

Unravelling unintended consequences in health policy through the analysis of the 2007 Occupation-Specific Dispensation Strategy: a qualitative systematic review.



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For my beloved Uncle Lencie, in memoriam.

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Part A: Journal manuscript

Abstract

Health policies inevitably produce unintended consequences when introduced into a health system. These consequences can be linked to policy process factors which occur during a mandate's development and implementation. Understanding unintended consequences in relation to policy process factors can help mitigate its unintended health system impact. However, current literature reveals a paucity of information exploring this interaction. This research sought to contribute to filling this gap through the examination of the 2007 Occupation-Specific Dispensation (OSD) strategy in South Africa. We conducted a health policy analysis exploring the relationship between unintended consequences and policy process factors using a qualitative systematic review approach, and applying a longitudinal lens. We included literature relating to the 2007 OSD in nursing and human resources for health (HRH) from 1994 onwards. In data analysis, we applied the Walt and Gilson (1994) Health Policy Analysis (HPA) Triangle to 1) give an overall description of the OSD policy process; 2) identify the main unintended health system consequences of the OSD policy; and 3) to investigate the relationship between the unintended health system consequences and key factors occurring throughout the policy process. Four main unintended consequences were identified: nursing demoralization; nursing division; a breakdown in the relationship between nursing managers and frontline staff, and a further maldistribution of nurses. Our findings suggest that the relationship between unintended consequences and policy process factors are rooted in the historical and socio-political realities of the health system. Frontline-level actors can help mitigate potential unintended consequences through sharing their historical and socio-political insight. We therefore urge policymakers to include these actors in policy development and implementation processes. Future research should explore the inclusion of frontline knowledge in policy processes as a method to reduce the potential severity and/or number of unintended consequences experienced.

Key messages

- The 2007 Occupation-Specific Dispensation (OSD) strategy in South Africa provided an opportunity to study unintended consequences and the relationship it shares with the policy process factors that form them. Conducting such research can aid policymakers in mitigating the unintended consequences arising from health policy development and implementation.
- There are four main unintended health system consequences that arose from the 2007 OSD policy process: demoralization of nursing staff; nursing division between the various cadres; a breakdown in the relationship between nursing managers and frontline staff, and a further maldistribution of nurses.
- Our results suggests that historical and socio-political contextual factors play a role in producing the unintended consequences experienced from a policy's introduction into a health system.
- Inclusion of frontline staff in policymaking processes can offer contextual insight into the frontline reality policies are implemented within. Policymakers are therefore urged to involve frontline-level actors in collaborative efforts to mitigate unintended consequences through knowledge and experience sharing.

Introduction

A health system's ability to serve and safeguard the health of its population lies in the hands of its health workforce (Dubois & Singh 2009). The health workforce, referred to as human resources for health (HRH), mainly consists of health professionals such as doctors, nurses, allied health workers, and administration staff available within a health system (Dubois & Singh 2009). It is only when HRH personnel are equitably distributed, fully competent, motivated, well-trained, and easily accessible, that global goals such as universal health coverage (UHC) and the sustainable development goals (SDGs) can be achieved (Norheim et al. 2014; van de Pas et al. 2017).

In many contexts, the lack and/or maldistribution of well-trained HRH personnel makes it challenging for health systems to achieve the service expansion goals needed to improve system functioning (World Health Organization 2016). Predictions suggest that by 2030, there will be an estimated shortage of 18 million health workers globally (Ahmat et al. 2022). These shortages will affect developing countries the most, with the World Health Organization (WHO) African Region already experiencing severe HRH shortages in 36 out of the 47 countries (Ahmat et al. 2022). This has led to a global push aimed at finding sustainable solutions that address current HRH challenges. Evidence of this was seen in 2013, when 57 countries and 27 independent bodies made renewed commitments to HRH on the eve of the Third Global HRH Forum (van de Pas et al. 2017).

The 'HRH crisis' is the term often used to refer specifically to the shortage and migration of health workers in low- and middle-income countries (LMICs) (Campbell et al. 2013). Although these issues are still relevant today, there is an expanding body of knowledge highlighting additional challenges faced in HRH (Campbell et al. 2013). In many LMICs, these challenges extend to severe resource constraints; inexperienced health professionals; a maldistribution of healthcare workers; poor health-worker motivation; high vacancy rates, and overwhelming workloads (Van Rensburg 2014).

In South Africa, shortages and a nation-wide maldistribution of HRH personnel are key factors hampering service delivery (George et al. 2013). This shortage and maldistribution is caused by the migration of health personnel from rural to urban settings; public to private sectors, and emigration overseas (George et al. 2013). As the backbone of the South African health system, these issues were felt most acutely in the nursing sector. However, these challenges were also rooted in the inequalities and divided healthcare system experienced during the Apartheid regime (Court 2014).

Superimposed on the abovementioned shortages and maldistribution of nurses, were the unequal remuneration and training competencies that persisted in the sector even after the end of Apartheid (Court 2014). Remuneration structuring for nurses during and post-1994 were inconsistent across the country and many of the nurses had no formal qualifications due to unequal access to education (Court 2014). In addition, unequal service delivery in the racially divided health sector meant that nurses working in more disadvantaged communities had harder working conditions and fewer resources (Court 2014). As a result, inequality in skillset and career progression opportunities within the nursing sector continued even after the rise of democracy in South Africa (Court 2014).

In an attempt to address these challenges, government released the Occupation-Specific Dispensation (OSD) strategy in 2007. The primary policy intention of the OSD was to curb the outflow of certain skilled public sector employees and improve job satisfaction and motivation in health and other public departments (George & Rhodes 2012; Khunou & Davhana-Maselesele 2016; Mcur & Mulaudzi 2015). It aimed to do this by restructuring remuneration and improving the working conditions for the designated public workers (George & Rhodes 2012; Motsosi & Rispel 2012).

