The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg in partial fulfilment of the requirements for the degree of Master of Medicine in the branch of Anaesthesiology.

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Declaration

I, Matthew Graeme Kolling declare that this research report is my own unaided work. It is being submitted for the Degree of Master of Medicine in the branch of Anaesthesiology at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

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25 November 2019

Abstract

Background

There is a significant disparity in the distribution of medical practitioners within the public and private healthcare sector of South Africa. This study explores the perceptions of anaesthesiologists of their working environment in the public sector following their migration into private practice. Their reasons for leaving are largely unknown.

Methods

Rich pictures were applied in an exploratory, qualitative research design using Checkland's Soft Systems Methodology. Anaesthesiologists (specialist anaesthetists), who left the Department of Anaesthesiology at Wits between 2014 − 2017 and were working in the private sector in the Johannesburg Metropole were invited to a workshop. Participants were asked to draw a rich picture to illustrate their perceptions of the working environment in the Department and to then draw a picture to depict the ideal anaesthesiology working environment in the Department. Explanations of their pictures were audio recorded and deductive thematic analysis was used to analyse the data, guided by Herzberg's Motivation-Hygiene Theory.

Results

The rich data from this study suggests job dissatisfaction and a lack of satisfaction in the Department due to poor hygiene and motivator factors such as poor working conditions, challenging workplace relationships, inflexibility with work-life balance and a lack of accountability. These factors are some of the important reasons for migration of anaesthesiologists from public to private practice.

Conclusion

This study demonstrates the complexity of interactions between individuals working together in systems which are often in tension and are sensitive to multiple dynamic influences. These systems are context-specific but need to recognise the factors which may ultimately impact quality health service delivery and education.

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Abbreviations

HIV	Human immunodeficiency virus
ICU	Intensive care unit
MMed	Master of Medicine degree
Wits	The University of the Witwatersrand

Statement

The Research Report consists of a literature review, draft article, study proposal and appendices. The study proposal is included for background reference and is not for examination.

The formatting of this Research Report complies with the University of the Witwatersrand's Style Guide for Theses, Dissertations and Research Reports. The formatting of the draft article complies with the rest of the Research Report and may therefore not comply with the author guidelines of the Journal of the Operational Research Society, the journal to which it is intended to be submitted.

Position statement

I am a third-year registrar in the Department of Anaesthesiology at the University of the Witwatersrand (Wits). Prior to this, I worked as a medical officer in the Chris Hani Baragwanath Academic Hospital (CHBAH) Department of Anaesthesiology for two years. I chose the Wits Anaesthesiology Academic circuit because I regard Wits to be a world class training institute for anaesthetists. This is evident by the fact that Wits anaesthetists get invaluable exposure and are able to manage patients with a vast burden of disease, while training as a registrar.

While managing a neurosurgical patient on call one evening, the consultant with whom I was working, gave me an informal tutorial on neuro- anaesthesia. This consultant left the Department not long after and it deeply saddened me to see him leave. It was then that I realised the importance of retaining knowledgeable, hardworking anaesthesiologists that were eager to pass on their knowledge to others. A few years ago, there was a “mass exodus” of consultants leaving the Department. I was curious to know why anaesthesiologists would leave the Department and go exclusively into private practice. At the same time, I wondered about the reasons for consultants working exclusively in the public sector, without leaving? A departing consultant once said to me that he “just needed a change”. What was this change and why did he desire it? These questions formed the basis of my reflections.

After being in the Department for a number of years, I realised that it was my work colleagues that made it a special environment and a wonderful place to train. I felt a sense of belonging and community within the Department. Every day was an opportunity for me to learn. Every day I strive to become a more knowledgeable and experienced anaesthetist, aiming to provide a high-quality service for all my patients. Whenever a key staff member leaves the Department, I feel that I have lost something important and a large part of the Department is missing. It upsets me because my opportunity to learn from that person on a daily basis has come to an end. The unique skills and knowledge that this departing colleague possesses, are gone and this loss could potentially negatively impact my training experience and ultimate my practice as an anaesthesiologist.

Certain anaesthesiologists within the Department also form an integral part of the administrative aspect of the Department. They ensure that we have stock, that we receive daily tutorials and get exposure to a variety of cases so that we can improve our skills as anaesthetists. By losing these members we also lose their important ability as a manager. As a registar, the impact of this loss is clearly evident as it affects the whole system including how our theatre lists run. This often leads to frustration, lowering my morale and that of my colleagues. This makes it very difficult to stay motivated on certain days and I sometimes question if it's worth spending four years training to become a specialist. When the system doesn't function the way it should, I cannot provide the care I wish for my patients and this is not easy to endure.

I strongly believe that we need to retain key anaesthesiologists, who are making a positive impact, so that we can maintain a high standard of training of our future specialists and provide high quality care to our patients. We need to identify the reasons why some people stay, and others leave. We need to address these factors and optimise our working conditions so that we can retain as well as attract key staff members who will make a positive impact on the Department. And so I come to this exploration with a vested interest. I will have to manage the position described above in respect of allowing a clear understanding of the participants' experiences to prevail.

Section 1: Review of the literature

1.1 Introduction

The South African healthcare system is characterised by a shortage and a maldistribution of healthcare workers (1). The Health Market Inquiry (2) reported in 2019 that “access to medical practitioners in the private sector (1.75 per 1 000) is in stark contrast to access in the public sector (0.3 per 1 000)” of South Africa. The number of medical practitioners in the private sector has increased annually (2).The public healthcare sector has fewer healthcare facilities, but serves the majority (approximately 83%) of the South African population (2), with the greatest burden of disease and HIV prevalence. Training of South African doctors takes place in the public sector and this, therefore, suggests that doctors are moving away from areas where their service is most required (3). Health systems, such as the public sector anaesthesia environment, represent complex systems sensitive to multiple dynamic influences (4).

This literature review will discuss employee retention, management theories related to employee retention, strategies to improve employee retention and employee retention in the healthcare system.

1.2 Employee retention

1.2.1 Background

A high employee turnover may impact the performance of an organisation. Employee turnover has been defined as “the rotation of workers around the labour market; between firms, jobs and occupations; and between the states of employment and unemployment” (5). It can also be described as “the ratio of the number of organisational members who have left during the period being considered, divided by the average number of people in that organisation during the [same] period”(6).

High employee turnover and poor staff retention is a global issue, which is not industry specific (7). The Brazilian labour market, characterised by a shortage of skilled employees, demonstrated an average employee turnover rate of 3.4%, while 68% of employers have had great difficulty recruiting skilled employees (8). The Pakistani leather industry has a high annual turnover rate of 25 − 30%, with many second line managers departing due to a lack of recognition and authority (9). Millennials also change careers more often than generations before them, which can make employee retention challenging (10).

Job satisfaction can be defined as the “positive attitudes held by an individual in respect to a job” (11). A satisfied employee takes pride in the work they do and has a better work ethic than those who are dissatisfied, resulting in improved staff retention (7). Almost 50% of human resource professionals identified employee turnover and retention as an important management challenge (12). This issue has gradually increased from 2012 − 2017 and is the top work force challenge for human resource professionals (12).

Employees play an important role in the sustainability of an organisation (6). Collins (13), an expert on the subject of company sustainability and growth, proposed that recruiting and retaining appropriate individuals is the first key to success (13). The organisation then needs to manage employee turnover effectively so that they can grow and continue to be successful within the market (7). Poor staff retention can lead to negative consequences and is often a sign of deeper, underlying issues within an organisation (9).

1.2.2 Negative outcomes of poor employee retention

The financial costs of recruiting a new employee and recruitment costs for a highly skilled employee were found to be 50 − 60% and 100% of an employee’s first year’s salary, respectively (14). These expenses can extend as high as 500% of an employee’s annual salary (15) and for every 10 professional and managerial employees that leave a company, it is estimated that an organisation may lose around one million US dollars (16). Improving staff retention is a simple and effective way to reduce turnover costs (17).

When an employee leaves, remaining employees often have to carry the workload

of the departed individual. This can result in poorly motivated, underperforming employees within the organisation (8), which may further lead to a decrease in service quality, productivity and profitability (6, 7). A reduction in productivity is challenging to quantify in financial terms and is not usually reported on quarterly financial reports (17). A high employee turnover rate can also lead to disruption of an organisation's culture and structure as well as a loss of tacit knowledge from departing employees (15).

A key or "critical employee" is a member of staff who plays an important role in an organisation's sustainability and whose absence will have disastrous consequences for the organisation (18). They occupy specialised positions and are not easily replaceable (14). Critical employees possess extensive knowledge and skills, which can be passed on to others, and which are vital to an organisation's growth and viability (14). When a critical employee departs, this often leads to a greater initial reduction in productivity and efficiency of the organisation (14). A suitable replacement needs to integrate into the new work environment, undergo extensive training to attain the performance level of the employee who departed
(6) and may never reach the full productivity of those who left (7). Remaining employees tend to have low morale and are less motivated because they realise how important these key employees were to the organisation (14).

The loss of a critical employee can result in other employees following suit. If an employee from an ethnic or gender minority group leaves, diversity in the work environment can be negatively affected (19, 20). An organisation that supports diversity, may attenuate discrimination within the work environment and reduce its potential negative outcomes (21).

1.2.3 Positive outcomes of employee turnover

Turnover can also play a fundamental role in the growth and relevance of an organisation (19). Occasionally, a talented employee may not be appropriately aligned to the strategic goals of the company and therefore the negative consequences of their departure would be minimal (8). Some employees are

ineffective and do not provide the quality of service expected of them. They may be careless, unsafe and are characterised by unpleasant work ethic and attitude that colleagues feel are not welcome in their institution (17). Every organisation has a different and ideal employee turnover rate at different stages of its existence (22). It is important to find a balance between both functional and dysfunctional turnover and sometimes it is good to "let go" of employees who are not aligned with the vision of the organisation. (22)

1.2.4 Sources of employee turnover

The reasons why an employee chooses to leave an organisation are often multifactorial and may also be applied to the healthcare sector. These can be divided into "*push and pull*" factors, which can be further divided into work, personal, family and community factors, as well as external environmental factors (6, 9). *Push* factors have a far greater influence on an employee's decision to leave, than *pull* factors (23). Employees take these factors into account when comparing their present job with attractive job opportunities presented to them (24). Certain employees stay, despite unhappiness, with the hope that this will eventually lead to positive changes (19). While others remain because their needs are met and their skills are utilised at this particular organisation (9).

1.3 Management theories related to retention

There are many management theories, which give useful insight for reasons of employee retention and turnover, however Maslow's Hierarchy of Needs (25) supports Herzberg's Motivation-Hygiene Theory (26) with understanding these reasons and are described as follows.

1.3.1 Maslow's Hierarchy of Needs

In 1943, Abraham Maslow (25) proposed a theory, which stated that the basis of human behaviour is related to the "fulfilment of needs" rather than human instinct and the pre-learned set of actions of the unconscious mind. Maslow's theory stated that we must first satisfy our most basic physiological need of survival before other needs (in order of importance), safety, love and belonging, esteem and self- actualisation, are addressed. However, if an individual's needs lower

down Maslow's Hierarchy of Needs fell away, then they would no longer be concerned about higher order needs and rather be motivated to fulfil their basic needs, before moving up the Hierarchy of Needs model once again. Maslow's theory helps us to understand how these needs motivate us all (25).

1.3.2 Herzberg's Motivation-Hygiene Theory

In 1959, American psychologist, Frederick Herzberg (26) proposed a theory to describe the factors that motivate and satisfy employees in the working environment. Herzberg identified two broad categories: hygiene factors and motivator factors. Hygiene factors include: working conditions, company policy, supervision, salary, personal life, relationships in the work environment and security. If these factors are absent or poor, they are the primary cause of dissatisfaction. Motivator factors are related to the work itself, and if present result in satisfaction. These motivator factors include: responsibility, professional growth, recognition, achievement and advancement (26).

Herzberg (26) found these two categories to be distinctly separate from one another and stated that, "The opposite of job satisfaction is not job dissatisfaction, but rather, no job satisfaction; and similarly, the opposite of job dissatisfaction is not job satisfaction, but rather no job dissatisfaction" (26). Kwenin et al. (7) defined job satisfaction as the pleasurable, positive and favourable emotional state towards one's job, and dissatisfaction as the "unfavourable and negative attitudes an employee has about their work". Employees, who are satisfied at work, have a stronger desire to remain at an organisation (7).

Herzberg (26) classified an employee's salary as a hygiene factor, meaning that if an employee's salary is poor then this would result in job dissatisfaction. However, a generous salary would lead to no job dissatisfaction, rather than improving job satisfaction (26). An employee's salary ranked fifth behind other factors that affect staff retention (27). This was also found to be true in a study conducted in Ghana, assessing whether the income level influenced an employee's decision to stay at the Vodafone Ghana Limited. Company (7). There was no evidence that an employee's salary resulted in an employee remaining at the organisation, which further emphasise that there are additional factors, other than financial motivators,

which improve staff retention (7, 28). The hygiene factors and motivator factors of Herzberg's Motivation-Hygiene Theory (26) are illustrated in Figure 1.

