to more complicated medical cases

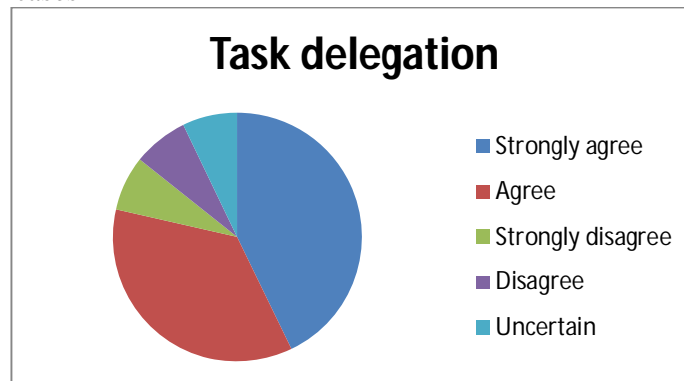
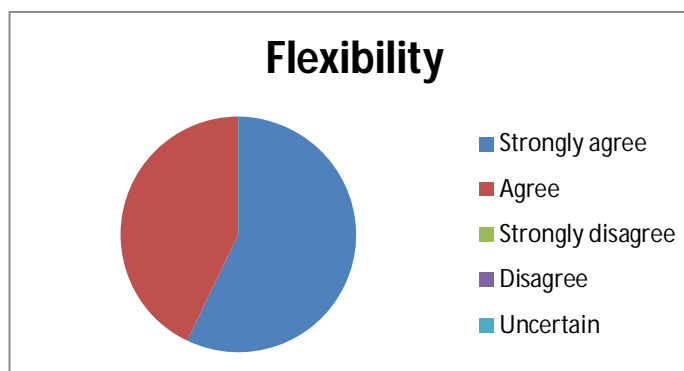


Figure 4.19 illustrates that forty three percent of medical officers strongly agree that the presence of Clinical Associates enables doctors to give attention to more complicated medical cases. Thirty six percent agree, seven percent strongly disagree, seven percent disagree and seven percent are uncertain. The uncertainty was mainly due to the fact that medical officers felt that all medical cases are equally important, regardless of the team’s composition.

Flexibility

Figure 4.20: Clinical associate contributes positively to service capacity at Tshwane District Hospital.



According to figure 4.20, fifty seven percent of medical officers strongly agree that the involvement of an additional health worker, such as Clinical Associates contributes positively to service capacity. Forty three percent of medical officers agree with the above mentioned statement. The training of Clinical Associates is quicker and less costly than for a doctor. There will be no brain drain overseas as the BCMP programme is not recognised overseas. Most students are recruited from disadvantaged and rural areas and most training occurs in the rural areas. This can improve the quality of care delivered (Doherty; 2012).

Flexibility

Figure 4.21: Replacement of medical doctors
Clinical Associates have potential to replace nurses and doctors when they are not available

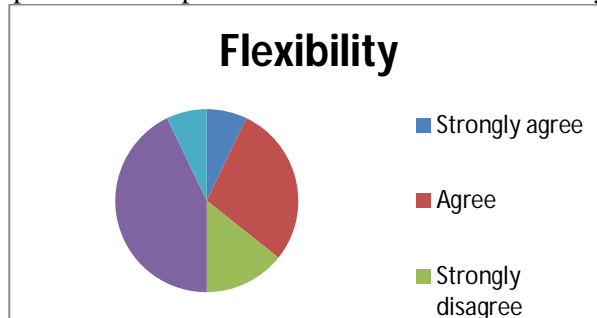


Figure 4.21 reveals that seven percent of medical officers strongly agree that Clinical Associates have the potential to replace nurses and doctors when they are not available. Twenty nine percent agree, fourteen percent strongly disagree and forty three percent disagree. Seven percent are uncertain. According to Doherty; 2012, clinical associates are not meant to replace doctors or nurses, but to strengthen health care at district hospitals as integral members of the health care team.

Patient –centeredness

Figure 4.22: Clinical Associates provide care that is centred on patient preferences, needs and values.