In the nursing sector more specifically, the OSD aimed to achieve a more consistent remuneration structure across the different nursing subtypes (professional nurses; staff nurses; nursing assistants) and also focused on creating clearer career progression opportunities that encouraged nurses to upskill themselves by gaining more formal qualifications (Court 2014). The OSD favours staff entering or remaining in the frontline-level workforce. Amongst many other objectives, the policy introduced a pay-progression system offering salary increases to frontline staff based on their qualifications, competency criteria and years of service; offered more financial benefits to nurses who stay in clinical practice rather than move to supervisory positions; holds additional dispensation benefits for employees moving from the private into the public sector with specialised skills and experience (Ditlopo et al. 2013; Gray & Van der Merwe 2009; Motsosi & Rispel 2012).

As one of the most significant post-Apartheid health system reforms, the 2007 OSD has received a fair amount of scholarly attention. For example, Motsosi and Rispel explored the implementation and the perceptions of the policy by frontline nurses (2012). They reported that the implementation challenges experienced related to insufficient communication between different actor groups, alongside varied perceptions of the policy guidelines (Motsosi & Rispel 2012). One year later, Ditlopo and colleagues published a similar study assessing the effectiveness of the policy's implementation using a health policy framework (2013). These findings concluded that factors such as lack of resources; insufficient consultation and coordination amongst various actors; rushed implementation, and lack of realistic timeframes, also hampered effective implementation of the mandate (Ditlopo et al. 2013). As a result of these factors, the OSD created unintended health system consequences during its development and implementation (Ditlopo et al. 2013).

Unintended health system consequences are defined as the unintentional and unforeseen adverse impact(s) of an intervention on the health system (De Savigny & Adam 2009; Gilson et al. 2007). In

the field of health policy analysis (HPA), scholars recognize that the 'complex-adaptive' nature of a health system makes it challenging to accurately predict the effects a particular intervention (Oliver et al. 2019). Unintended effects of policy interventions are a product of the interplay between a range of factors including power dynamics between policy actors; the culmination of various values-based ideas during policy development, and differing policy aims and intentions (Lehmann & Gilson 2013; Ni She & Harrison 2021; Noto et al. 2020).

These consequences can result directly from the intervention itself and produce effects counter to those originally intended, planned for, or expected. Unintended consequences can also include a policy's broader health system impact and create unexpected changes well beyond the policy's intended scope of impact. The introduction and engagement of an intervention (no matter how big or small) with the broader 'complex-adaptive' health system will inevitably result in unexpected consequences across any component(s) of the health system (De Savigney & Adam 2009).

It is important that policymakers have access to research that examines the interplay between policy process factors and the unintended health system consequences they produce (Oliver et al. 2019). However, health policy and systems research (HPSR) examining the relationship between policy process factors and unintended health system consequences is rare, presenting a gap in the literature (Lorenc & Oliver 2014).

In this health policy analysis, we use the 2007 OSD policy experience to explore the abovementioned relationship and fill the gap currently present in the South African public health space. To do so, this research applied the Walt and Gilson (1994) Health Policy Analysis triangle to 1) give an overall description of the policy process; 2) to identify the main unintended health system consequences from the policy experience; 3) to investigate the relationship between the unintended health system

consequences and key factors occurring throughout the policy process. In doing so, we sought to answer the question: “What factors influenced the development and implementation of the 2007 OSD strategy for the nursing sector, and what were/are the reasons behind its unintended health system consequences?”.

Methods

To answer our research question, we conducted a qualitative systematic review (QSR) of the literature. This approach is effective when seeking to integrate and compare the findings from qualitative research in a systematic and replicable manner (Butler et al. 2016). In addition, we also used a longitudinal and retrospective lens to trace the policy process over time. The literature used in this study includes resources related to the 2007 OSD and HRH in South Africa from 1994 to present day. The 1994 cut-off date reflects the significant political transition marked by the end of Apartheid and the transition to democracy at that time.

To find all relevant literature, we searched four databases: PubMed, Scopus, Web of Science, and EBSCOhost. These journals are commonly used when searching for data relating to the African region. They are also used when conducting research in the fields of allied health, nursing, and other medical disciplines. Furthermore, the above journals offer an extensive range of public health and policy research in South Africa. For practicality, we only included items that were in English and available from the University of Cape Town (UCT) Library. The database search yielded a total of 113 results that were exported to *Endnote* reference manager¹. After the removal of duplicates, 59 of the 113 articles remained. From these 59 articles, 30 were further excluded through title and abstract screening that was used to check the relevance of the resources in answering the research question. Full text

¹ Endnote is a commercial reference management software developed by Clarivate
<https://endnote.com/product-details/>

screening of the remaining 29 articles was performed. From these 29 articles, 15 met the inclusion criteria².

A supplementary Google Scholar search was performed to identify potential resources missed during the initial database search. This yielded three additional articles for inclusion. Citation pearing/tracking was also undertaken but revealed no additional material for inclusion. In total, 18 articles were included in this QSR³. All articles were appraised using the Critical Appraisals Skills Programme (CASP) checklist for qualitative literature. All articles met the required criteria for trustworthiness and use in a QSR. The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) flowchart (figure 1 below), summarizes the selection processes of all articles retrieved.

² Inclusion criteria: articles that are in English; full access through the University of Cape Town Library; articles that include some of the key search terms and provide relevant information pertaining to the research question; data largely qualitative in nature (but may include quantitative aspects); any relevant information related to HRH policies/strategies that look at workforce retention issues in the health sector, specifically in nursing; information looking at the OSD frontline experiences of any health personnel (but specifically nurses) at any level of care (eg. Primary, secondary or tertiary).