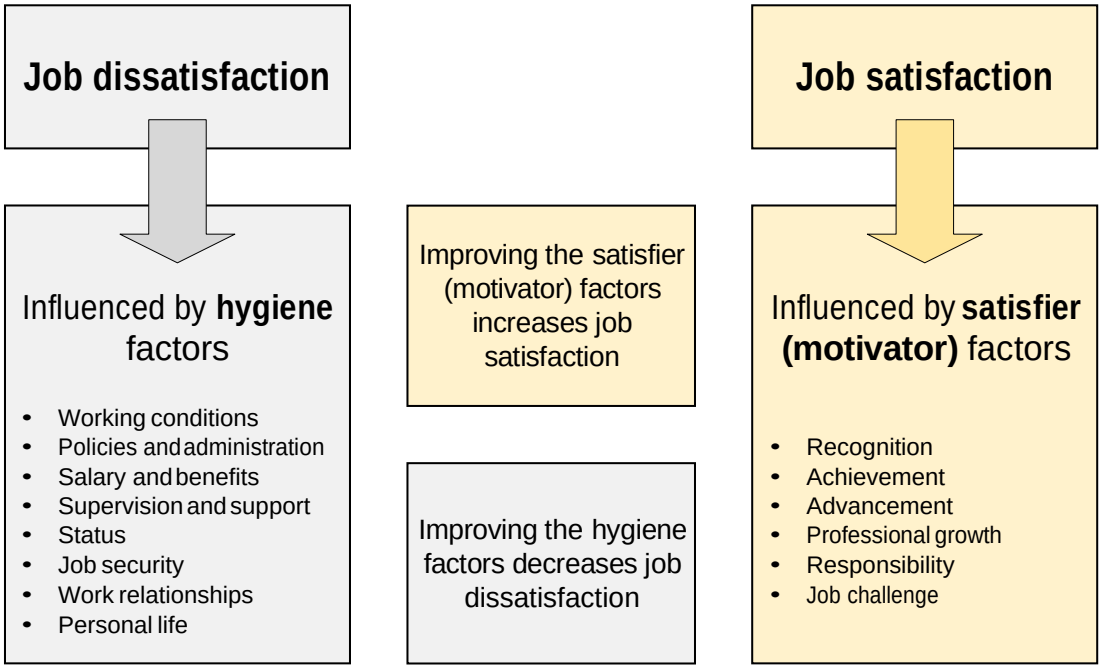

Figure 1 Herzberg's Motivation-Hygiene Theory

Adapted from Tools Hero (29).

Herzberg's theory (26) states that employees tend to leave an organisation when there are a lack of motivator factors and a high number of poor hygiene factors (26). Management teams often attempt to increase motivator factors without paying attention to hygiene factors (27). However, it has been found that it is more cost effective and easier to improve hygiene factors, which often indirectly leads to an increase in motivator factors (27). Certain parallels can be seen when comparing Herzberg's theory and Maslow's Hierarchy of Needs (30). Hygiene factors have been linked with Maslow's basic physiological needs, needs of safety, security, belonging and love, while Herzberg's motivator factors can be compared to esteem and self-actualisation (30). This is illustrated in Figure 2.

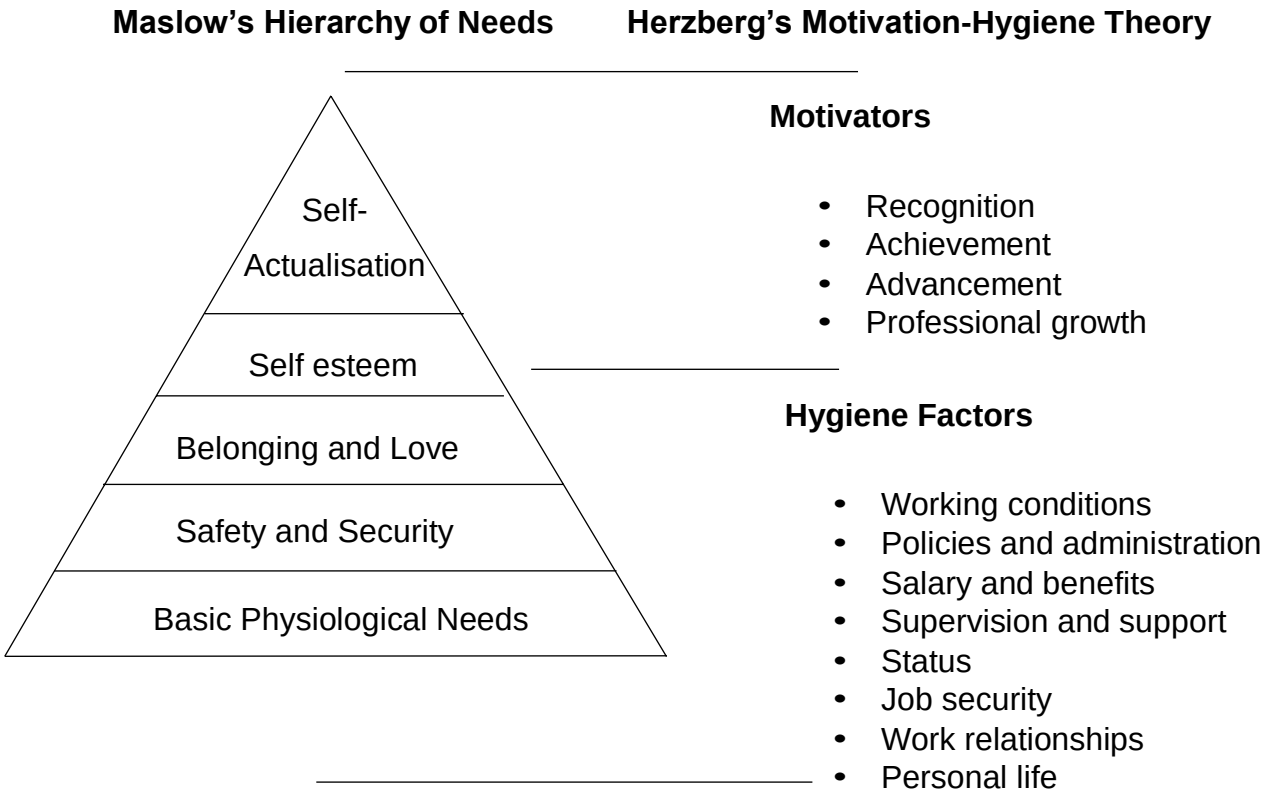

Figure 2 The link of Maslow's Theory of Hierarchy of Needs with Herzberg's Motivation-Hygiene Theory

Adapted from Volunteer_3_DI_Motivation/ Incentives (Behavioural Science) Part I: Mercure AACE 2013 (30)

Hygiene Factors

Holtom et al. (24) introduces the concept of job embeddedness, which is based on the fit and the links an individual has within the organisation and community. Critical aspects relate to the ease with which existing links can be broken and how similar an employee's job and community are to other aspects of their life space. The stronger and more numerous the links between colleagues and activities at work, the less likely an employee is to leave an organisation. Job embeddedness has been found to have a positive effect on staff retention (24).

Working conditions

"Realistic job preview" aims to improve an applicant's expectation about a job by providing both positive and negative aspects of the position before it is occupied

(8). “Role ambiguity” highlights the difference between what we feel the job entails with what is expected of us within the organisation (6). It has been found that newly recruited employees often have false expectations about a job, resulting in uncertainty, dissatisfaction, and a lack of motivation with eventual loss of the newly employed individual (8). Realistic job preview allows an applicant to integrate into the work environment more easily and reduces the likelihood of voluntarily departure from the organisation (8).

Gupta-Sunderji (27) suggests that bureaucratic company policies and administration are extrinsic factors, which can lead to dissatisfaction among employees if implemented incorrectly. These policies are important for the growth and viability of an organisation, but often the purpose of such policies is not discussed beforehand and can result in unhappiness among staff members. Employees may be more receptive if the purposes of such policies are communicated clearly to them (27). Open communication between members of staff, creates a supportive environment where every employee feels that they are a part of the team and working toward a common goal (31).

Salary

Performance-orientated compensation can influence a key employee’s decision to remain at an organisation (8). Personal reward are how employees often judge the quality of their job because they desire to be valued and recognised for the work they do (8). Retention of high performers is affected when their hard work is not recognised and they are poorly compensated, resulting in dissatisfaction (6). An effective reward system can easily be implemented within an organisation to reduce employee turnover (7). However, it has been identified that solely focusing on improving salaries is an ineffective employee retention strategy (23).

Personal life

A healthy balance between professional and private life is important to employees. Younger employees find work-life integration and flexible working hours to be important (10). They wish to work for an organisation that takes their personal issues into account (10). This creates a supportive work environment and the

perception that the organisation cares about ones wellbeing (8). Potential burnout of employees can be prevented if a healthy balance is maintained, which allows employees to be motivated and more productive for longer (32).

Family embeddedness in the community proposes that non-work related, family factors, can also influence staff retention (19). If children are of a certain age and are well suited to their present schools or a spouse is unable to find employment in an area where an employee has a potential job opportunity, this could also be a deciding factor on whether to remain at an organisation (23). The development of community bonds as well as friendships may also have an effect on an individual's decision to stay at an organisation (23).

Relationships at work

Toxic work relationships with supervisors and other colleagues can have a negative impact on staff retention. Collins (13) states that, "People don't leave an organisation, people leave managers" (13). Healthcare workers in Ghana expressed that older and more senior staff members could be difficult to approach and were very intimidating (31). This led to an uneasy, unpleasant and tense work environment, where it was difficult to be productive and remain motivated (31). A survey conducted amongst allied health professionals in Australia showed that 45% of staff were more likely to remain at their current job, for two more years, when they were in a supportive work environment (32). Schoo et al. (31) states that staff members who work closely together over a period of time tend to form strong bonds, which strengthen over time and fuel their desire to come to work on a daily basis. This often discourages them from leaving an organisation. A leader can easily modify these demotivating factors with simple and cost-effective methods. They can establish rapport by taking an interest in the lives of staff members and create a culture of tolerance and teamwork in a supportive working environment (31).

Security

Political and economic instability are external factors that negatively affect certain countries, which may have undesirably high crime rates and may also be involved

in conflict with surrounding areas (23). These factors have a negative impact on employees, who may choose to leave for a more stable, less stressful and safer environment (23). Crime has been attributed to numerous doctors leaving South Africa (23). South African doctors feel more strongly about crime than doctors from other African countries (33).

Motivator factors

Recognition and responsibility

Positive reinforcement is an equally important, inexpensive and effective strategy to improve staff retention (7). Positive feedback (a means of recognising hard work) and negative constructive feedback can prevent apathy among staff members and give employees a chance to improve and grow within the working environment (31). A mentor plays an important part in providing invaluable feedback and motivating employees to work harder (20). Employees also feel a sense of recognition when management listens to their suggestions and concerns (9).

Gupta-Sunderji (27) states that by altering supervisory strategies and making employee responsibilities visible, employees can track their progress and feel the sense of achievement and acknowledgement that they desire. Employees also feel a sense of pride, accomplishment and responsibility when they are empowered to make fundamental decisions and voice their opinions within an organisation. Self-worth and self-motivation are reinforced when an individual is given greater autonomy, which has a positive effect on staff retention (27). They appreciate healthy communication between all levels of staff members with the ability to take part in certain decision-making processes (6).

Professional growth and achievement

Employees often aspire to achieve certain goals (such as promotions) during their employment tenure. Perceived career opportunity is “the degree to which employees perceive that they can achieve their career goals within their current company” (8). “Career plateau” is a term used to describe the lack of opportunities to develop on a professional and personal level within an organisation (7).

Talented and ambitious individuals may choose to leave an organisation because there are no career opportunities available to them or because an unstable and inefficient work environment makes it difficult to predict their career advancement within the organisation (6). Human resource strategies should therefore focus on communicating the continuing career growth opportunities available to employees (7).

Healthcare workers are inspired to excel when they are presented with opportunities to advance in the working environment (34). Rural doctors often move to urban areas because they desire an academic and stimulating setting where they can improve their clinical acumen (35). Career advancement and opportunity within an organisation must be related to the quality of work an individual displays in order to achieve this promotion. An automatic five-year promotion, without taking into account an employee's achievements, can lead to poorer work ethic and have a negative effect on staff retention (31). A merit-based advancement system has been shown to be more effective (31).

Generalised training and development, not specifically related to tasks performed at an organisation, can provide employees with the skills required to move to alternative jobs (8). However job specific training, improves productivity and an employee's willingness to remain at an organisation (7). This gives them the knowledge and skills to cope with more challenging tasks and advance in their professional development (34).

1.4 Strategies to improve employee retention

An organisation needs to identify the reasons as to why employees may lack commitment, and then create an environment, which will result in them wanting to stay (14). Each employee has unique individual desires and aspirations. Human resource managers must identify what is important to the "critical employees" they wish to retain within the organisation and continuously address these factors (9). Retention strategies must focus on improving satisfaction (and reducing dissatisfaction) within the organisation because of this strong link between employee satisfaction and their willingness to stay (7). The importance of high hygiene and high motivator factors are illustrated in Figure 3.