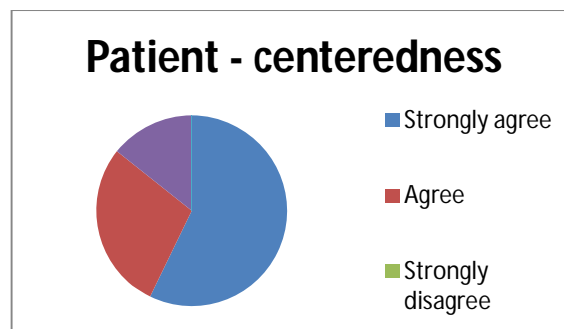


Figure 4.22 reveals that fifty seven percent of medical officers strongly agree with the statement, twenty nine percent agree and fourteen percent disagree. The BCMP programme works in co-ordination with national policies to improve district management capacity. It responds to the patient profile at district hospitals. Patients seen at District hospitals are those that do not have complex conditions that warrant specialist care (Doherty; 2012)

Efficiency of Clinical Associates

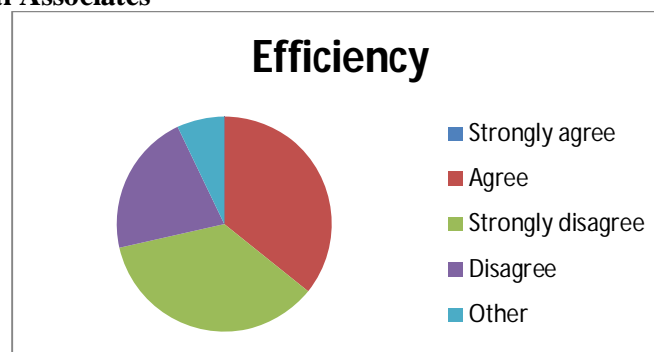
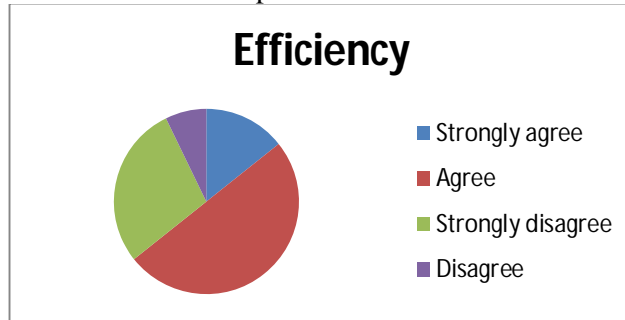


Figure 4.23 reveals that thirty six percent of medical officers agree that since the introduction of Clinical Associates at Tshwane District Hospital, patients' waiting times have decreased. Thirty six percent strongly disagree, twenty one percent disagree and seven percent are uncertain.

Efficiency

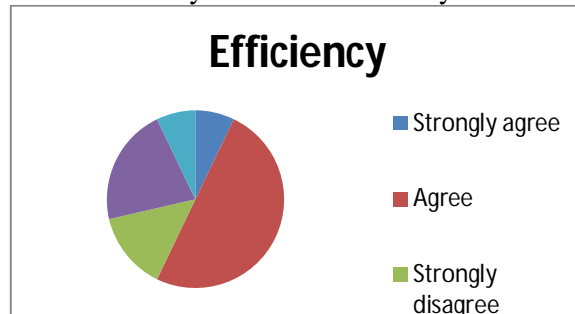
Figure 4.24: Movement through the clinical process has been faster since the introduction of Clinical Associates at Tshwane District Hospital



According to figure 4.24; fourteen percent of medical officers strongly agree that since the introduction of Clinical Associates at Tshwane District Hospital, movement through the clinical process has been faster. Fifty percent agree, twenty nine percent strongly disagree and seven percent disagree with the statement. The introduction of Clinical Associates was to relieve the workloads of doctors and nurses (Doherty; 2012).

Efficiency

Figure 4.25: The limited scope of practice of Clinical Associates can be viewed as unfavourable to their ability to contribute to the efficiency of the health care system



According to figure 4.25; seven percent of medical officers strongly agree with the statement, fifty percent agree. Fourteen percent strongly disagree and twenty one percent disagree with the statement. Seven percent are uncertain. The uncertain seven percent indicated that the scope of practice should be urgently finalised as currently there is duplication of medical efforts. Prescribing competencies of Clinical Associates needs to be addressed. Currently they are not allowed to prescribe any medication or order investigations without co-signing by the doctors (Doherty; 2011).