³ See 'Supplementary Text' at the end of the article

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers and other sources

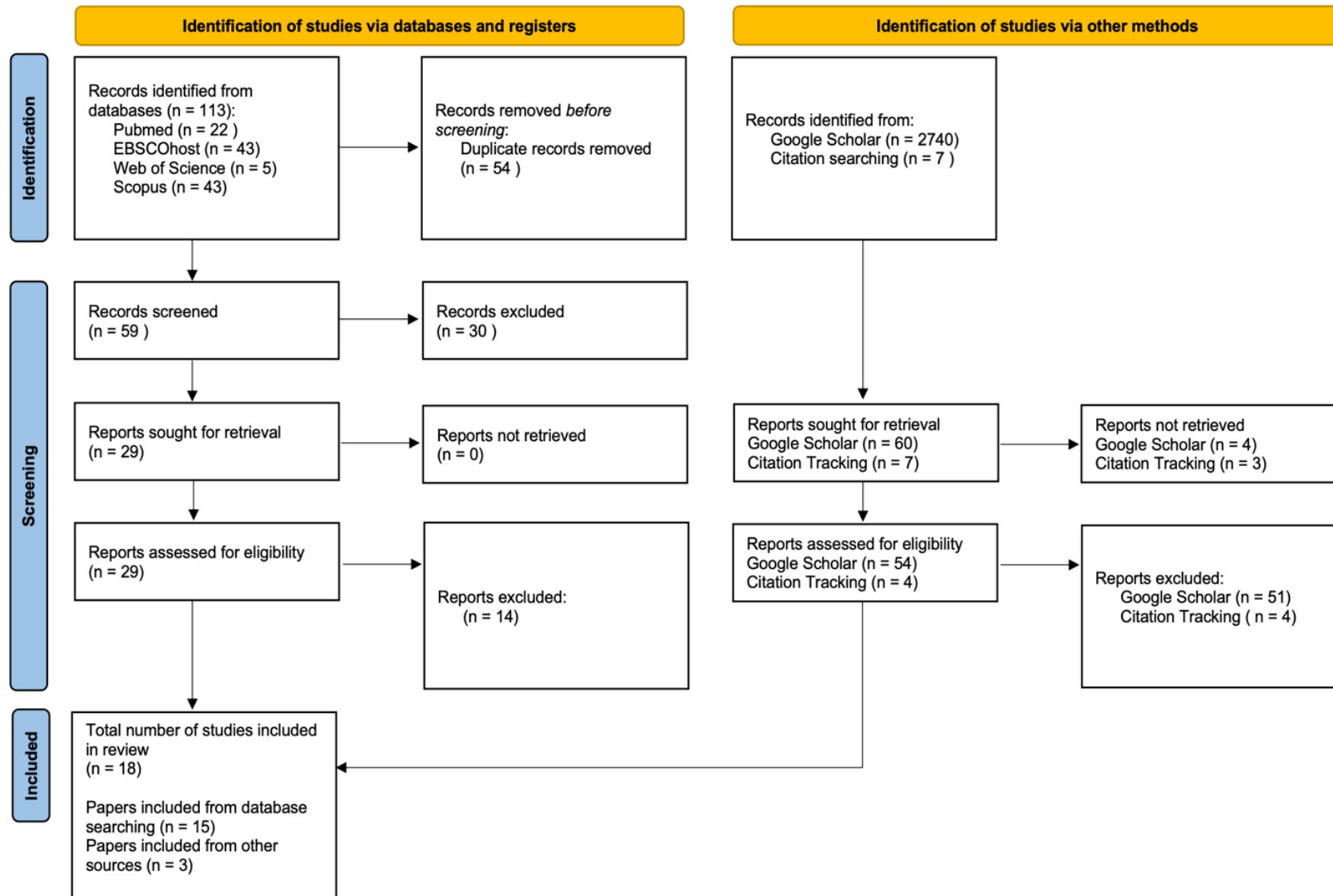


Figure 1: PRISMA diagram

To begin our data analysis, we first (as far as possible) created a timeline of the events and processes reviewed in the resources⁴. Next, we used the theoretical underpinnings of the HPA triangle (figure 2) and its four components (context, content, actors and processes), to identify factors that drove the policy process forward. This was extracted onto a data extraction sheet. We also identified and extracted the unintended consequences of the OSD through its explicit mentioning in the included items. The factors contributing to these unintended consequences were identified by the researchers through the extraction sheet. This was done by examining the way interactions between factors over time led to the unintended consequences mentioned.

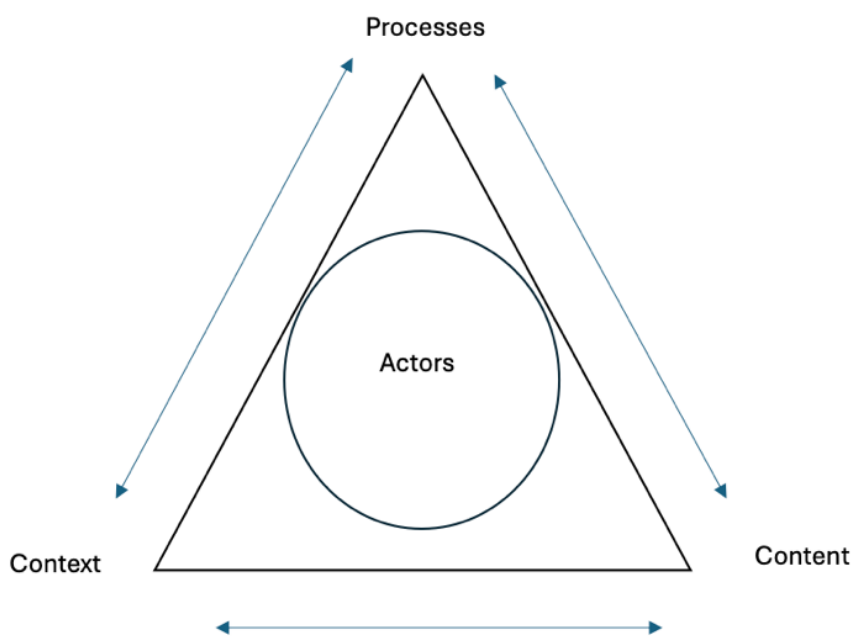


Figure 2: Walt and Gilson (1994) HPA triangle

⁴ Authors would not always explicitly mention exact times resources were examining, or events were occurring.