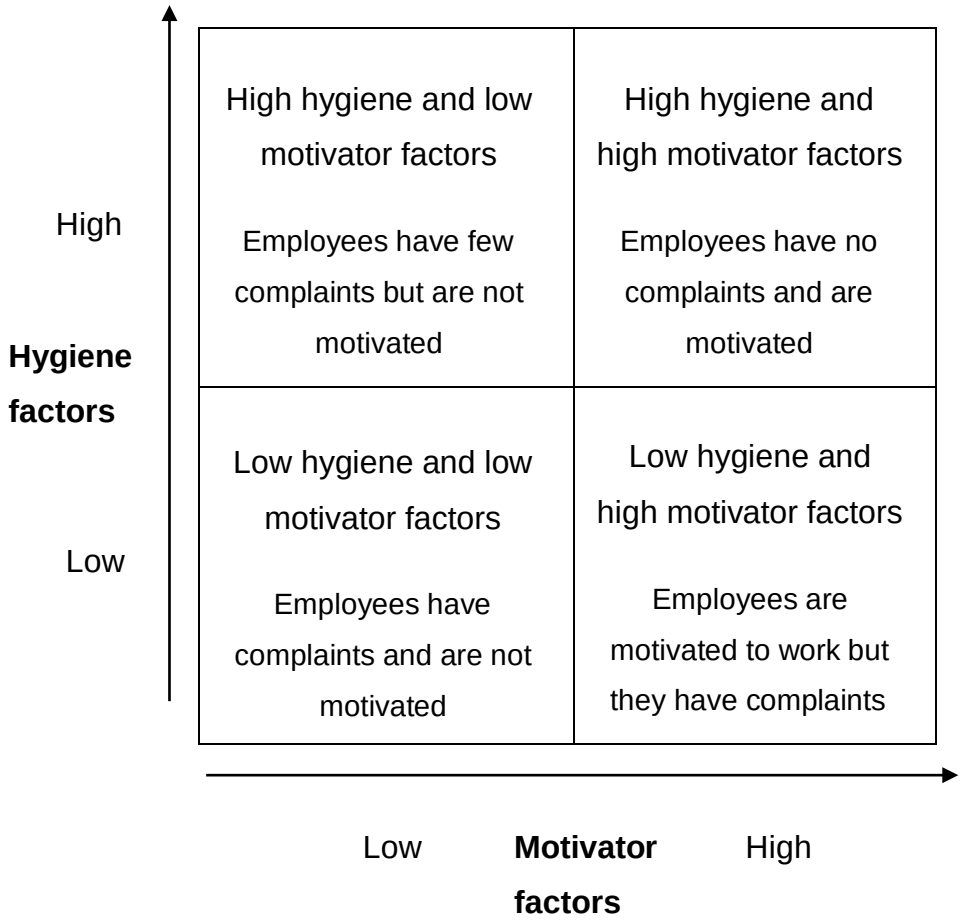

Figure 3 The importance of high hygiene and high motivator factors on employees in the working environment

Adapted from Tools Hero (29)

1.5 Employee retention in the healthcare system

1.5.1 Importance of employees in healthcare

A healthcare system can only function if healthcare workers are retained to serve the community. Low income countries mostly have a “fragile healthcare system” where retention of staff is even more important, especially when it comes to meeting the Millennium Development Goals (36) and Sustainable Development Goals (34). In order to provide the most basic of healthcare services, it was reported in 2008 that at least one million additional healthcare workers are required to serve in African countries (34). In 2012 there was an estimated 7.2 million

shortage of healthcare workers in low and middle-income countries (37). This figure is predicted to reach 12.9 million over the next few decades (37).

The sub-Sahara African healthcare sector is below the “critical” benchmark of 2.5 healthcare workers per 1000 people (3). The World Health Organisation (38) has reported the 2013 physician density (per 1000 population) to be 0.055 in Mozambique. However this number was estimated to be 0.818 in South Africa (2016) and 3.496 in Australia (2015) (38). Odhiambo (39) reported that the sub-Sahara African region is not only characterised by a shortage, but also a maldistribution of healthcare workers. The percentage of sub-Sahara African doctors that serve in rural areas is 37%. These doctors care for 63% of the sub-Sahara African population, who endure 25% of the global disease burden. This problem is not exclusive to Africa, with statistics reporting that worldwide, only 25% of doctors and 38% of nurses serve the rural community, which comprises 50% of the population (39). Investing in a country’s healthcare work force can result in return on investment of 16-fold with respect to caesarean sections avoided and lives saved (37). The Global Health Workforce Alliance has been working since 2014 to implement a global strategy to improve equitable distribution of healthcare workers (37).

This problem also applies to the South African healthcare sector where numerous factors need to be addressed to have a significant and sustained impact with positive health outcomes (35). South Africa has been classified as an upper-middle-income economy by both The World Bank and United Nations (40, 41). The South African healthcare sector is grossly understaffed when compared to high-income economies, even though it is better off than its neighbouring African countries (42). In 2017 maldistribution of doctors in South Africa was reported to be more important in the healthcare setting than shortage itself (1). An attempt to address the unequal distribution of doctors by making medical training compulsory in areas of need and decentralising medical training facilities has had little success (35).

Wildschut (42) found that healthcare workers in South Africa are concentrated in the Gauteng and Western Cape provinces, with 12.6 and 14.7 doctors per 10,000 people respectively. These doctor patient ratios compare favourably with other

upper-middle-income economies. However, the province of Limpopo has 1.8 doctors for every 10,000 population, which is comparable to that of low-income economies (42). Ashmore (3) reports that, in 2010, the Health Professions Council of South Africa stated that there was only one doctor per 5000 people in the Limpopo Province (3). The World Health Organisation has found that 44% of World Health Organisation States have fewer than one doctor for more than 1000 population (43). This is below the World Health Organisation's minimum recommendation of "one doctor for every 1000 people" as reported by Ntuli and Maboya (1). The effect of the strategies implemented to improve the availability of doctors in these areas is largely unknown (1).

There is also a maldistribution of healthcare workers when comparing the South African private and public health sectors (3). South African doctors train in the public health sector, which is characterised by a greater disease burden and HIV prevalence. This sector serves 85% of the South African population where only 41% of the total number of South African doctors are working (42). This therefore implies that 59% of doctors are serving the minority of the South African population in the private health sector (42). Doctors often work in both public and private sectors and therefore the exact numbers are difficult to calculate accurately (3). Approximately R332 billion or 8.5% of the South African gross domestic product is spent on health care, 50% of which is allocated to the private sector (44).

Many developed countries offer attractive opportunities and have effective recruitment strategies to target healthcare workers in developing countries. This can have a negative impact on patients and remaining healthcare workers where staff shortages and heavy workloads are constantly an issue (34). Oberoi and Lin (23) stated that the cost of losing a doctor in a developing country greatly outweighs the benefits that the receiving country gains. "Brain drain" as defined by the United Nations is the "one-way movement of highly skilled people from developing to developed countries that only benefits the industrialised (host) world". This has a negative effect on the well-being of the population of the country losing healthcare workers, while recipient countries save on training expenses.

Brain drain usually involves movement of individuals to areas where there are better healthcare resources, infrastructure and social stability (23).

Bezuidenhout et al. (33) suggested that doctors who have qualified in South Africa are actively recruited because of their good work ethic and the high quality of training that they receive. A study in 1998, revealed that 45% of South African medical physicians that had graduated (since 1975) had emigrated overseas. They may leave voluntarily or be scouted by countries where healthcare workers are scarce in remote areas. From 1996 to 2006 there was a 60% increase in South African doctors working in Canada, mostly in remote locations where local Canadian doctors do not wish to work. In 2002, from 87 medical schools in the sub-Sahara African region, 5334 doctors were licensed to practice in the United States of America, 1053 of whom came from the University of the Witwatersrand, South Africa. The majority of these doctors had specialised. Many of the doctors who leave to work abroad were previously working in an urban setting and three quarters of those in a study, advised newly graduated South African doctors to leave and find work overseas (33). It is also not uncommon for healthcare workers to leave their profession entirely. These individuals are lost to the industry and may never return (17). Unpublished data has identified that 4% of individuals who have graduated from the medical school at the University of the Witwatersrand fall into this category (45).

It is challenging to accurately calculate the accounting costs of employee turnover within the healthcare industry; these costs often differ depending on the employees involved (17). A review of the employee turnover costs in a study's academic centre revealed that turnover and recruitment of nurses was costly, with 3.4 − 5.8% (17 − 29 million US dollars) of the annual operating budget accounting for the annual turnover expense (17). The annual training expenses of all healthcare workers emigrating from Africa are estimated to be 500 million US dollars (34). While each doctor that emigrates from Kenya, leads to an estimated loss of over 500 thousand US dollars in return on investment (34).

Oberoi and Lin (23) reported that the Cuban and the Philippine governments benefit financially and economically as a result of sending doctors overseas. They train more doctors than are required to sustain their local healthcare system and

the source country receives remittances for the doctors working abroad. Remittances are needed to boost domestic production and must outweigh the loss of service in the healthcare sector in order to have an overall beneficial effect (23).

1.5.2 Sources of employee turnover in healthcare

The poor retention of healthcare workers in rural areas has been attributed to limitations in career advancement, poor work environment, lower salary, and high workload, which eventually leads to burnout (39). Demotivating factors reported by mental health workers in a study conducted in Ghana suggest that poor hospital resources, lack of career advancement opportunities, strict supervisory hierarchy and absence of feedback on work ethic within mental health all play a role in affecting staff retention (31). Healthcare workers often feel that they cannot provide the optimal care that each and every patient deserves due to this staffing issue (31, 46).

Resource limitations and poor infrastructure relating to the work environment can be demoralising to staff members who struggle to maintain a standard of care with limited tools (31). This had a negative effect on pride among staff and resulted in a decrease in productivity (31). In a letter written to the editor of The Lancet and published in 2005, Farham is quoted as saying that “while working conditions continue to be as poor as they are, no amount of retention schemes such as salary incentives in the rural areas [of South Africa] will make up for the steady erosion of our public health services” (47).

Emigration of nurses is often due to the desire for improved quality of life, personal safety and aspirations of further professional development (34). The financial costs can be substantial, but quality of care is also compromised when turnover is high (17). It has been reported that there is a negative net effect on productivity as turnover reaches 50% among nursing staff (46). Numerous patient complications have been associated with nursing shortages (24).

It is not helpful that the prevalence of HIV is much higher in African countries than in other parts of the globe. Around 60% of healthcare workers in Zimbabwe, Uganda and South Africa have expressed that it is extremely stressful working with patients living with HIV (34). There is a constant fear of contracting the

disease, despite taking necessary precautions (23). Stress and exhaustion at work due to the overwhelming patient load can place healthcare workers at greater risk of needle stick injuries (46).

Anaesthesiologists in Finland feel that lack of recognition, poor communication between colleagues, long working hours and organisational justice problems (related to work place fairness) all lead to dissatisfaction (11).

1.5.3 The South African healthcare system

Ashmore (3) found both public and private healthcare sectors in South Africa to have their own unique set of problems. Often doctors work in both sectors and enjoy the benefits offered by both working environments. The financial benefits are far greater in the private health sector, however setting up a private practice can be costly and building up a steady stream of income is challenging. Public sector employees have a more stable and continuous stream of income, which does not always translate into good work ethic and productivity. The options of a state pension, paid annual and sabbatical leave are also available to public health care workers (3).

According to Ashmore (3) the working hours are often more predictable in the public sector because doctors generally work as a team and have many colleagues that can assist with the heavy workload. Doctors in the private sector can sometimes feel isolated and do not enjoy the camaraderie experienced by doctors in the public sector. They take on more stress and responsibility, whereas doctors in the public sector tend to have a lower medico legal risk because they are not usually solely responsible for the care of a patient (3).

Ashmore (3) also stated that patients in the private sector have been described as “overly demanding”, while those in public hospitals are sometimes less willing to listen to doctors’ advice, which can be frustrating at times. Doctors in the public sector also felt that their services were needed and appreciated more by patients in the public sector. This created a feeling of satisfaction and pride with the work they performed, which lead them to remain in public service (3).

Many of the public sector issues are due to resource constraints and poor infrastructure (34). “There isn’t a blanket to put on the patient, there isn’t a pillow for her head…” as described in an interview (3). Another doctor describes the benefit of being in private, “It’s extremely nice being in a place where things work” (3). Medical supplies and equipment are vitally important to provide an optimal level of care to patients (34). Healthcare workers often feel discouraged when they cannot manage patients appropriately and are restricted by a lack of functional resources or work in an environment where the infrastructure is poor (34). This can be extremely stressful (35).

Shortages of public sector staff (including porter and administrative staff) are of particular importance due to the high patient burden (3). This has led to unhappiness among remaining employees who carry the workload left by others and may not be able to take time off work when they wish to do so (3).

Ashmore (3) explained that there were more opportunities to progress in one’s profession when working in the private sector. A few senior specialists felt that chief specialist positions in the public sector are not easily available and they may have to wait a long time until they became vacant. These positions were sometimes not filled based on how hard you worked or contributed to the department. The private sector also offers greater autonomy to those that may feel it is lacking in the public environment (3).

Experienced specialist consultants may decide to remain in the academic setting so that they can pass on the knowledge and experience that they have gained throughout the years, as well as take part in research endeavours (3). They may also see benefits of learning from others in the same work environment (3). “Temporary migration” of healthcare workers can have a positive effect on the source country (23). This occurs when the individual leaves in order to gain knowledge and skills not available in one’s country of origin (23). After returning to the source country, other healthcare workers and ultimately patients can benefit from this educational trip. Managers should attempt to find ways to encourage educational endeavours that would benefit the department. A departmental education fund, which subsidises educational activities, can be awarded in recognition of outstanding service (48).

For the reasons, discussed in the literature, it is vital that these factors that affect employee retention are explored and this information is used to improve employee retention strategies.