SECTION C

This section analyses qualitative data collected from four Clinical Associates and three senior members of management. Questionnaire A was designed for Clinical Associates. Four questionnaires were distributed to all Clinical Associates and all four were collected. The response rate for Clinical Associates is hundred percent.

1) Qualification as Clinical Associates

- Twenty five percent of the respondent qualified in 2011, twenty five percent in 2012 and fifty percent qualified in 2013.

2) Institution of qualification as a Clinical Associate

- Twenty five percent qualified from University of Witwatersrand and seventy five percent from the University of Pretoria.
- 3) Knowledge about the BCMP programme**
- Two respondent (fifty percent) indicated that they learnt about this course from the University of Pretoria course brochures , together with career counsellors; session. One respondent of the two respondents also indicated that personnel from the university explained to them that the BCMP program will assist you in qualifying for a medical degree if an applicant failed to be accepted into the medical programme.
 - Twenty five percent of the respondent reported to have been told by “someone “about the course.
 - Twenty five percent was recruited by a career officer at the South African National Defence Force (SANDF), who presented a lecture about this new program.
- 4) Reasons for application to the BCMP programme.**
- Seventy five percent indicated that “they always dreamt of becoming medical doctors” but did not qualify for admission to the medical programme.
 - Twenty five percent indicated that “it was an opportunity to acquire a degree in the medical field. One respondent also thought that he will get proper recognition, similar to a Physician Assistant in the United States of America.
- 5) Number of years employed at Tshwane District Hospital**
- Fifty percent of respondent have been employed for less than one year.
 - Twenty five percent of respondent has been employed at Tshwane District Hospital for three years and the other twenty five percent has been employed at Tshwane District Hospital for two years.
- 6) Clinical Associates rotations at Tshwane District Hospital**
- Emergency and Trauma unit.
 - Out Patient Department
 - Medical and Paediatric ward, including Kangaroo Mother Care Centre.
 - Antiretroviral Clinic
 - Theatre.
- 7). Scope of practice of Clinical Associate at Tshwane District Hospital**
- Twenty five percent indicated the following: ‘I do not know, our scope has not been defined’.
 - Seventy five percent indicated that the scope of practice has not been finalised by the national Department of Health (DoH). Their scope at Tshwane District Hospital includes the following:
 - Attend to and consult with patients, discuss management and investigations with the available doctor as Clinical Associates are not allowed to work alone.
- 8) Benefits of a Clinical Associates at Tshwane District Hospital**
- All respondent indicated the following:
“Seeing patients”.
“Acquiring work experience as a Clinical Associates enhances my clinical skills”.
“I like seeing and consulting with patients. I also get the opportunity to see different diseases, and injuries.
- 9) Challenges of Clinical Associates at Tshwane District Hospital**
- All respondent reported the following challenges:
“Not knowing our scope of Practice”.
“Counter signing all our work and documents by doctors before implementation.”
“Failure of being recognised by other members of the health care team”.
“Some medical officers cannot define the role of a Clinical Associate, task delegation is not clear”.
“We are underpaid.”

10) The availability of continuous professional development programmes for Clinical Associates at Tshwane District Hospital

- All respondents reported that there is currently no available continuous professional development programmes specifically for Clinical Associates at Tshwane District Hospital.

11) The effectiveness of Clinical Associates in addressing the challenge of skills shortage at Tshwane District Hospital

- Fifty percent of the respondents strongly agree with the above mentioned statement.
- Twenty five percent of the respondent indicated that “sometimes Clinical Associates have the potential to address skills shortage at Tshwane District Hospital.
- Twenty five percent of the respondents disagree with the above mentioned statement. The respondent indicated that Clinical Associates are not utilised to the best of their abilities. The respondent does not believe that Clinical Associates are effective in addressing skills shortage at Tshwane District Hospital.