Results

The first part of the results section gives a brief overview of the various key events in the 2007 OSD policy process. The overview starts shortly before South Africa's first democratic elections in 1994, and spans across the mandate's development and implementation in the nursing sector. The second part of our results section identifies and explains the unintended health system consequences of the OSD with reference to the HPA triangle components that led to them.

Overview of the 2007 OSD policy process

Before South Africa's first democratic election in 1994, the country was under the governance of the National Party (NP) and its racially segregating governing system known as Apartheid. After the 1994 elections, the newly elected African National Congress (ANC) sought to create a unitary national health system that could rectify many of the healthcare inequalities created by the NP (Bachmann & Makan 1997). Under ANC rule, national power was decentralized and health became the joint responsibility of both the national and provincial governments (Ditlopo et al. 2013).

Through a decentralized health system, focus was set on creating a national primary health care strategy that could improve health equity; better serve local communities, and aid in HRH redistribution (George et al. 2013; Sibaya & Muller 2000). National and provincial tiers of government now had the power to redistribute financial resources through changing budgetary allocations given to different districts (Scott et al. 2012).

Although these reforms seemed promising, research conducted by Scott and colleagues suggested that government had a limited budget to work with (2012). As a result, from around 1996, financial cutbacks were experienced at the provincial, district and local municipal levels (Scott et al. 2012). In

response to these cutbacks, government attempted to conserve financial resources by placing an embargo on filling vacant staff posts and hiring new staff (Scott et al. 2012). The embargo was lifted in 2003, but the research conducted by Scott and colleagues asserts that the frontline working conditions caused by the lack of HRH availability during the ban, made it difficult to attract and retain health workers (2012). The continued budgetary constraints quickly led to civil service unrest based on salary dissatisfaction and the harsh working conditions health personnel were subjected to. Banjo and Balkaran argue that the aforementioned factors led to a wave of public sector strike action occurring in 2004, 2007 and in 2009 (2009). In 2007, the biggest wave of strike action since the end of Apartheid, forced government to address labor union grievances after more than 700,000 public workers stayed away from work for 27 consecutive days protesting for increased pay (Banjo & Balkaran 2009).

The 2007 nationwide strike action ended when the *Public Sector Co-ordinating Bargaining Council*⁵ (PSCBC) tabled an offer for specific remuneration packages for certain professional groups in *Resolution 1 of 2007* in early July (Gray & Van der Merwe 2009). A subdivision of the PSCBC, specifically involved with health sector bargaining on national and provincial levels, was the *Public Health and Social Development Sectoral Bargaining Council* (PHSDSBC) (Gray & Van der Merwe 2009). Shortly after the PSCBC released *Resolution 1*, the PHSDSBC released *Resolution 3 of 2007* which sought to implement the OSD strategy as a financial incentive that aimed to attract, motivate and retain the stipulated categories of nurses in the public sector with effect from July 1st 2007 (Ditlopo et al. 2013; Reardon & George 2014).

⁵ PSCBC: a bargaining chamber which facilitates nation-wide civil service negotiations that determine the conditions of service between the employer (government) and its employees (public sector workers).

After the development of the OSD, the *Department of Public Service and Administration* (DPSA) was responsible for creating the mandate's implementation guidelines and overseeing its introduction (Motsosi & Rispel 2012). Although it is widely recognized that the DPSA was in charge during this time, Khunou and her colleague conducted research which noted that the *National Department of Health* (NDoH) had not aided the DPSA in facilitating or holding any training workshops to ensure that implementing actors were well-equipped to help rollout the policy (2016). In addition, empirical evidence gathered by Ditlopo and her research team found that implementation strategies (such as the development of hospital task teams) were not uniformly used or available at all health institutions (2013).

Following government's decentralized approach, the DPSA gave full discretion to the provinces, districts and local municipal governing structures, to implement the policy as they saw fit (Ditlopo et al. 2013). As a result, studies by Motsosi and Rispel in 2012, and then by Ditlopo and colleagues in 2013, both found that healthcare institutions across the country experienced variations in the policy's implementation based on implementing actor discretion (2012; 2013).

Despite the aforementioned challenges, when the OSD was implemented in September 2008, it did achieve some of its intended health system goals. For instance, some researchers investigating the OSD's implementation argue that the policy did begin improving nursing remuneration, recruitment, and retention (Khunou & Davhana-Maselesele 2016; Motsosi & Rispel 2012). Research conducted in 2012 and 2014 found evidence suggesting that the OSD did in fact, make significant strides in closing the gap between local and certain international salaries (George & Rhodes 2012; Reardon & George 2014). For example, the mandate was able to surpass the earning potentials found in countries such as the United Kingdom and Australia (George & Rhodes 2012). Ditlopo and colleagues attribute the remuneration restructuring and earning potentials as one of the reasons why the health system saw

an increase in the number of nurses returning from overseas and moving from private back into the public sector (2013). While showing some positive signs, the policy also produced unintended consequences that are further discussed in the following section.