1.6 Summary

This literature review explores the challenges faced by human resource managers and the effects of employee turnover and retention, particularly in the South African healthcare sector. Management theories, including Maslow's Hierarchy of Needs and Herzberg's Motivation-Hygiene Theory support the framework of factors that cause satisfaction and dissatisfaction in the working environment, which ultimately determines migration of employees. The importance of human resources in health is addressed as well as the unique and complex nature of the South African healthcare system.

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Section 3: Draft article

The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector

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Key words: anaesthesiology, working environment, migration, staff retention

Abstract

Background

There is a significant disparity in the distribution of medical practitioners within the public and private healthcare sector of South Africa. This study explores the perceptions of anaesthesiologists of their working environment in the public sector following their migration into private practice. Their reasons for leaving are largely unknown.

Methods

Rich pictures were applied in an exploratory, qualitative research design using Checkland's Soft Systems Methodology. Anaesthesiologists (specialist anaesthetists), who left the Department of Anaesthesiology at Wits between 2014 − 2017 and were working in the private sector in the Johannesburg Metropole were invited to a workshop. Participants were asked to draw a rich picture to illustrate their perceptions of the working environment in the Department and to then draw a picture to depict the ideal anaesthesiology working environment in the Department. Explanations of their pictures were audio recorded and deductive thematic analysis was used to analyse the data, guided by Herzberg's Motivation-Hygiene Theory.

Results

The rich data from this study suggests job dissatisfaction and a lack of satisfaction in the Department due to poor hygiene and motivator factors such as poor working conditions, challenging workplace relationships, inflexibility with work-life balance and a lack of accountability. These factors are some of the important reasons for migration of anaesthesiologists from public to private practice.

Conclusion

This study demonstrates the complexity of interactions between individuals working together in systems which are often in tension and are sensitive to multiple dynamic influences. These systems are context-specific but need to recognise the factors which may ultimately impact quality health service delivery and education.

Introduction

Human resources of health, which are central to the delivery of healthcare services, are in disarray in South Africa. This complex healthcare system affects healthcare workers with multiple dynamic influences, causing satisfaction and dissatisfaction in the working environment. Job satisfaction, leads to a desirable work ethic and reduces the likelihood of employee migration (1). In 1959, Frederick Herzberg proposed the Motivation-Hygiene Theory to describe the factors that motivate and satisfy employees in the working environment (2). The issue of employee turnover and retention has been identified by human resource professionals as an increasingly important management challenge in recent years (3). Employees play a significant role in the sustainability of an organisation (4) and poor staff retention is often a sign of deeper, underlying issues (5). However, employee migration is also fundamental to the growth and relevance of an organisation (6) and it is important to find a balance between both functional and dysfunctional turnover (7).

The South African healthcare system is characterised by a shortage and a maldistribution of healthcare workers (8). The Health Market Inquiry (9) reported in 2019 that “access to medical practitioners in the private sector (1.75 per 1 000) is in stark contrast to access in the public sector (0.3 per 1 000)” of South Africa. The number of medical practitioners in the private sector has increased annually (9). The public healthcare sector has fewer healthcare facilities, but serves the majority (approximately 83%) of the South African population (9), with the greatest burden of disease and HIV prevalence. Training of South African doctors takes place in the public sector and this, therefore, suggests that doctors are moving away from areas where their service is most required (10). The poor retention of healthcare workers in the rural areas has been attributed to limitations in career advancement, poor working environment, lower salary and a high workload (11). Farham (12) feels that retention schemes and incentives to work in the rural areas of South Africa were not enough to make up for the poor working conditions and deterioration of public health services.

Health systems, such as the public sector anaesthesia environment, represent complex systems sensitive to multiple dynamic influences (13). This study

explores the perceptions of anaesthesiologists of their working environment in the public sector following their migration into private practice and also examines their perceptions of the ideal working environment.

Methods

This study applied rich pictures in an exploratory, qualitative research design. Checkland's Soft Systems Methodology (14) supports the idea "that a picture paints a thousand words" (15). Drawing pictures may be better than prose as a very effective way of depicting complex situations where there are multiple interacting relationships (14). The Human Research Ethics Committee (Medical) at Wits (M181050) and other relevant authorities approved this study.

The study population consisted of anaesthesiologists (specialist anaesthetists), who left the Department of Anaesthesiology (the Department) at Wits between 2014 − 2017 and were working in the private sector in the Johannesburg Metropole. Purposive sampling was used in this study and eligible anaesthesiologists were invited to a workshop held at a neutral venue after working hours. This was facilitated by two authors (MK and JS).

Participants gave written consent for participation and recording of the workshop. Demographic data (sex, marital status, years of anaesthesiologist experience and departure date from the Department) were collected. The study and the methodology of rich pictures was introduced. Participants were then divided into two groups and each group was asked to draw a picture to illustrate their perceptions of the working environment in the Department. Once the pictures were drawn, each group was asked to explain what they had drawn. The groups were then asked to draw a picture to depict the ideal anaesthesiology working environment in the Department and explain their pictures once again. The participants' explanations of their pictures were audio recorded using two mobile phones. Descriptive and reflective field notes were taken during and after the workshop by author (MK).

The author (MK) transcribed the audio recordings verbatim, which were checked by the other authors for accuracy. Deductive thematic analysis, according to Braun

and Clark (16), was used to analyse the data. Themes were identified in a deductive or "top down" way (16) guided by Herzberg's Motivation-Hygiene Theory (2). The sequence of events of data collection and analysis are displayed in Figure 1.

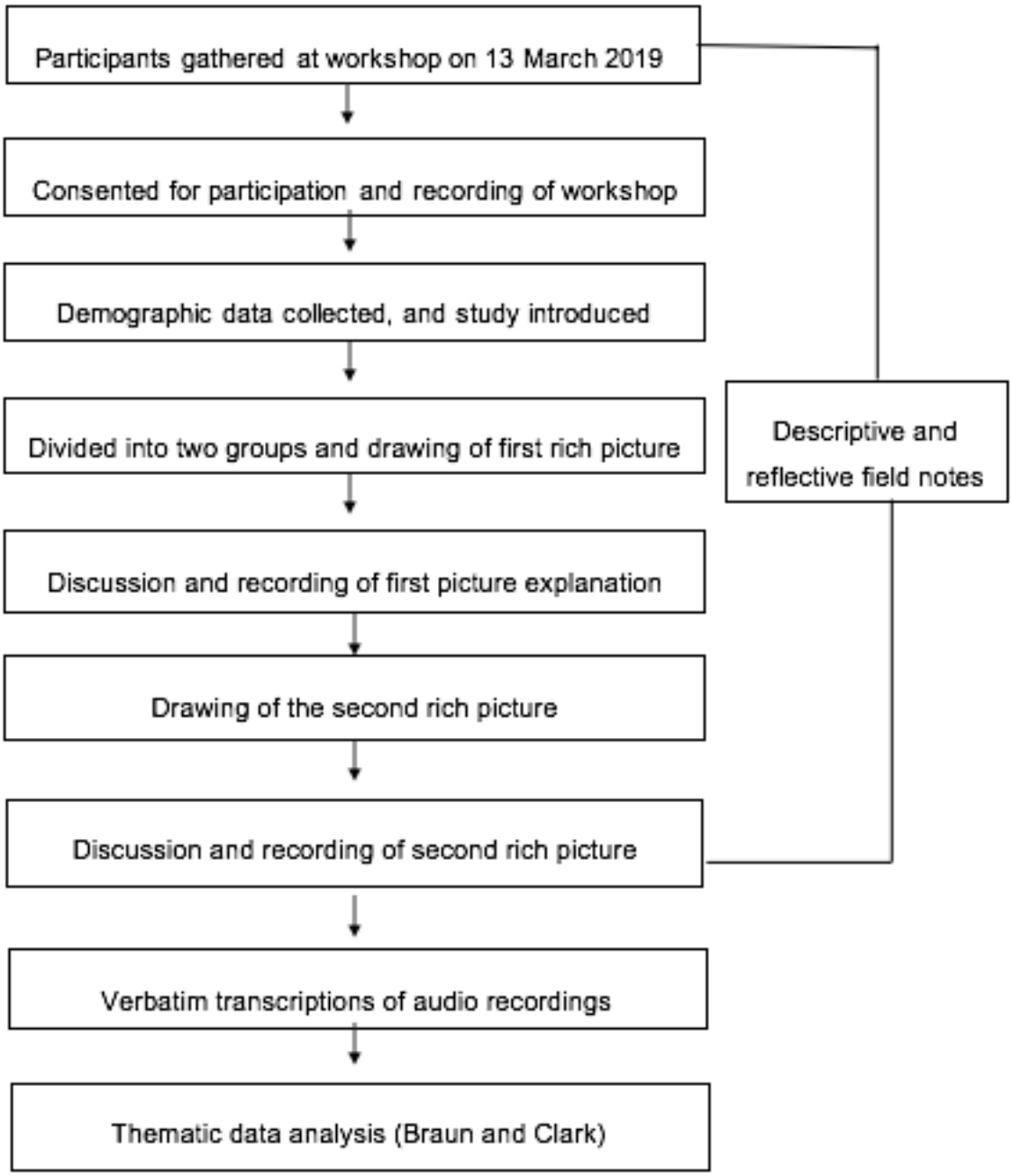

Figure 1 Sequence of events of data collection and analysis

The authors analysed the pictures and recordings of the discussions meticulously, thereby ensuring that the trustworthiness of the study met the criteria of credibility, dependability, confirmability, transferability and authenticity. Further in this report participants are referred to by the group that they were in and a letter within a group system.

Results

The workshop was scheduled in the evening on 13 March 2019 and lasted 3.5 hours. Rich data were obtained from the 12 participants. The atmosphere was filled with excited anticipation. The participants were a committed group of anaesthesiologists, with an interest in academic anaesthesiology and the study being conducted. They were relaxed and engaged in lively discussion throughout the evening. The demographic data of the participants are illustrated in Table 1.

Table 1 Demographic data of the participants

Workshop date		**13 March 2019**	
Participants		**Number of participants**	**% of total**
Sex	**Female**	5	42
	Male	7	58
Marital status	**Married**	10	83
	Not Married	2	17
Years of experience as a specialist	**< 2 years**	2	17
	2 - 5 years	7	58
	> 5 years	3	25
Departure date from the Department	**2014**	0	0
	2015	4	33
	2016	3	25
	2017	5	42

The participants named their first two pictures (Annexure 5.4): “The Days of our Lives” and “War & Peace/ Going Nowhere Slowly”. Just like the popular soap opera, “Days of our Lives” these illustrations were filled with chaos and drama. Dealing with life and death situations were stressful and days often proved to be unpredictable. Politics with other departments and between individuals within the Department often created an unpleasant working environment. Participants were frustrated with going nowhere slowly and despite their enormous amount of effort, eventually giving up because they felt defeated by the system. The second pictures (Annexure 5.4) drawn of the ideal working environment were named: “Paradise Road” and “Peace in our Time” by respective groups. These pictures were less chaotic than the first demonstrating the reduced workload and structure

they desired within the Department. This represented the respect for one another in the working environment and demonstrated the important role each member has within the team, resulting in efficiency and effectiveness within the theatre environment.

Herzberg (2) identified two broad categories, (hygiene factors and motivator factors), which lead to dissatisfaction and satisfaction within the working environment respectively. Hygiene factors include working conditions, policies and administration, salary and benefits, supervision and support, status, job security, relationships in the working environment and personal life. Motivator factors include recognition, achievement, advancement, professional growth, responsibility and job challenge, which are related to the work itself (2). Herzberg's Motivation-Hygiene Theory is represented in Figure 2.