12) Recommendations of the BCMP programme to potential applicants

- Seventy five percent of respondents indicated that they would not recommend the programme to any potential applicants.
- Twenty five percent of respondents would strongly recommend the programme to other applicants

Reasons for the recommendations

- Fifty percent indicated that there is no” demonstrated need for Clinical Associates at Tshwane District Hospital”.
- Twenty five percent indicated that the “current challenges are complex”.
- “There is no scope of practice”.
- “No prescribing rights”.
- “Failure of recognition by other members of the healthcare team”.
- “Lack of future BCMP programme initiatives”. Currently no postgraduate programmes exist for qualified Clinical Associates.

SECTION D

This section discusses the respondent from members of senior management.

The Human Resource Manager, the Clinical Manager and the Head of Family Medicine, Clinical division took part in this study. Three questionnaires were distributed to them, and all three were collected successfully. See appendix D for the questionnaire. The response rate from management is one hundred percent.

1) The introduction of Clinical Associates at Tshwane District Hospital

- All respondents indicated that qualified Clinical Associates were introduced in at Tshwane District Hospital in 2012.
- One respondent added that +/-five years ago was the first time they started to train student Clinical Associates.

2) Reasons for employment of Clinical Associates at Tshwane District Hospital

- All respondent indicated that Tshwane District Hospital was mandated by the Department of Health to train and employ qualified Clinical Associates.

3) Recruitment of Clinical Associates at Tshwane District Hospital

- Hundred percent of the respondents indicated that there no were recruitment strategies used for Clinical Associates. It was mandatory that they should be employed at Tshwane District Hospital. Clinical Associates can only be trained and employed at district hospitals.

3) Retention strategies used for Clinical Associates at Tshwane District Hospital

- All respondents indicated that no retention strategies exist at Tshwane District Hospital for Clinical Associates.

4) Opportunities for continuous professional development at Tshwane District Hospital

- Sixty seven percent the respondents indicated that no formal opportunities exists strictly for Clinical Associates. They attend all the doctors meetings and take part in weekly continuous professional development lectures given by and for medical officers.
- Thirty three percent indicated that they are privileged to work closely with medical officers, take part in the daily medical wards rounds and also take part in decision making with regards to the management of patients.

5) Challenges of Clinical Associates from management perspective

- All respondents indicated that “unfinalised scope of practice by the Department of Health” poses a major challenge.
- “Failure of recognition by the Health Professional Council of South Africa, due to the unfinalised scope of practice.”

6) Benefits of employing Clinical Associates at Tshwane District Hospital

- Thirty three percent of the respondent indicated that since the introduction of Clinical Associates at Tshwane District Hospital, no formal study has been done to measure their impact. The respondent has no proof of the benefits of employing Clinical Associates.
- Sixty seven percent of respondents indicated that there has been improvement in efficiency of service delivery.
- Clinical Associates assist by “relieving the pressure off the doctors”.
- “They allow doctors to respond to more complicated cases”.

7) The effectiveness of Clinical Associates in reducing the human resource challenge of skills shortage at Tshwane District Hospital

- Thirty three percent indicated “partially”. Only if the expectation is to relieve the pressure off the doctors.
- Thirty three percent indicated that they strongly agree with the above mentioned statement, although they require supervision.
- Thirty three percent indicated that no formal study has been done to measure their impact at Tshwane District Hospital. “It would be difficult to say”.

8) Employment of more Clinical Associates at Tshwane District Hospital

- Sixty seven percent indicated that “yes” more clinical Associates should be employed at Tshwane District Hospital. Clinical Associates have an important role to play within the health industry.
- Thirty three percent indicated that they are uncertain.

CONCLUSIONS AND RECOMMENDATIONS

Findings from the Study

Findings from the primary and the secondary study will be discussed under 5.2.1 and 5.2.2 respectively.