Table 1: Overview of key influencing factors in the development of the 2007 OSD, categorized according to the HPA triangle (source: authors, 2024)

HPA Factors
<p>Context Factors:</p> <p>Embargo placed on filling vacant posts and hiring new staff to bolster available HRH from around 1996 (Scott et al. 2012). Once lifted in 2003, health workers were hesitant to enter the public space because of the working conditions produced by the embargo, making it difficult for government to attract and retain its frontline health workers (Scott et al. 2012).</p> <p>Continued budgetary constraints in the early 2000s created salary dissatisfaction in the health and other public sectors (Banjo & Balkaran 2009).</p> <p>Process Factors:</p> <p>Civil service strike action in 2004, 2007 and 2009 as a result of government not addressing frontline level complaints with regards to working conditions and salaries across the public sector (Banjo & Balkaran 2009).</p> <p>2007 strike action saw 700,000 public workers staying away from work for 27 consecutive days for improved remuneration (Banjo & Balkaran 2009).</p> <p>The Public Sector Co-ordinating Bargaining Council (PSCBC) released <i>Resolution 1</i> of 2007, which ended the 27 day long strike action (Gray & Van der Merwe 2009).</p> <p>The Public Health and Social Development Sectoral Bargaining Council (PHSDSBC)—a division of the PSCBC involved specifically with health sector bargaining—released Resolution 3 of 2007, which officially introduced the OSD into the public health sector for nurses as of July 1st 2007 (Gray & Van der Merwe 2009).</p> <p>Actor Factors:</p> <p>Public sector unions and government began clashing over remuneration and working conditions in the early 2000s (Banjo & Balkaran 2009).</p> <p>(PSCBC) tabled an offer to public union groups aimed at restructuring specific remuneration packages for certain health professionals (Gray & Van der Merwe 2009).</p> <p>Content Factors:</p> <p><i>Resolution 1 of 2007</i> by the PSCBC formalized the government’s efforts to introduce revised salary structures for the identified public workers (Gray & Van der Merwe 2009). It further stipulated that career pathing based on competencies; pay and grade progressions based on experience and performance, were to be implemented in efforts to retain and attract the designated public workers (Gray & Van der Merwe 2009).</p>

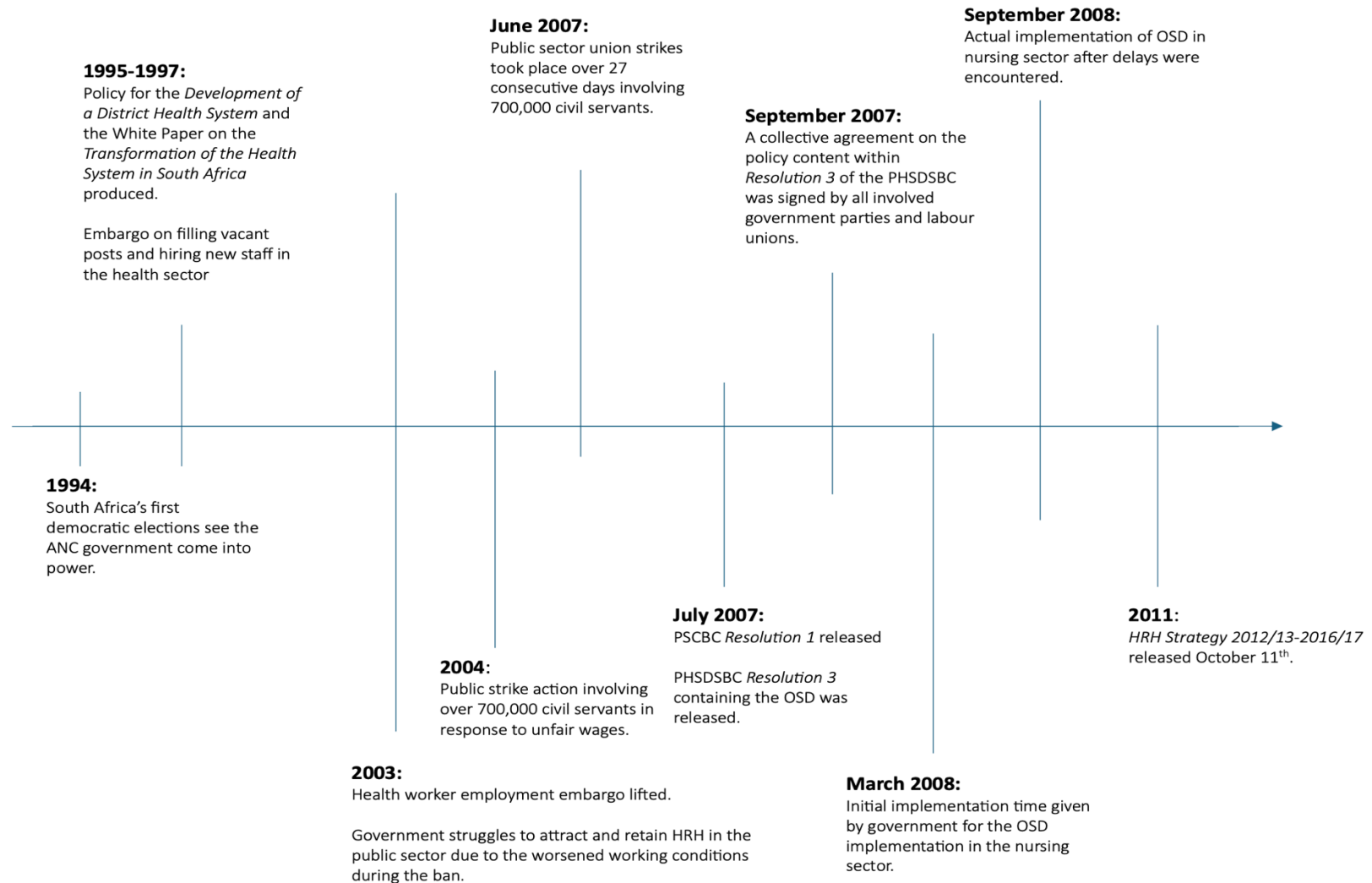


Figure 3: A basic overview of key events timelining the 2007 OSD policy process (source: authors, 2024)

The unintended health system consequences of the 2007 OSD

In this section, we present the main unintended consequences of the OSD as noted in the literature.