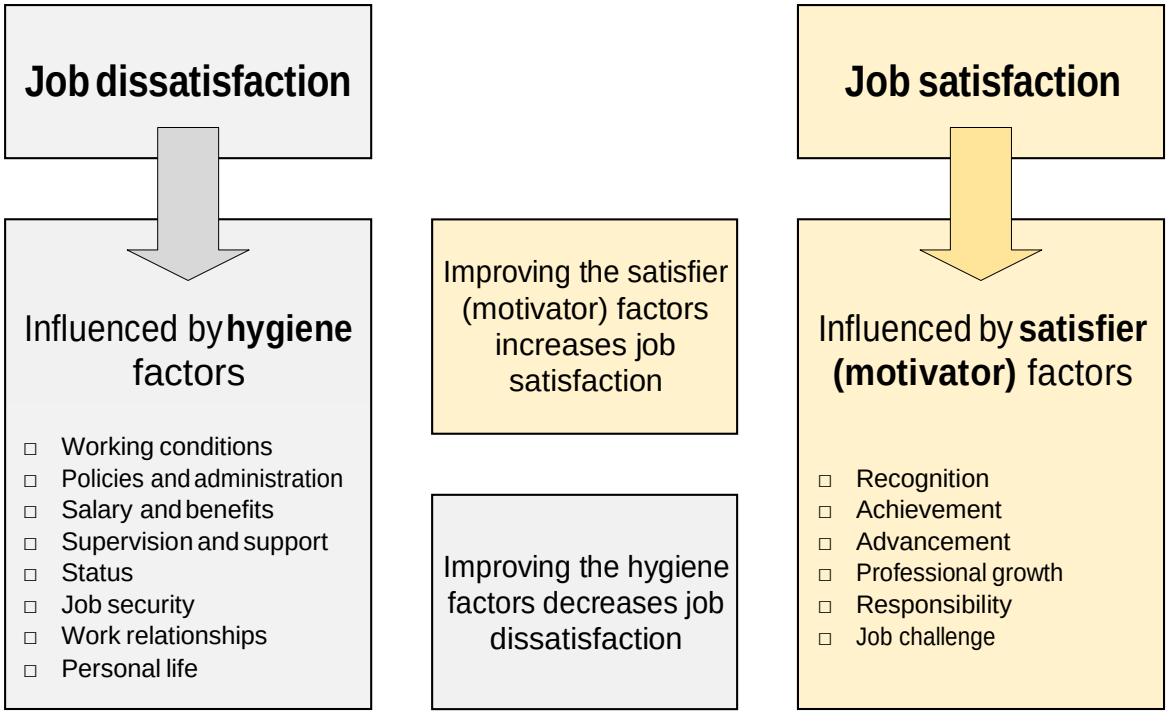

Figure 2 Herzberg's Motivation-Hygiene Theory

Adapted from Tools Hero (17)

Hygiene factors

The working conditions were significantly limited by a lack of resources and participants found it demotivating to work in this environment. "There were times, every Monday, you'd wait 'til 10, 11 o'clock to get [linen]… which happened week

in and week out" (1B). Theatre cancelations due to a lack of ICU beds meant that theatres were empty and staff were not utilised appropriately. "[It] just felt that there weren't enough facilities to deal with whatever we had to deal with" (2F). A participant expressed her frustration, "The time wasting, the lack of resources, linen, equipment, staff, beds, having to push patients to the wards, bring them down for a procedure because you couldn't find a porter" (2H). Replacing disposables (such as gloves and syringes) was challenging because they did not arrive on time, despite being ordered well in advance. Participants felt that the lack of general upkeep and poor hygiene within the public healthcare sector made working conditions unpleasant. "Germs… I really feel it's very dirty" (2F). "Blood underneath the mattresses of the beds" and "sharing laryngoscopes, I mean like they quickly rinse them under the tap and there you go" (1A).

Working conditions were characterised by a heavy workload and long hours. "The patients in [the public sector] were a lot sicker, a lot more stressful" (2H). The scale of balancing "life and death" (1A) illustrated the stressful work in the Department, working hard to keep patients alive. Having to study and work long hours with a heavy workload made a participant feel "…quite fragile… sleep deprived and tired most of the time" (2F). It was agreed that anaesthetists do not deal with stress appropriately and often participate in "risky behaviour" (2F), using substances such as alcohol as an outlet to destress.

Participants expressed their dissatisfaction with certain Departmental policies and felt that administrative practices could be improved. They mentioned being "treated like high school children" (1B), often having to stay, despite working hard and finishing their theatre list early, needing to report when they arrived at work and when they left. It was as if "Big Brother's watching [your every move]" (1B). The Department of Human Resources was described as a "big pain" (1B). Participants mentioned administrative issues such as "not being paid on time, not being paid your full salary or not being paid at all" (1B). Hospital policies of having to be "searched at work is humiliating and irritating that you sit in a queue for an hour to leave work because they want to search your car… There's like no trust" (1A).

After qualifying as a specialist, participants initially felt inspired and motivated to make improvements to "the system" (2F), which referred to the day to day

functioning of the Department. However, they felt less empowered to make a difference over time, with the realisation that the system was not conducive to change mostly because of “red tape” (1A) or bureaucracy. This was illustrated with bold red tape with the words “NO HOPE” written across it. A powerful statement was made by a participant, who drew a bathtub to illustrate her point. “You put so much effort [into the system] and it all just goes out. You never actually filling up the bathtub with water. It’s just like filling up a bath with no plug” (2J). One participant drew handcuffs, demonstrating that he “felt very constrained by a lot of things, [such as] the environment, red tape, bureaucracy… constrained by the whole system...” (2F).

There was very little emphasis placed on salaries and benefits, suggesting their relative insignificance as a cause of dissatisfaction in the current working environment. A participant mentioned, towards the end of the workshop, “we earn decent salaries as registrars… we didn’t think that being salaried more was an issue” (2F).

Clinical supervision was perceived as better than in other departments. A dichotomy with respect to supervision and support within the Department was presented. The sense of support when one was struggling was countered by “conflicting opinions from consultants…” (2F) and having little responsibility as a junior often meant that you “didn’t learn from experience [because]… most of the decisions were made for you by seniors” (2F). This was termed “anaesthesia by commission” (2F) by a participant. As a senior registrar, having to supervise many junior anaesthetists was also very stressful, especially when you had sick patients.

Support during critical events also varied depending on a participant’s position of seniority at the time of the event. It was acknowledged that registrars were protected and supported in the Department. However, consultants carried a lot more responsibility and sometimes people are “… blamed for it in a way that’s harmful to their confidence… “(1A), rather than creating a supportive environment, with appropriate debriefing and a chance to learn from the critical event.

The Department was characterised by an unhealthy hierarchy. “There’s always a boss, someone on top of you” (2I). This also applied to consultants, “There’s junior consultants, senior consultants, this consultant, that consultant…” (2J) and “you

just need to know where your place is and to keep your mouth shut" (1B). Participants found some seniors intimidating, which made the working environment unpleasant, "if you walk in [the tearoom] you get glances from them, but like no interaction…" (2F). "You needed to prove yourself… and show your worth" (2F) and after this, interaction was limited to an occasional greeting. There was a sense that the Department "was a bit patriarchal… once you start writing exams and you pass this and that, you're treated with a bit more respect" (2H).

Participants generally did not approve of the "protected employment" (1A) and job security within the Department. The lack of accountability or measurement of one's performance within the Department meant that some anaesthetists were "coddled and sheltered" (2F) and "the system just made it possible for them to go through" (2F).

The working relationships amongst theatre staff was a prominent theme that generated intense discussion. One participant described her experience as, "…you constantly fighting with people, fighting with surgeons to get things done, or trying to get ICU beds, or getting nursing staff to maybe walk at a faster pace… when there's a stabbed chest coming into theatre" (2H). These obstacles also existed within the Department with "politics" and "factions" (2H) influencing working conditions unfavourably. Hard-working individuals did most of the work, literally pulling the weight of others on a pulley system, while others are sleeping close by (as depicted by an illustration). Consultants described some registrars as "rotten apples" (1D) because of their poor work ethic.

An image emerged of two people pulling the emergency operation theatre list in opposing directions depicting the struggle between surgeons and anaesthetists on a daily basis. One participant explained that sometimes anaesthetists perceive surgeons as "the devil" (2I). It was expressed that the "attitude of the anaesthetists towards the surgeons… was a problem… driven by the senior anaesthetic consultants… filtering down to the junior staff" (1G).
Surgeons are often criticised, for not knowing what they are doing or not knowing how to operate. "We are not blameless" (1G), as anaesthetists can sometimes be obstructive and unprofessional. Some participants expressed that the public sector did not allow them to choose a surgeon with a matched work ethic, as they do in

the private sector. Participants agreed that anaesthetists should behave in a professional manner and "… if we actually listen to [surgeons] and have better relationships with them, the theatre experience would be better, for everyone" (2H). Anaesthetists cooperating with surgeons instead of blaming them and obstructing their work would reduce the struggle between these disciplines.

The relationships with patients also made a lasting impression on participants. They sympathised with patients who were not always prepared for theatre and were sometimes "in such a state that they [were] actually past the point of resuscitation" (1A). Sometimes surgeons did not follow up their patients post operatively and continue management, "which is really not fair to the patients" (1A). A participant described her dissatisfaction with the way patients are treated in the public sector, "probably the biggest reason why I left was like there was no empathy for patients. The way we treat patients in government and private is two completely different things" (2J). Patients often do not get a choice regarding their anaesthetic or surgical options. They are not always consented appropriately, children are mostly unaccompanied by parents and families are seldom included in patient care. However, "The patients [in the public sector] are really appreciative" (2F), which made the work satisfying to a participant. Patients tell you, "Thanks for helping me out. That really comes from a place deep inside themselves and we rarely see that kind of appreciation" (2F).

The balance between work and personal life was important to all participants and they felt that this was mostly absent within the Department. They described how they sometimes had to beg for leave and missed important family commitments because work was demanding and lacked flexibility. A participant drew a picture of his "wife crying", demonstrating that his marriage took quite a lot of strain at times. You were not "able to make decisions regarding your own life… [and it is] left to someone else to decide for you." (2F). Taking sick leave sometimes meant that one was unintentionally punished when they returned to work, being given extra work to make up for their absence. Maternity leave was however described as a positive aspect of the Department.

Motivator factors

Participants valued recognition for their good work ethic. However, they describe a lack of positive feedback or encouragement if cases did not go according to plan. They expressed their sense of achievement with graduating as a specialist. There was a misconception that this “was a means to an end, [reaching] the top of the ladder to success” (2F) despite the further achievements that they could strive for after becoming a specialist. Key performance indicators are non-existent in the Department, which makes it difficult for registrars and consultants to advance and demonstrate professional growth. The academic culture within the Department stimulates professional growth, but this is not always prioritised as anaesthetists are often working in theatre and unable to attend tutorials. This is because the Department primarily functions to provide service delivery due to the high patient load and disease burden. Registrars are often protected within the Department and do not have as much responsibility as consultants. When too many seniors are involved in the case, registrars do not get an opportunity to make decisions and learn from their experiences. However, being the senior registrar or consultant on call can be very stressful because you have the responsibility of assisting with difficult cases, often with junior anaesthetists. This means that “you’re split between a whole bunch of places and you’re not necessarily giving anyone good care because you’re basically spread too thin” (1A). This was perceived as being unfair because seniors were judged for making certain decisions, although the circumstances are very challenging. It was felt that this led to exhaustion, burnout and suboptimal care of patients. Working in the Department meant that participants were presented with challenging cases, which contributed to professional growth and this job challenge led to satisfaction in the workplace. However, consultants complained of spending a lot of time “doing more portfolio [administrative] work than you do actual clinical work…” (1A). It was frustrating that anaesthesiologists spent most of their time doing work that does not directly relate to your training as an anaesthesiologist.

An ideal working environment for the Department

Hygiene factors

The participants felt that working conditions would be a lot better if the hours were more reasonable and there were enough staff to manage the high patient load. Anaesthesiologists would be less dissatisfied if there were no resource limitations and all equipment was functional. An ideal working environment would be one where we have “enough man power, enough staff, having enough stock and equipment” (1A). Adequately staffed peripheral hospitals and an appropriate referral system would reduce the patient load on the tertiary hospitals, ultimately improve working conditions. “We used to go to the Far East Rand [hospital] and go there for the whole day. You do three Caesars, that’s not making a difference to the bigger picture” (2F).

Departmental policies should value autonomy and flexibility for anaesthetists. Participants felt that they should be allowed to go home early if they worked hard and finished their list in a timely manner. They desired a Department where you have a choice regarding the lists that you do, the people you work with and the academics with which you are involved. Participants felt that there should be better structure to the registrar rotations, where you “have some seniority before you do certain stuff… [instead of being] plugged into where [you] are needed just to fill the gaps and deliver a service…” (2F). Departmental policies should focus on adequacy of training and professional growth, without automatic progression to the next rotation. Often registrars “complete” a neurovascular rotation, but do not necessarily receive the required training. During this “[specialist] six-week block, you may or may not see anything because the patients may all be cancelled because there are no ICU beds” (1A). Participants wished to be valued as a staff member, have designated, subsidised staff-parking and not be searched after work. They were of the opinion that an efficient and friendly human resource team could assist with administrative issues that are not easily managed by anaesthetists. Participants felt that the ideal department requires managers in the right roles who are effective and willing to tackle problems head on. You need “people that can fix problems and not just cancel them or push them on the back burner” (2F). This will ensure that the system flows more efficiently. It was felt that

there was “a lot of waste and mismanagement of [money]” (2F) and that this could be used and allocated better by management. There should be appropriate and effective crisis support if a critical event occurs. This should be an opportunity to learn instead of an environment of blame and judgement. A debriefing should take place and a discussion of how to improve our practice when a similar event occurs. The ideal working environment should foster relationships based on teamwork and respect.

Having “good teamwork amongst the surgeons, anaesthetists and nurses… will make things move along more effectively” (1A) and more efficiently. A participant mentioned that if “you are working well [as a team], you get to know your team, you work with them regularly… makes a big difference” (2F) and reduces dissatisfaction in the working environment. Patient and family involvement were very important to participants who felt that we should create an environment of autonomy, where patients are better informed about their surgical procedures and anaesthetic options. Flexibility with aspects of your personal life was very important to participants. “Valuing of staff, valuing family time, valuing like what you guys have after work and it’s not solely about work… you actually can go to things like weddings and birthday parties… because you can arrange your roster around it” (1A). “Not having to beg people for leave or being able to have flexibility around that” (2F).

Motivator factors

Participants felt that being recognised for your hard work was as important as being held to account for a substandard performance. “If you’re strong and you do your job and you graft hard, you should get rewarded for that. [There are a lot of people that] work hard and do their part, but don’t really get [any] recognition or reward” (2F). An annual review should be performed to ensure that registrars achieve their competencies rather than allowing “automatic progression” (1A) to the next stage of their training. This gives individuals control over their professional achievements and advancement within the Department. Time spent in theatre should be “spent 80% on learning” (1A), however, there should also be designated times out of theatre for protected teaching, with an opportunity for tutorials and simulation training, despite the public sector being service delivery oriented.