Findings from the Primary Research

According to research, there is a global shortage of healthcare providers. South Africa also has a shortage of doctors and other health professionals. In response to this crisis of skills shortage, the South African National Department of Health began to explore available mechanisms of increasing the quality of skilled healthcare providers. In 2004, a national task team was assembled to establish a training curriculum, identify a scope of practice and outcomes for a new mid-level healthcare provider. This new cadre of mid-level provider is known as Clinical Associates. These

new professionals are similar to physician assistants in the United States of America (USA) and non-physician assistants in the United Kingdom. Similar use has been identified in other African countries such as Kenya, Uganda, and Tanzania. They perform many of the tasks previously done by physicians, including examination, diagnosis, carry out investigations, treat and prescribe medication to patients. All physician assistants/clinical associates are associated with a physician and must practice in an interdependent role. In South Africa, training began in 2008 and the first graduates entered the job market in 2011. Upon qualification, clinical associates are competent to take history, perform physical examinations, and conduct routine diagnostic and therapeutic procedures. Clinical Associates are required to under the supervision of a medical doctor. The intention is that they can perform many of the routine tasks that are usually performed by doctors. According to literature, there are still many challenges that are faced by this new cadre of health professionals. These include the following;

- i. Boundaries with regards to a scope of practice have to be defined.
- ii. In order to retain Clinical Associates in the public sector, clear career pathways should exist and working conditions will have to be improved.
- iii. New posts will have to be created to recruit newly graduates, along with the recruitment of doctors to ensure that there is adequate supervision.
- iv. Challenges of remuneration within different levels of staff can give rise to tension.
- v. Prescribing competencies of clinical associates also needs to be addressed; currently they are not allowed to prescribe any medication or request any medical procedures.
- vi. Assessing the quality of care provided by clinical associates should be a priority in future.
- vii. Up to date, no full evaluation of the impact of clinical Associates has been conducted.
In the United Kingdom (UK), non-physician clinicians are well represented in the workforce. They provide care that would be undertaken by physicians. The rising demand for cost of care has increased interest in the possible economies to be made by shifting care from high practitioners, such as doctors, to low cost practitioners. Gains in efficiency are sought by breaking down traditional job demarcations. This will enable staff to be deployed in many ways that can maximise the use of their skills.
- viii. In the United States of America, the education of physician assistants began in the mid -1960s. Since then, universities have developed accelerated medical programmes to equip physician assistants to work in areas of social need and increase the availability of quality health care. All physician assistants must be associated with a physician and must practice in an interdependent role, known as negotiated performance autonomy. Numerous studies done have shown that the quality of care given by physician assistants is at the level of that given by physician in a comparable situation, with high levels of patient satisfaction (Mittiman, 2005). Growth of physician assistants has been rapid.
- ix. According to the 2006 census, 70 612 individuals were eligible to practice as physician assistants. This reflects a growing need to provide more efficient and cost effective health care to a rapidly growing underserved population.
- x. The physician assistant education programme began in 2010 in Australia and New Zealand. This programme was initiated as a response to perceived shortages of medical clinicians in underserved populations in rural and remote communities and also as an experiment innovative, medical role changes in the Australian health workforce (Miller; 2011).
- xi. Physician assistants are not yet a registered profession in most parts of Germany, but are permitted to practice under the supervision from a medical doctor. (Miller: 2011).

Findings from the Secondary Research

Tshwane District Hospital employs different kinds of health care professionals. Its primary role is to provide basic primary health care to the Tshwane and Metsweding District community. The hospital employs largely nursing personnel, numerous different allied health professionals, medical officers and clinical associates. Observations made from this study indicate that the majority of participants were nurses, allied health professionals and medical doctors, whom all work very closely with Clinical Associates.

- **Number of years employed at Tshwane District Hospital**

More than half of the nursing staffs have been employed at Tshwane District Hospital for more than five years, a quarter (twenty five percent) for two to five years and less than a quarter for more than two years. All (one hundred percent) physiotherapists, pharmacists, psychologists, dieticians and speech therapist have been employed for less than five years. Very few members of the allied health professionals have been employed for more than five years, for instance, only forty percent of radiographers and a quarter (twenty five percent) of the medical officers. Clinical Associates were first introduced in Tshwane District Hospital in 2012. A thorough assessment of the impact of the introduction of Clinical Associates at Tshwane District Hospital should be observed. This should highlight the impact made by Clinical Associates before and after their introduction.