Upon review, it was evident that nursing demoralization; division between the different nursing cadres; a breakdown of relationships between nursing managers and their frontline staff, and a worsened nursing maldistribution, were the most widely recognized unintended consequences caused by the policy. The HPA triangle theory and our longitudinal perspective were used to investigate and explain these unintended consequences. This was achieved by exploring the relationship between the unintended consequences, and the interactions between the different policy process factors that led to them. A summary of these findings can be seen in the table at the end of the section (Table 1). The four main unintended consequences are explained below.

Demoralization

Numerous articles note demoralization of nursing staff as an unintended consequence of the OSD (Ditlopo et al. 2014; Labonté et al. 2015; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012). Resources suggest that nurses became demoralized because of government's lack of effort to include them in the development and implementation of the OSD (Ditlopo et al. 2014; Labonté et al. 2015; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012). Certain literature argues that this policy process factor undermined the way nurses believed government perceived their importance in such processes (Ditlopo et al. 2014; Ditlopo et al. 2013; Mcur & Mulaudzi 2015). Demoralization from the OSD continued well after the policy's implementation, with research conducted by Labonte and colleagues still highlighting it as a major unintended consequence (2015).

A number of resources note that in the late 1990s and early 2000s, government believed that nursing demoralization, and their flight out of the public health space, was rooted in poor salary remuneration (Bachmann & Makan 1997; Banjo & Balkaran 2009; George et al. 2013; Reardon & George 2014; Scott

et al. 2012). However, the application of our longitudinal lens revealed that such demoralization was also rooted in prior contextual history between these two actor groups. A number of articles reviewed suggests that demoralization was linked to the poor working conditions (i.e. infrastructure issues, increasing patient loads, and lack of resources) and increased responsibility taken on by nurses without government providing higher pay or addressing the ground-level issues they were facing (Mburu & George 2017; Munyewende et al. 2014; Reardon & George 2014; Scott et al. 2012; Selebi & Minnaar 2007).

Despite government's awareness of the flight of nursing personnel, some of the research reviewed suggests that it did not recognize that demoralization came from the aforementioned factors (George et al. 2013; Scott et al. 2012; Sibaya & Muller 2000). Research conducted by Reardon and George support this statement by claiming that strategies to curb the exodus of nurses and other health personnel would be ineffective if their working conditions and their increasing frontline responsibilities were not addressed (2014).

Numerous resources reported that even prior to the OSD, spaces for the nursing actor group to express these ground-level concerns and participate in policymaking processes were rare (Ditlopo et al. 2014; Khunou & Davhana-Maselesele 2016; Munyewende et al. 2014; Reardon & George 2014; Scott et al. 2012; Selebi & Minnaar 2007). Furthermore, the data reviewed also suggests that the exclusion of nurses from this space continued during the OSD's development (Ditlopo et al. 2014; Ditlopo et al. 2013; Khunou & Davhana-Maselesele 2016; Motsosi & Rispel 2012). Two of the papers highlight that as a result of their exclusion, nurses were unable to view and comment on the final draft of the OSD before it's submission and signing into law (Ditlopo et al. 2013; Motsosi & Rispel 2012).

Ditlopo and colleagues further report that nurses believed that many of the challenges (such as non-uniform implementation discussed earlier in the policy overview), could have been avoided if they had a platform to voice their ideas during the policy development stages (2014). The data included suggests that these factors exacerbated nursing demoralization (Ditlopo et al. 2014; Ditlopo et al. 2013; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012).

Division

The literature reviewed cited nursing division as another major unintended consequence of the OSD (Ditlopo et al. 2014; Ditlopo et al. 2013; Motsosi & Rispel 2012). This refers to the disunity between the different nursing cadres (managers, professional nurses, and frontline nurses) caused by the policy's varying benefits. Numerous articles attribute the unintended nursing division experienced, to the policy's decentralized implementation (Ditlopo et al. 2014; Ditlopo et al. 2013; Khunou & Davhana-Maselesele 2016; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012). A number of articles go on to assert that the OSD's implementing actors had full discretion over the policy's rollout (Ditlopo et al. 2014; Ditlopo et al. 2013; Khunou & Davhana-Maselesele 2016; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012). These articles further found that the policy content of the mandate was subject to the interpretation of its implementing actors at the provincial, district and local municipal levels (Ditlopo et al. 2014; Ditlopo et al. 2013; Khunou & Davhana-Maselesele 2016; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012). A large portion of the articles reviewing the OSD's implementation cite the varied interpretation by implementing actors to be a cause for the varying benefits and eligibility criteria experienced on a frontline level (Ditlopo et al. 2014; Ditlopo et al. 2013; Khunou & Davhana-Maselesele 2016; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012).

An example of this varied understanding can be seen in the 'grandfather clause'. The clause allowed nurses who were working in a specialist clinical setting before the OSD's implementation, to benefit

from the mandate despite not having the required specialist training (Ditlopo et al. 2013; Motsosi & Rispel 2012). However, implementing actors lacked the understanding of nursing qualifications and ranking to correctly translate this on a frontline level (Motsosi & Rispel 2012). Motsosi and Rispel found that the incorrect translation began causing frustration between the different nursing actor groups (2012). The authors further suggest that as frustration mounted, division amongst the cadres began (Motsosi & Rispel 2012).