Simulation was noted to be a great opportunity for the entire theatre team to learn and prepared them for real life scenarios. It gives everyone an opportunity to assume a leadership role and is designed to improve team work so that emergencies can be managed in an organised and efficient manner.

Participants felt that there was a lack of accountability with limited consequence for detrimental actions in the public sector. “If staff are more accountable for their actions or performance, perhaps their work ethic would drastically improve, and the system will function more efficiently” (1G). In the private health sector “hospitals are accountable to their shareholders… I’m accountable to my surgeon and to my patients… I don’t see why that can’t be the case in [the public sector]” (1G). “I think that the leadership needs to step up and make their staff accountable in every department, including ours” (1G).

Participants desire a Department where you are able to focus on work that is of personal interest and have a choice regarding “what list you’re on, where you work and how you want to split your time…” (2F). If an anaesthetist prefers to do research, then they should have designated time to do so and not be forced to do clinical or administrative work.

Discussion

In Herzberg’s theory (2) poor hygiene factors lead to dissatisfaction in contrast to motivator factors, which are the primary cause of satisfaction. Both satisfaction and dissatisfaction are discrete and described as being present or absent across a spectrum. If a hygiene factor were absent or poor, this would lead to dissatisfaction in the working environment and may negatively affect employee retention. The migration of healthcare workers is influenced by these factors and can result in maldistribution of human resources in a setting already characterised by severe shortage (8, 18). When an employee leaves an organisation, this can be disruptive to service delivery and finding a replacement can be costly (19).

Despite much criticism, over 60 years later, our study demonstrates the relevance and utility of Herzberg’s Motivation-Hygiene Theory (2) in a contemporary working environment. Participants taking part in the study were a fair representation of the Departmental demographics. Their recent departure from the Department and the

rich data collected during the workshop provides useful and relevant insights into the perceptions of the working environment of anaesthesiologists in the public healthcare sector of Johannesburg, South Africa. Dissatisfaction and a lack of motivation contribute to migration of anaesthesiologists from public to private sector practice as is evident by the poor hygiene and motivator factors within the Department. It has been suggested that “push factors” are reported to have a far greater influence on an employee’s decision to leave, than “pull factors” (20). In this study important “push factors” include: working conditions, relationships in the working environment, flexibility with respect to work and personal life balance and accountability.

The rich pictures drawn were aptly named by participants and the second pictures depicted contrasting themes to the first. The first pictures illustrated the unpredictable day-to-day battle facing anaesthetists in the theatre environment as suggested by the title: “War & Peace”. The perceptions of the working environment in the Department was characterised by resource constraints, poor infrastructure and a heavy stressful workload. These poor hygiene factors caused dissatisfaction and frustration among participants, who felt that they were not adequately equipped to perform their daily duties and worked in an environment that lacked flexibility with work-life balance. The relationship dynamics within theatre often created an unpleasant working environment, which was not conducive to work productivity. A supportive workplace has shown to reduce employee turnover among allied health professionals in Australia (21). Anaesthesiologists in Finland felt that lack of recognition, poor communication between colleagues, long working hours and organisational justice problems (related to work place fairness) all lead to dissatisfaction (22). The lack of accountability within the Department creates an environment of job security and protected employment. Participants felt that work ethic among staff would drastically improve if everyone was more accountable for how they conduct themselves in the working environment, rather than allowing automatic progression or promotion (23).

The second pictures were characterised by “Paradise” and “Peace” with theatre staff having common goals in an environment based on teamwork, communication and tolerance which improves efficiency, productivity and creates a more pleasant

working environment for everyone (23). Relationships with patients focus on a more patient centred approach where we display empathy, involving patients and family to a greater extent. The ideal department takes your personal life into account and offers more flexibility regarding your work-life balance. It brought unhappiness among participants when they were not able to attend important personal commitments and put a lot of strain on their personal relationships at times. Participants also desired a working environment characterised by flexibility. The issue of “role ambiguity” highlights the difference between what we feel the job entails with what is expected of us within the organisation (4). The participants felt that you should be able to focus on their interests, whether it be research, clinical work or administrative work and that you should be able to decide what lists you do or who you work with. The participants’ role in the Department was not always clear and they mentioned doing non-clinical work, unrelated to their training as anaesthesiologists (4). Making employee responsibilities visible, by valuing employee contribution and giving constructive feedback will allow employees to feel the sense of achievement and acknowledgement that they desire (24).
Improving relationships at work, recognising the importance of an employee’s work-life balance and offering more flexibility with your work reduces dissatisfaction and improves motivation in the working environment.

Addressing poor hygiene factors and increasing motivator factors lead to employees being highly motivated and satisfied, with minimal complaints in the working environment. Identifying these factors results in a desirable work ethic and reduces migration from public to private sector practice. Hygiene factors are usually easier to address and should therefore be optimised first because this tends to result in an increase in motivator factors.

While it is easy to complain about current issues within the Department, it was recognised that improving working environment conditions would require a lot more thought, effort and time. The public sector is service delivery oriented with limited resources. The system is continuously changing and is challenged with multiple interacting complexities that cannot be compared to other settings. The patient load is a lot heavier than the private sector and the burden of disease is very different, which makes it challenging to address.

Conclusion

This study demonstrates the complexity of interactions between individuals working together in systems which are often in tension. These systems need to acknowledge the hygiene and motivation factors which may ultimately impact quality health service delivery and education. However, the complexity of the Department is context-specific and cannot be applied to all settings. The results of this study demonstrate poor hygiene factors and inadequate motivation factors in the Department, while pointing out the relevance of Herzberg's theory in today's setting.

The reasons given by participants for the migration from public to private practice needs to be further explored in order to facilitate retention of anaesthesiologists in the public sector.

Conflict of interest

The authors declare that we have no financial or personal relationships which may have inappropriately influenced us in writing this paper.

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Section 4: Proposal

The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector

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4.1 Introduction and problem statement

High employee turnover and poor staff retention is a global issue (1) and an important management challenge (2). Employee turnover can be described as “the ratio of the number of organisational members who have left during the period being considered, divided by the average number of people in that organisation during the [same] period” (3). While employee retention refers to “the degree to which the current employees of an [organisation] remain over a given period of time” (4). When an employee leaves an organisation, this can be disruptive to service delivery and finding a replacement can be costly (5).

The South African healthcare system is characterised by a shortage and a maldistribution of healthcare workers (6). Wildschut states that (7) the public healthcare sector serves 85% of the South African population, however, the majority of doctors are concentrated in the private healthcare sector and urban settings of South Africa (7). Training of South African doctors takes place in the public healthcare sector and this therefore suggests that doctors are moving away from areas where their service is most required (8). Retention of doctors in the public healthcare sector is important to ensure a high quality of service delivery (9) and a high standard of training of future specialists (8). An attempt to address this unequal distribution of doctors by making medical training compulsory in areas of need and decentralising medical training facilities has had little success (10).

Job satisfaction, defined as the pleasurable, favourable (1) and “positive attitudes held by an individual in respect to a job” (11), results in a desirable work ethic and improves employee retention (1). In 1959, American psychologist, Frederick Herzberg proposed a theory to describe the factors that motivate and satisfy employees in the working environment (12). Herzberg’s theory identified two broad categories: hygiene factors (working conditions, company policy, supervision, salary, personal life, relationships in the work environment and security) and motivator factors (responsibility, professional growth, recognition, achievement and advancement), which are related to the work itself (12).

In Herzberg’s theory (12) hygiene factors lead to dissatisfaction if absent or poor, whereas motivator factors, are the primary cause of satisfaction. These two

categories were found to be distinctly separate from one another and it was stated that “the opposite of job satisfaction is not job dissatisfaction, but rather, no job satisfaction; similarly, the opposite of job dissatisfaction in not job satisfaction, but rather no job dissatisfaction”. This means that if a hygiene factor (such as a generous salary) was present, this would result in no dissatisfaction, instead of satisfaction. But if this hygiene factor were absent or poor, this would lead to dissatisfaction in the work environment and may negatively affect employee retention. It has been suggested that push factors are reported to have a far greater influence on an employee’s decision to leave, than pull factors (13).

Diverse reasons for dissatisfaction of Finnish anaesthesiologists include: lack of recognition, poor communication between colleagues, long working hours and organisational justice problems (related to work place fairness) (11). Suggested reasons resulting in job dissatisfaction in the Rwandan health care industry involve limitations in career advancement, poor work environment and resources, poor financial gain and a high workload (14). Whereas the South African private health care sector is characterised by better resources and infrastructure, greater financial rewards and a higher healthcare worker to patient ratio (8).

A South African qualitative study conducted by Ashmore (8) in 2013, highlighted what was satisfying about working in both the public and private health sectors. Different stakeholders working in both sectors at the time of the study, were interviewed in one public and one private hospital. The study concluded that the public sector had poor resource availability, poor perceived career opportunities and was not as financially attractive when compared to the private sector. However, the public sector offered more academic opportunities, stimulated a sense of “need and relevance” as well as creating a “team environment” (8).

It is important to note that: “A health care system such as [anaesthesiology] is complex and context-specific and is continuously confronted with dynamic changes and challenges.” (15). The reasons for the migration of anaesthesiologists of the University of the Witwatersrand (Wits) from public to private sector practice is not known.

4.2 Aim and research questions

4.2.1 Aim

The aim of this study is to explore the perceptions of the working environment of anaesthesiologists migrating from the Department of Anaesthesiology at Wits to the private sector from 2014 − 2017.

4.2.2 Research questions

The following research questions will be asked in this study.

- What are the anaesthesiologists' perceptions of the working environment in the department?
- What are the anaesthesiologists' perceptions of the ideal working environment in the department?

4.3 Research assumptions

The following definitions will be used in the study:

Anaesthesiologist: is a medical doctor who is accredited by the College of Medicine of South Africa as a specialist in the field of anaesthesiology.

Private healthcare sector: is a specialist healthcare service delivered in specialists' facilities (16). In this sector patients pay individually and the service serves 16% of the South African population (17).

Public healthcare sector: is a three-tier healthcare service (primary, district and academic) that is funded by the government (16) and a free service is offered to 84% of the South African population (17).

Rich picture: "is a way to explore, acknowledge and define a situation and express it through diagrams to create a preliminary mental model" (18). "A rich picture is a cartoon-like representation that identifies all the stakeholders, their concerns, and some of the structure underlining the work context" (19).

4.4 Demarcation of study field

The study will be conducted in the Johannesburg Metropole that consists of 18 cities/towns covering more than 1 645 km^2 (20). The majority of anaesthesiologists from the Department of Anaesthesiology at Wits migrate to work in private sector facilities in the Johannesburg Metropole.

4.5 Ethical considerations

Approval to conduct the study will be sought from the Human Research Ethics Committee (Medical) and the Graduate Studies Committee at Wits. Permission to conduct the study was obtained from the Head of Department of the Department of Anaesthesiology at Wits (Appendix A).

Anaesthesiologists, who meet the inclusion criteria, will be purposively selected and then contacted telephonically. The study will be explained to them and an invitation to attend a workshop will be extended. The researcher will email the information letter regarding the study to each participant (Appendix B). At the start of the workshop, the study will be explained once again and participants will be asked to sign two consent forms, firstly to take part in the study (Appendix C) and secondly for the workshop to be audio recorded (Appendix D).

Anonymity will not be possible during this study as participants will be known to each other. However, participants will be asked not to share any information or the identity of other participants. Each participant will be allocated a study number and will not be identified by name during the study. Confidentiality will be ensured as only the researcher and supervisors will have access to the raw data. The raw data (including the audio recordings) will be stored securely, under password protection, in a locked cupboard for six years after completion of the study.

The results of this study will be communicated to the Head of the Department of Anaesthesiology at Wits.

The study will be conducted according to the principles of the Declaration of Helsinki (21) and the South African Guidelines for Good Clinical Practice (22).

4.6 Research methodology

4.6.1 Research design

An exploratory qualitative research design will be followed in this study.

An exploratory study is a study that “explores the dimensions of a phenomenon or that develops or refines hypotheses about relationships between phenomena” (23). This study is exploratory in nature as the aim is to explore the subject of interest in full, the other factors to which it is related and the manner in which it is manifested (23).

A qualitative research design “stems from an antipositivistic, interpretative approach, is idiographic, thus holistic in nature, and the main aim is to understand social life and the meaning that people attach to everyday life” (24). Interpretive means that human behaviour is not explained by “universally valid laws or generalisation, but [the aim is] rather to understand and interpret the meanings and intentions that underlie everyday human action” (24). The study is a qualitative research design as the data collected is not analysed by means of universally valid and scientific laws (24).

4.6.2 Study population

The study population consists of anaesthesiologists, who left the Department of Anaesthesiology at Wits between 2014 − 2017 and are working in the private healthcare sector in the Johannesburg Metropole.

4.6.3 Study sample

Sampling method

Purposive sampling will be used in this study. According to Endacott and Botti (25) “purposive sampling is commonly used to allow the researcher to include participants with key experience of the issue to be studied”. The participants purposively selected will have the capacity to provide the greatest insight into the issue being studied and demographically represent the Department.

Sample size

In order to obtain data saturation, 5 − 8 participants are usually regarded as adequate for a homogeneous sample (25). In this study, during the workshop, participants will be allocated to one of three groups, therefore 15 anaesthesiologists will be invited to attend the workshop.