- **Recognition of Clinical Associates**

Ninety three percent of all nurses are able to recognise Clinical Associates employed at Tshwane District Hospital, only six percent were unable to recognise Clinical Associates. All physiotherapists, occupational therapists, speech therapists and dieticians are able to recognise Clinical Associates. Only six percent of radiographers and one third of psychologists were not able to recognise Clinical Associates. They also have a characteristic uniform that they can all be identified by. It is therefore, evident that the majority of allied healthcare professionals that participated in this study are able to recognise Clinical Associates employed at Tshwane District Hospital.

- **Understanding the role of Clinical Associates**

Less than half of all nurses understand the role of Clinical Associates, while more than half do not understand the role of Clinical Associates. Only two percent is uncertain. All physiotherapists do not understand the role of Clinical Associates. More than half of pharmacists do not understand their role, while less than half are able to identify their role. The majority of radiographers do not know the role of Clinical Associates. Half of the Occupational Therapists know their role and the other half do not know their role. Two thirds of psychologists indicate that they can identify the role of Clinical Associates while one third disagrees. All speech therapists indicate that they understand the role of Clinical Associates. One third of all dieticians indicate that they understand the role of Clinical Associates, contrary to the two third who do not know their role. It can be concluded that the majority of the participants do not know the role of Clinical Associates at Tshwane District Hospital.

- **Scope of practice of Clinical Associates at Tshwane District Hospital**

Only thirty one percent of all nurses can identify the scope of practice of Clinical Associates. More than half of all nurses cannot identify the scope of practice of Clinical Associates and only two percent are uncertain. All physiotherapists, pharmacists, radiographers, occupational therapists and speech therapists cannot identify the scope of practice of Clinical Associates. It can be concluded that the majority of the participants cannot identify the scope of practice of Clinical

Associates. This finding is consistent with current literature, the scope of practice for Clinical Associates has not yet been finalised.

- **Job Interaction with Clinical Associates**

The majority of all nurses work closely with Clinical Associates. Two thirds of physiotherapists work closely with Clinical Associates, and one third do not agree with this statement. Seventy one percent of pharmacists have worked closely with Clinical Associates; only twenty nine percent disagree with this statement. The majority of radiographers do not work closely with Clinical Associates. Half of Occupational Therapists have worked closely with Clinical Associates and another half have not. All psychologists, dieticians and speech therapists have worked closely with Clinical Associates. The majority of participants indicated to work closely with Clinical Associates, except for Radiographers. This can be due to the following reasons:

1. Clinical Associates are distributed within all medical wards. Allied healthcare professionals consult with their patients in the medical wards, where they are in contact with Clinical Associates.
2. Radiographers are mainly situated at their department, except for exceptional medical cases, where a mobile x ray can be requested in the ward or emergency department. This explains the reduced contact time between Clinical Associates and Radiographers.

- **Recognition of Clinical Associates as an effective part of the medical team**

The majority of nurses recognise Clinical Associates as an effective part of the medical team. Two thirds of physiotherapists also agree with the statement and one third disagrees. Eighty six percent of pharmacists agree with the statement and fourteen percent is uncertain. Sixty percent of the radiographers do not recognise Clinical Associates as an effective part of the medical team. Seventy five percent of Occupational Therapists agree with the statement and twenty five percent disagree. All psychologists, speech therapists, and dieticians agree with the statement. These results were due to:

1. Clinical Associates spent their time in the medical wards, working closely with nurses, physiotherapists and other allied healthcare professionals except for radiographers.

In conclusion, the majority of participants, except for Radiographers, recognise Clinical Associates as an effective part of the medical team.

- Eighty nine percent of nurses had a pleasant encounter with Clinical Associates at Tshwane District Hospital. All physiotherapists, psychologists, speech therapists and dieticians agree with the statement. Eighty six percent of pharmacists agree and only fourteen percent is uncertain. Thirty percent of radiographers agree with the statement and seventy percent disagrees. Seventy five percent of Occupational Therapists agree while twenty five percent do not agree with the statement.

It can be concluded that the majority of participants in this study had a pleasant encounter with Clinical Associates except for Radiographers.