Research published by Ditlopo et al. noted an eligibility content factor in the OSD that further fed into nursing division. It stipulated that nurses with a formal specialist qualification, but who were not working in a specialist area after the OSD's implementation, were not eligible to benefit from the mandate (Ditlopo et al. 2013). Ditlopo and colleagues argue that this too, created frustration between the cadres that further divided the sector (2013). Findings from a similar study conducted a year later, suggests that the structuring of these eligibility criteria relates to the aforementioned lack of inclusion of nursing perspectives spoken about in the previous unintended consequence (Ditlopo et al. 2014). The authors further state that nursing division based on varying eligibility criteria, could have potentially been avoided if nursing input was included earlier in the policy development processes (Ditlopo et al. 2014).

Further exacerbation of nursing division was caused by another content factor from the benefits clauses within the OSD. The OSD held more financial benefits for frontline nursing actor groups opting to stay in clinical practice (Motsosi & Rispel 2012). These benefits outweighed those of nursing actor groups in supervisory or managerial roles (Motsosi & Rispel 2012). For example, professional nurses could remain on a frontline level and benefit from more career opportunities and salary progressions, than those of nursing managers and Heads' of Department (HODs) (Motsosi & Rispel 2012). Such benefits were even greater for nurses entering specialized fields such as intensive care units (ICUs),

oncology units, and operating theatres (Motsosi & Rispel 2012). This policy content issue plays a further role in the next unintended consequence unpacked below.

Breakdown of nursing relationships

A number of the resources reviewed cite the breakdown of relationships between nursing managers and frontline staff as another one of the OSD's main unintended consequences (Ditlopo et al. 2014; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012; Munyewende et al. 2014). These same papers assert the understanding that the 'grandfather' clause, and the eligibility and benefits clauses (discussed in the previous unintended consequence), were key policy content factors that led to the breakdown of relationships between the nursing manager and frontline staff actor groups (Ditlopo et al. 2014; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012; Munyewende et al. 2014).

For instance, in research produced by Mcur and Mulaudzi, it was noted that nursing HODs were upset that they had limited benefits from the OSD when compared to their lower-ranking frontline staff (2015). In response, HODs began taking their frustrations out on their staff by exploiting them and making them do more work than required (Mcur & Mulaudzi 2015). Frontline staff, in reaction to this treatment, intensified strain on these relationships by not following managerial instructions (Mcur & Mulaudzi 2015).

Our longitudinal perspective across earlier timeframes in the policy process revealed that cracks in the relationship between managers and frontline nurses first occurred between 1994 and the early 2000s. Work done by Scott and colleagues revealed that frontline nurses first began losing trust in their managers during the health sector reform strategies post-Apartheid (2012). Scott et al. also highlights that frontline nurses felt as if change was being forced upon them by managers without adequate consultation (2012). Their research also revealed that frontline nurses believed that the nursing

management actor group had hidden agendas that were not based on supporting staff or providing quality care (Scott et al. 2012). Although a breakdown in nursing relationships was catalyzed by the OSD, this contextual background highlights the strain these relationships were already under prior to the policy's implementation.

Worsening nursing maldistribution

Several papers note worsening geographic maldistribution of nursing staff as an unintended consequence of the OSD policy (Ditlopo et al. 2013; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012; Reardon & George 2014). Many of the reviewed resources attribute this to the non-uniform implementation and benefits of the OSD mentioned earlier (Bidwell et al. 2014; Ditlopo et al. 2013; George & Rhodes 2012; Khunou & Davhana-Maselesele 2016; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012; Munyewende et al. 2014). Resources also cite that nurses no longer wanted to work in areas where they could not benefit from the OSD (Bidwell et al. 2014; Ditlopo et al. 2013; George & Rhodes 2012; Khunou & Davhana-Maselesele 2016; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012; Munyewende et al. 2014).

For instance, the nursing manager actor group were unhappy with their lower earning potential discussed in the previous unintended consequence (Ditlopo et al. 2013; Mcur & Mulaudzi 2015). In response to this unhappiness, they either moved back into frontline positions (to benefit from the policy) or ended up leaving the public sector altogether (Ditlopo et al. 2013; Mcur & Mulaudzi 2015). Much of the literature reviewed mentions that the shift back into frontline positions, or flight from the public sector, became a key contributing factor to the worsened nursing HRH maldistribution after the OSD's implementation (Bidwell et al. 2014; Ditlopo et al. 2014; Ditlopo et al. 2013; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012; Munyewende et al. 2014). This is reflected in findings from Labonte and colleagues, noting that the amount of unfilled nursing posts created by the flight of staff, rose

from 31%-46% between 2006 and 2010 (2015). In addition, research produced by Mburu and George examining HRH policies, made no mention of the 2007 OSD when reviewing South Africa's most effective retention and recruitment strategies in the public sector (2017).

Many of the articles reviewed also suggest that the OSD worsened nursing maldistribution because it primarily targeted remuneration, instead of the challenging working conditions nurses found more pertinent (George & Rhodes 2012; Khunou & Davhana-Maselesele 2016; Mburu & George 2017; Reardon & George 2014; Scott et al. 2012; Selebi & Minnaar 2007). Some of the literature also concludes that better remuneration will not sway nursing and other health personnel to stay in the public sector if frontline working conditions are not first addressed (George & Rhodes 2012; Khunou & Davhana-Maselesele 2016; Mburu & George 2017).