Inclusion and exclusion criteria

The inclusion criteria for this study are anaesthesiologists:

- previously from the Department of Anaesthesiology at Wits
- who left between 2014 − 2017
- are currently working in the private healthcare sector in the Johannesburg Metropole
- who consent to take part in the study.

The exclusion criterion for this study is anaesthesiologists working outside the Johannesburg Metropole.

4.6.4 Data collection

Once all the relevant approvals to conduct the study are obtained, a suitable date for a workshop will be determined.

Participants, who meet the inclusion criteria, will be purposively selected and then contacted telephonically. The study will be explained to them and an invitation to attend a workshop will be extended. The researcher will email the information letter regarding the study to all participants (Appendix B).

At the start of the workshop, the study will be explained once again and participants will be asked to sign two consent forms, firstly to take part in the study (Appendix C) and secondly for the workshop to be audio recorded (Appendix D). Demographic data will then be collected from all participants. This will include: years of experience, gender, marital status and year in which they left the Department of Anaesthesiology at Wits.

The workshop will be held in a neutral meeting room in the Faculty of Health Sciences and will be facilitated by the researcher and one supervisor. To ensure that it will be convenient for participants to attend the workshop it will be scheduled after hours and will include light refreshments. To make it compelling to attend the workshop, accreditation as a continuous professional development activity will be applied for and participants will qualify for ethics points. It is anticipated that the duration of the workshop will be approximately three hours.

At the beginning of the workshop participants will be divided in three groups and each group will be asked to draw a rich picture as they perceived the work environment in the Department of Anaesthesiology at Wits. Rich pictures are one of the research methods used in Soft Systems Methodology, a Systems Thinking approach (26). The use of pictures is as old as mankind and is based on the sense "that a picture paints a thousand words" (27). Drawing pictures is a very effective way to depict complex situations where there are multiple interacting relationships, much more so than describing a situation in linear prose (26).

Once the rich pictures are drawn, each group will be asked to explain their rich picture. The groups will then be asked to draw a rich picture to depict the ideal anaesthesiology work environment in the Department and again to explain their rich pictures. The participant's explanation of their rich pictures will be audio recorded using two mobile phones.

4.6.5 Data management

The researcher will transcribe the audio recordings verbatim. Each audio recording will then be played again by the supervisors whilst simultaneously reading through the transcribed version. Corrections will be made to the transcribed versions to ensure accuracy of data collected.

4.6.6 Field notes

When researchers are in the field, they record the unstructured observations and interpret these observations by making field notes. These represent an account of the events in the field and assist with understanding the data. Field notes may either be descriptive or reflective in nature (23).

Descriptive field notes will provide an in-depth objective description about events and conversations observed during the workshop. They are observational and are not meant to be interpreted (23). The researcher will record descriptive field notes of events, as well as discussions and interactions between participants during the workshop.

Reflective field notes are aimed at “documenting the researcher’s personal experiences, reflections and progress while in the field” (23) and are divided into theoretical, methodological and personal notes. Theoretical or analytical notes assist with subsequent analysis and are used to record a researcher’s thoughts about how to make sense of what is occurring in the field. Methodological notes are critiques of the research method used in the study. They identify potential alternative methods that may improve data collection. Personal notes are used to describe the researchers own feelings, experience and reactions in the field (23). The researcher will record reflective field notes, during and after the workshop, to reflect on events that occurred during the workshop, critique the research method and describe his feelings and experience during the workshop. Field notes will be used to increase the accuracy of the data collected and its interpretation.

4.6.7 Data analysis and synthesis

Thematic analysis, according to Braun and Clark (28), will be used to analyse the data. The phases of thematic analysis include (28):

- familiarising yourself with the data
- generating initial codes
- searching for themes
- reviewing themes
- defining and naming themes
- producing the report.

According to Braun and Clark (28), themes can be identified in one of two ways, namely: “ in an inductive ‘bottom up’ way or in a theoretical or deductive or ‘top

down' way" (28). A deductive analysis of the data will be done guided by Herzberg's motivation − hygiene theory (12). The main categories of Herzberg are: hygiene and motivator factors as mentioned in the introduction on page 2 and 3 (12).

Transcription of the audio recordings will assist with becoming familiar with the verbal data provided by each group when discussing their rich picture. Actively and repeatedly reading the transcribed data will assist with identifying related patterns and meanings. This is important during the early stages of analysis.

The second phase involves generating initial codes from the data. Features of the data, which are of interest to the researcher are identified and organised into meaningful groups. The data will be coded in a deductive approach.

The codes will then be arranged according to identified themes where the process of analysis will start to take place. Themes are then reviewed and refined, ensuring that they form a coherent pattern.

Ongoing analysis will take place, and clear definitions and names will be assigned after refining the specifics and overall story of each theme.

The final phase is the last opportunity for analysis of data, which will be related back to the research question and literature. The researcher will produce a report, which demonstrates the validity and merit of the analysis of the data.

4.7 Significance of the study

The South African healthcare system is characterised by a maldistribution of doctors, with the majority concentrated in the private healthcare sector (7). Retention of doctors in the public healthcare sector is important to ensure a high quality of service delivery (9) and a high standard of training of future specialists (8). Job satisfaction is associated with a favourable work ethic and has been identified to improve employee retention (1).

The results from this study will give a better understanding of the working environment of anaesthesiologists and the perceptions of why anaesthesiologists migrate to the private sector. The results may further assist with retaining doctors

in the public healthcare system thereby ensuring high quality service delivery and training of future specialists.

4.8 Trustworthiness

In 1985, Lincoln and Guba (29) proposed four criteria that they felt qualitative researchers must consider in order to ensure trustworthiness of a qualitative study. They added a fifth criterion at a later stage. These criteria “parallel the standards of reliability and validity in quantitative research” (23).

These criteria are as follows:

- Credibility
- Dependability
- Confirmability
- Transferability
- Authenticity.

Credibility

To ensure that the findings and interpretations are believable, the following will be ensured:

- A range of participants will be invited to partake in the study. By using “person triangulation”, data provided by participants will be validated through multiple perspectives (within the group) of the subject. This will allow for an information-rich representation of the issue from a range of people (23).
- The researcher will self-reflect and self-interrogate his potential own biases in order to remain objective about the subject. Frequent debriefing sessions between the researcher and supervisors will also take place so that the interpretations of the findings may be critiqued (23).

Dependability

This concept is similar to reliability. The study method will be described in detail so that the research can be repeated in future if need be.

This includes describing:

- the research design and implementation
- the means of data collection
- the means of data analysis.

Confirmability refers to the agreement of "two or more independent people about the data's accuracy, relevance or meaning" (23). It is concerned with ensuring that the data accurately represents the information provided by the participants, and that it is not influenced by the researcher's personal feelings or opinions about the data (23). To ensure that this criterion is met:

- researchers preconceived beliefs and perceptions will be identified
- limitations of the study will be identified and their possible contributions to outcomes will be discussed
- the methodology will be described in detail, which will allow the process to be scrutinised.

Transferability refers to the "extent to which findings can be transferred to or have applicability in other settings or groups" (23). This can prove to be challenging with qualitative data as the data provided is specific to the individual and context that they are describing. To assist with fulfilling this criterion, adequate background information will be provided regarding the environment being described and the population being studied. This will include:

- a description of the public sector
- a description of the private sector
- demographic data of the participants.

Authenticity refers to the "extent to which researchers fairly and faithfully show a range of realities" (23). This study will ensure authenticity by comprehensively recording data and giving examples of contextual descriptions by participants to illustrate the interpretation of the information collected.

4.9 Potential limitations

This study was done in a specific context and it might not be generalisable to other contexts.

4.10 Project outline

4.10.1 Time frame

Activity	Sept 2018	Oct 2018	Feb 2019	March 2019	April 2019	May 2019	June 2019	July 2019
Proposal preparation								
Literature review								
Proposal submission								
Ethics and Post Grad approval								
Data collection								
Data capturing								
Data analysis								
Writing article								
Submission of MMed								

4.10.2 Financial plan

The Department of Anaesthesiology will bear the cost of printing and paper for the proposal, ethics, post graduate approvals and the continuous professional development point applications. Light refreshments will be paid for by the researcher. The pens and paper used to draw the rich pictures will be supplied by the supervisor.

Item	**Price per item**	**Amount of item**	**Total**
Binding	R100	3	R 300
Printing of proposal and appendices	R1	+/- 1000	R 1000
Light refreshments		For 15 participants	R 700
Continuous professional development points			R 880
Total			R 2880

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4.12 Appendices

Appendix A: Letter requesting consent from the Head of Department

Appendix A: Letter requesting consent from the HOD

4 October 2018

Dear Dr D. Lines

Re: Research Approval

I am busy with my MMed research. I would like to conduct a research study entitled: "The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector".

This qualitative research study aims to explore the perceptions of the working environment of anaesthesiologists in the Department of Anaesthesiology at Wits from public to private sector practice from 2014 – 2017.

It involves the conduction of a workshop with anaesthesiologists, who left the Department of Anaesthesiology at Wits between 2014 – 2017 and are working in the private health care sector. During this workshop, participants will be asked to draw rich pictures as they perceived anaesthesiology delivery in the department.

Information obtained in this study will give a better understanding of the delivery of anaesthesiology in the public sector and the perceptions of why anaesthesiologists migrate to the private sector. This may assist with improving employee retention in the department, ultimately resulting in better service delivery and a higher standard of training of future specialists.

The study has been approved by the Human Research Ethics Committee (Medical) (Number:_____) and the Post-graduate Committee of the University of the Witwatersrand.

Yours sincerely

Dr Matthew Kolling

Head of Department

Dr Des Lines

Appendix B: Information letter for participants

Dear colleague,

Hello, my name is Matthew. I am a registrar in the Department of Anaesthesiology at the University of the Witwatersrand. I would like to invite you to take part in my research study entitled: “The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector”.

This research study aims to explore the perceptions of the working environment of anaesthesiologists migrating from the Department of Anaesthesiology at Wits to the private sector from 2014 − 2017.

The South African healthcare system is characterised by a maldistribution of doctors, with the majority concentrated in the private healthcare sector. Retention of doctors in the public healthcare sector is important to ensure a high quality of service delivery and a high standard of training of future specialists.

Information obtained in this study will give a better understanding of the working environment in the public sector and the perceptions of why anaesthesiologists migrate to the private sector.

This study involves the conduction of a workshop with anaesthesiologists, who left the Department of Anaesthesiology at Wits between 2014 − 2017 and are working in the private healthcare sector. The workshop will be accredited as a continuous professional development activity and participants will qualify for ethics points. During this workshop, participants will be divided into groups and asked to draw pictures as they perceived the work environment in the Department of Anaesthesiology at Wits.

The group’s explanation of their pictures will be audio recorded. This session is estimated to last approximately three hours. Confidentiality will be ensured as only the researcher and supervisors will have access to the raw data. Participants will also be asked not to share any information discussed during the workshop or reveal the identity of other participants.

This study has been approved by the Human Resource Ethics Committee (HREC) (Medical) (Number: M181050) and the Postgraduate Committee of the University of the Witwatersrand.

Your consent to participate in the study is entirely voluntary. If you agree to take part in this study, you will be asked to sign two consent forms, firstly to take part in the study and secondly for the explanation of the pictures to be audio recorded.

Any questions or regarding this study can be directed to the following people:

- Prof C. Penny (Chairperson of the HREC) on (011) 717-2301 or Clement.Penny@wits.ac.za
- Zanele Ndlovu (HREC administrator) on 011 717-2700 or Zanele.Ndlovu@wits.ac.za
- Rhulani Mukansi (HREC administrator on 011 717-1234 or Rhulani.Mukansi@wits.ac.za
- Matthew Kolling (researcher) on 0828168140 or mattygk@gmail.com

Thank you for taking the time to read this letter.

Yours sincerely

Matthew Kolling

Appendix C: Informed consent from participant in research workshop

I_____

hereby confirm that I have received, read and understood the written information letter for participants (Appendix B) regarding the study entitled: “The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector.”

The purpose of my participation in the study has been explained to me and is clear. I have also had sufficient opportunity to ask questions about the study; all of which have been answered to my satisfaction.

I am aware that all information collected will be treated confidentially and that the results of the study, including any personal details, will be anonymously processed into a study report.

My participation in this study is voluntary and there is no explicit or implicit coercion whatsoever to participate.

I hereby give my consent to take part in this study.

(Name).	(Participant’s signature).	(Date)

Appendix D: Informed consent for the workshop to be audio recorded

I_____

hereby confirm that I have received, read and understood the written information letter (Appendix B) for participants regarding the study entitled: “The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector.”

The purpose of my participation in the study has been explained to me and is clear. I have also had sufficient opportunity to ask questions about the study; all of which have been answered to my satisfaction.

I am aware that all information collected will be treated confidentially and that the results of the study, including any personal details, will be anonymously processed into a study report. The group’s explanation of their pictures will be audio recorded and these audio recordings will be stored securely, under password protection, in a locked cupboard for six years after completion of the study.

I hereby give consent to be audio recorded during the workshop.

(Name).	(Participant’s signature).	(Date)

The researcher

I_____

hereby confirm that the above participant has been fully informed about the nature, conduct, risks, and benefits of the above study.