- **The effectiveness of Clinical Associates in addressing skills shortage at Tshwane District Hospital**

Eighty nine percent of nurses believe that Clinical Associates are effective in addressing skills shortage at Tshwane District Hospital, only eleven percent disagrees. Two thirds of physiotherapists agree and only one third disagree with the statement. Eighty six percent of pharmacists also believe that Clinical Associates are effective in addressing skills shortage at Tshwane District Hospital. Forty percent of radiographers do not agree with the statement, only forty percent agree and twenty percent are uncertain. All occupational therapists, psychologists, speech therapists and dieticians agree with the statement. It can be concluded that the majority of participants believe that Clinical Associates are effective in addressing skills shortage at Tshwane District Hospital.

- Eighty two percent of nurses agree that more Clinical Associates are required at Tshwane District Hospital. Only sixteen percent disagree and twenty one percent are uncertain. Sixty seven percent

of physiotherapists agree and thirty three percent disagree with the statement. Eighty five percent of pharmacists agree with the statement and only fourteen percent is uncertain. Ninety percent of radiographers disagree with the above mentioned statement, only ten percent agreed. Half of the occupational therapists agree, a quarter is uncertain. All psychologists, speech therapists and dieticians agree with the statement. It can be concluded that the majority of participants believe that more Clinical Associates are required at Tshwane District Hospital.

- Eighty nine percent of nurses believe that the role of Clinical Associates complements the health care system. Only eleven percent disagrees with the statement. Two thirds of physiotherapist agrees with the statement, and one third disagrees. Sixty percent of radiographers do not believe that Clinical Associates complement the health care system, only thirty percent agree with the statement and ten percent is uncertain. All occupational therapists, psychologists, speech therapists and dieticians agree with the statement. It can be concluded that the majority of participants believe that the role of Clinical Associates complements the health care system.

SECTION B

This section consists of conclusions made from the responses of Medical Officers.

- **Number of years employed at Tshwane District Hospital.**
It can be concluded that half of medical officers that participated in this study are employed at Tshwane District Hospital for less than five years and another fifty percent for more than five years.
- **Team Capacity**
All (one hundred percent) of medical officers that participated in this study work closely with Clinical Associates and provide appropriate supervision to them. This finding is consistent with literature. Clinical Associates are required to work under the supervision of a medical doctor. The intention is that they can perform many of the routine tasks that are usually performed by doctors. It is concluded that all Clinical Associates work under the supervision of medical officers at Tshwane District Hospital.
- **Effectiveness**
All medical officers who took part in this study believe that Clinical Associates contribute positively to service capacity. Eighty six percent of all medical officers that participated in this study believe that Clinical Associates provide services based on scientific knowledge. It is indicated from literature that a national curriculum framework guides the BCMP programme at different universities. The programme works in co-ordination with national policies to improve district management capacity, relieves workloads off doctors and nurses. Upon completion of the BCMP degree, they are competent to take history, perform physical examinations, deal with emergencies and conduct routine diagnostics and therapeutic procedures. Their training focuses on providing students with generalist skills. The majority of medical officers believe that Clinical Associates have a positive impact on service delivery at Tshwane District Hospital, only seven percent disagree. According to literature, up to date, no full evaluation of the impact of Clinical Associates has not been conducted. The above mentioned results are obtained from Tshwane District Hospital. No other results from other studies are available for comparison.
- **Continuity**
Forty four percent of all medical officers agree that Clinical Associates can be referred to as “go between” for nurses and doctors, thirty five percent do not agree with the statement and fourteen percent is uncertain. It can be concluded that less than half of medical officers that participated in this study believe that Clinical Associates can be referred to as “go between” for doctors and nurses.
- Ninety three percent of all medical officers that participated in this study believe that Clinical Associates have the ability to respond to nursing enquiries about medical problems. Only seven

percent of medical officers did not agree with the statement. It can be concluded that the majority of medical officers believe that clinical associates have the ability to respond to nursing enquiries.

- **Task Delegation**

Ninety three percent of medical officers that took part in this study agree that the presence of Clinical Associates enables medical doctors to redistribute tasks to those most clinically able, while seven percent are uncertain.

The majority of medical officers that participated that the presence of Clinical Associates enables medical doctors to give attention to more complicated medical cases. Fourteen percent disagree with the statement and seven percent are uncertain. All medical officers indicated that all medical cases are equally important regardless of the team's composition. It can be concluded that medical officers who took part in this study believe that Clinical Associates contribute positively to service capacity, by relieving them off non complicated medical cases.