Section 5: Annexures

5.1 Ethics approval

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

R14/49 Dr Matthew Kolling et al

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M181050

NAME: (Principal Investigator)	Dr Matthew Kolling et al
DEPARTMENT:	Anaesthesiology Faculty of Health Sciences University of the Witwatersrand Helen Joseph Hospital
PROJECT TITLE:	The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector
DATE CONSIDERED:	26/10/2018
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Juan Scribante
APPROVED BY:	Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	07/12/2018

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in **October** and will therefore be due in the month of **October** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

5.2 Graduate studies approval

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172076

Reference: Mrs Sandra Benn
E-mail: sandra.benn@wits.ac.za

13 November 2018
Person No: 0600762F
PAG

Dr MG Kolling
P O Box 411564
Craighall
2024
South Africa

Dear Dr Matthew Kolling

Master of Medicine in Anaesthesia: Approval of Title

We have pleasure in advising that your proposal entitled *The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

5.3 Turnitin report

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG | FACULTY OF HEALTH SCIENCES

25 November 2019

The Chairperson
Graduate Studies Committee
Faculty of Health Sciences
University of the Witwatersrand

Dear Professor Papathanasopoulos

Re: M Med: **The perceptions of the working environment of anaesthesiologists migrating from the public to the private sector**

Dr Matthew Kolling, student number: 0600762F, has submitted her research report to Turnitin which revealed a similarity index of 8%. These similarities appear not to be plagiarism but mainly the use of common terminology and phrases specific to the topic of the research.

Yours sincerely,

J Scribante

Juan Scribante
Supervisor

1

0600762f:Turn It in.doc

ORIG INALITY REPORT

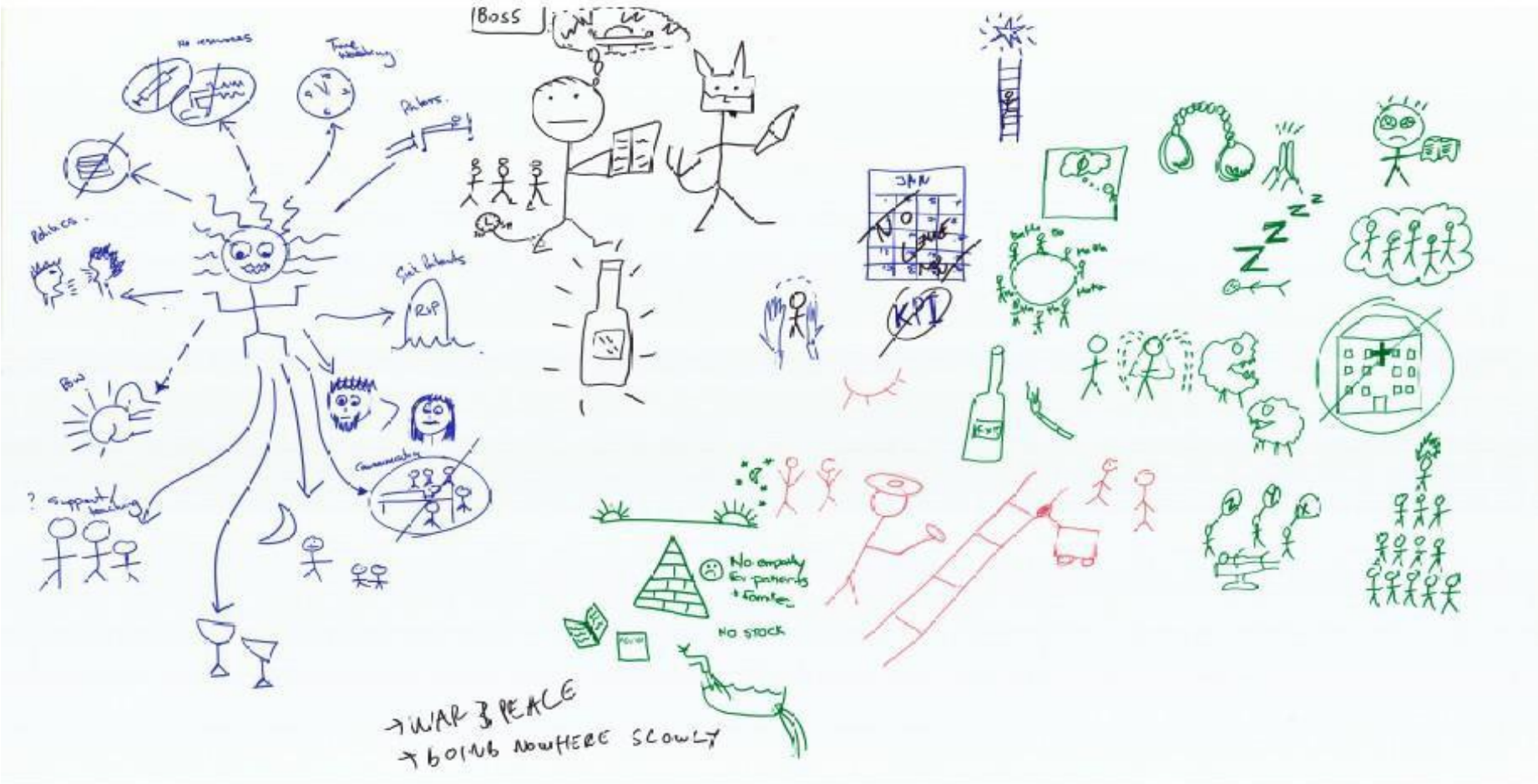
8%	3%	1%	
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

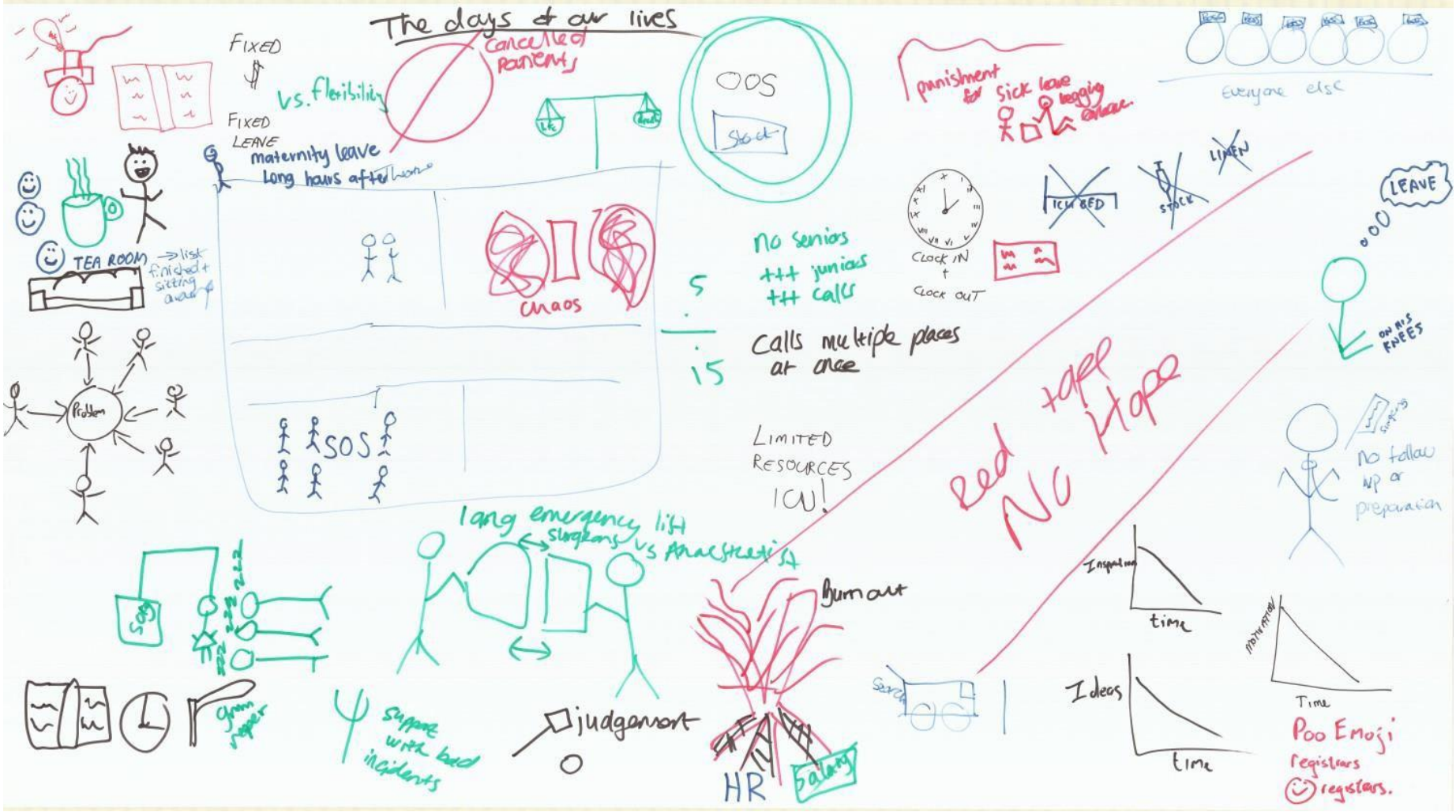
Submitted to University of Witwatersrand Student Paper		<1%
Submitted to (school name not available) Student Paper		<1%
Submitted to University of Cape Town Student Paper		<1%
Submitted to University of St Andrews Student Paper		<1%
www.ncbi.nlm.nih.gov Internet Source		<1%
Submitted to Coventry University Student Paper		<1%
Submitted to University of KwaZulu-Natal Student Paper		<1%
Submitted to University of Southampton Student Paper		<1%
issuu.com Internet Source		<1%

5.4 Rich pictures

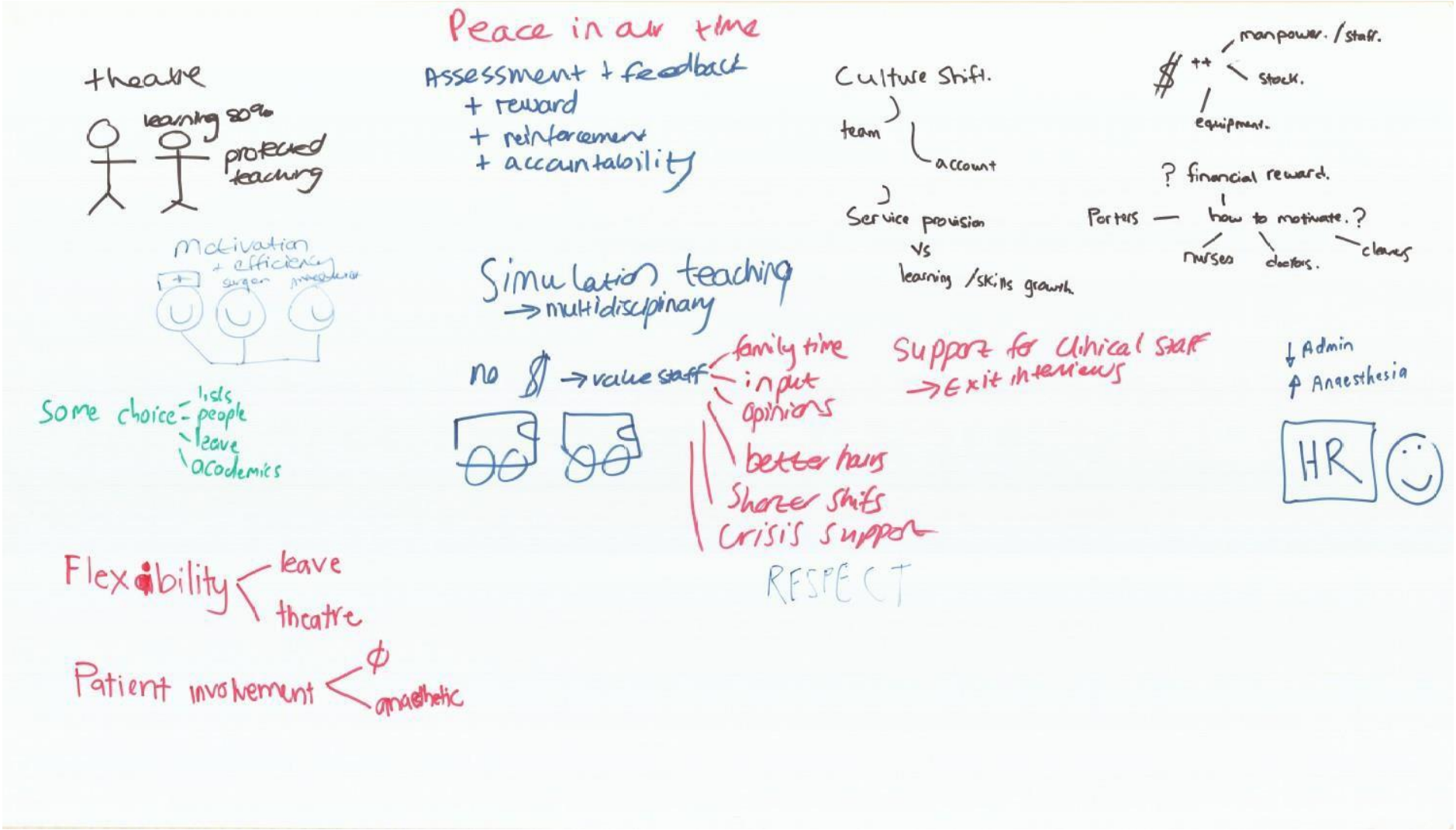
War & Peace/ Going Nowhere Slowly



The Days of our Lives



Peace in our Time



Paradise Road