- **Flexibility**

Thirty six percent of medical officers employed at Tshwane District Hospital believe that Clinical Associates have the potential to replace medical doctors and nurses when they are not available. Fifty seven percent do not agree with the statement and seven percent are uncertain. It can be concluded that Clinical Associates do not have the ability to replace medical doctors and nurses. This finding is consistent with literature, emphasizing that the role of doctors and nurses cannot be replaced by Clinical Associates, but can be enhanced by their skills. Only thirty six percent of medical officers believe that since the introduction of Clinical Associates at Tshwane District Hospital, patients' waiting time has decreased. Over half of medical officers do not agree with the statement and seven percent are uncertain. It can be concluded that since the introduction of Clinical Associates at Tshwane District Hospital, waiting time for patients has not been affected.

- **Patient centeredness**

Eighty six percent of all medical officers believe that Clinical Associates provide care that is respectful and responsive to individual patient's preferences, needs and values. They are able to ensure that the patients' values guide all clinical decisions. Fourteen percent are uncertain.

- **Efficiency**

Fifty seven percent of medical officers agree that the efficiency of Clinical Associates is impaired by their unfinalised scope of practice. Clinical Associates seek a medical doctor to co-sign prescriptions and requests investigations. Thirty five percent disagree with this statement and seven percent are uncertain. It can be concluded that the majority of medical officers believe that the scope of practice of Clinical Associates should urgently be finalised as currently there is duplication of medical efforts. These findings are consistent with literature that prescribing competencies of Clinical Associates needs to be addressed, currently they are not allowed to prescribe any medication or order investigations without co-signatures of medical doctors.

SECTION C

This section concludes the responses collected from Clinical Associates and management.

- **The following conclusions can be made:**

- i. No formal scope of practice exists for Clinical Associates at Tshwane District Hospital.
- ii. No recruitment strategies were utilised in the recruitment of Clinical Associates. Tshwane District Hospital was mandated by the National Department of Health to train and employ Clinical Associates.
- iii. No retention strategies for Clinical Associates currently exist at Tshwane District Hospital.
- iv. No Continuous Professional Development Programmes exist for Clinical Associates at Tshwane District Hospital.

- v. It can be concluded that most of the participants in this study believe that Clinical Associates are effective in the reduction of the human resource challenge of skills shortage at Tshwane District Hospital. The challenges determined from the primary research are similar to the challenges observed in the literature review.

The Following Recommendations are suggested to Tshwane District Hospital and the National Department of Health:

- The scope of practice of Clinical Associates has to be urgently finalised.
- The role of Clinical Associates needs to be clearly defined, at Tshwane District Hospital and on a national level.
- The actual impact of Clinical Associates on the health system has to be measured. Up to date, no formal evaluation has been done. More research on the role and impact of Clinical Associates has to be investigated.
- Strategies should be implemented that will integrate Clinical Associates as an effective part of the medical team. Awareness and education of all health care members should be prioritised in all health care facilities.
- Retention strategies should be implemented at Tshwane District Hospital and all district hospitals where Clinical Associates are employed.
- Programmes for Continuous Professional Development should be implemented at Tshwane District Hospitals and at other district hospitals where Clinical Associates are employed.
- The BCMP programme should be expanded. Postgraduate programmes should be designed to further improve the functions of clinical associates.

Areas of future Research

- The impact of Clinical Associates has not been fully evaluated. Further research has to be carried out in all district hospitals and rural areas where Clinical Associates are employed.
- The BCMP programme has to be expanded. Areas of postgraduate studies and speciality should be further explored.

Conclusion

Clinical Associates have the potential to provide quality care to the Tshwane District community. They have the potential to strengthen the current public health sector and could help South Africa fast track the dream of a National Health Insurance. However, in this study, similarly to the findings of the literature review, the un-finalised scope of practice is an impediment to their practice. At Tshwane District Hospital, the role of Clinical Associates is not fully understood and their scope of practice still remains a challenge. No formal recruitment and retaining strategies exists and there are no opportunities for further continuous professional development. The findings also indicate that Clinical Associates have made a positive impact on the service delivery of quality healthcare to the Tshwane District population.

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