Table 2: The unintended health system consequences of the 2007 OSD policy process (source: author, 2024)

Unintended health system consequence	Main HPA triangle factors involved in consequence (actors, context, content, processes)
<p>Demoralization of nursing staff during the OSD’s development and implementation</p> <p>(Ditlopo et al. 2014; Khunou & Davhana-Maselesele 2016; Labonté et al. 2015; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012; Munyewende et al. 2014; Reardon & George 2014; Scott et al. 2012; Selebi & Minnaar 2007)</p>	<p>Actors involved: Government; Nursing cadres</p> <p>Processes: Despite the constant call for the state to be more inclusive of nurses in policymaking processes throughout the 1990s and early 2000s, this actor group were continually excluded. As a result, managers and frontline staff were not afforded the opportunity to view and comment on the final draft of the OSD before it’s submission and signing into law.</p> <p>Contextual factors: Poor working conditions of healthcare workers specifically related to: infrastructure challenges; lack of resources; increased responsibility of nurses after the ANC’s 1994 health sector reform strategies (without higher pay or the addressal of the frontline issues they were facing).</p> <p>Content Factors: None noted</p>
<p>Nursing division between the different cadres because of unequal and varied eligibility criteria and policy benefits</p> <p>(Ditlopo et al. 2014; Ditlopo et al. 2013; Khunou & Davhana-Maselesele 2016; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012)</p>	<p>Actors involved: Nursing managers; Professional nurses; Frontline nurses</p> <p>Processes: The decision to decentralize the OSD’s implementation in 2008, meant that provincial, district and local municipal governing structures, had the power to implement the OSD in the manner that best suited them. Some nursing groups benefited more from the policy than others because eligibility and policy benefits were subject to multiple variations that were dependent on the implementing actors’ interpretations.</p> <p>Contextual factors: Policy content in the OSD began to spark frustration between nursing managers and their frontline staff leading to a breakdown in the relationship between these two actor groups. Historical context also highlights difficulties between nursing managers and frontline staff during the health sector reform strategies initiated by the newly elected ANC government post-1994.</p> <p>Content factors:</p> <p>The ‘grandfather’ clause: The clause allowed nurses who were working in a specialist clinical setting before the OSD’s implementation, to benefit from the mandate despite not having the required specialist training. However, nurses with a formal specialist qualification, but who were not working in a specialist area, were not eligible to benefit from the OSD.</p> <p>Benefits clause: The OSD held more financial benefits for nursing staff opting to stay in clinical practice, compared to those wanting to move into supervisory or managerial roles.</p>

<p>Breakdown of relationships between nursing managers and their frontline staff</p> <p>(Ditlopo et al. 2014; Ditlopo et al. 2013; Mburu & George 2017; Mcur & Mulaudzi 2015; Munyewende et al. 2014; Selebi & Minnaar 2007).</p>	<p>Actors involved: Nursing managers/Heads of Department (HODs); Frontline nursing staff.</p> <p>Processes: When the OSD was rolled out, the policy content stipulations (i.e. the ‘grandfather’ clause and eligibility criteria) not only divided nursing cadres, but also sparked dissatisfaction and frustration that began to corrode the relationship between these groups.</p> <p>Contextual factors: Frontline nurses began losing trust in their managers after the health sector reform strategies were implemented post-1994. Historical context showed that frontline nurses felt as if change was being forced down on them without adequate consultation from their supervisors.</p> <p>Frontline-level nurses felt as if mid-level managers were victimizing them and could not keep prior promises made. Frontline-level nurses also stated that managers did not communicate or consult with them effectively. In addition, staff felt as if managers did not consider their well-being or were willing to involve them in the decision-making regarding the reform efforts impacting their daily environments.</p> <p>Content factors: The ‘grandfather’ and benefits clauses were also attributed to causing a breakdown in the relationship between nurses and their frontline staff.</p>
<p>Worsening nursing maldistribution</p> <p>(Ditlopo et al. 2013; Mcur & Mulaudzi 2015; Motsosi & Rispel 2012; Reardon & George 2014).</p>	<p>Actors: Nursing managers/HODs; Professional nurses; Frontline nurses</p> <p>Processes: Nurses no longer wanted to work in areas where they could not benefit from the OSD. As a result, the policy worsened the maldistribution of nurses compared to before its implementation.</p> <p>Context factors: Nursing vacancy posts rose from 31% to 46% between 2006 and 2010 despite the OSD’s introduction. The working conditions of nursing staff also remained unaddressed despite better remuneration from the OSD.</p> <p>Content factors: The benefits clauses in the policy content of the OSD, resulted in nurses leaving their managerial posts for frontline positions so that they could qualify for more of the OSD’s benefits. This was done because the policy’s remuneration structuring favoured frontline workers more than managers.</p>

Discussion

This qualitative review study used the HPA triangle and a longitudinal retrospective lens to answer the research question: “What factors influenced the development and implementation of the 2007 OSD strategy for the nursing sector, and what were/are the reasons behind its unintended health system consequences?”. Literature supports the use of a longer timeframe for policy analysis (about 10 years or more) when aiming to identify and understand unintended policy consequences (Walt et al. 2008). Our longitudinal approach has allowed the authors to examine the OSD policy process across more than a decade. In addition, this paper tackles the complexity of answering the research question by using the HPA triangle as a framework to help group and link the myriad of contextual, policy content, actor engagements and process factors that led to unintended consequences experienced. Our analysis uncovered key insights that can aid in understanding the relationship between factors influencing policy formulation and implementation, and unintended health system consequences.

We have argued that that demoralization; division amongst the various nursing cadres; a breakdown in relationships between nursing managers and their frontline staff; a worsened maldistribution of nurses across the health sector post-implementation of the OSD, were the major unintended consequences of the policy. The longitudinal lens in addition to the interaction between various HPA components, revealed that the unintended consequences were influenced by a wide range of historical health system context and actor interactions that predated the mandate’s inception.

For example, the HPA triangle aided us in identifying that contextual factors such as the early transformation efforts introduced by the ANC government post-Apartheid, began putting strain on the relationship between the actor groups of nursing managers and their frontline staff shortly post-1994. Later, when the OSD was introduced, it worsened the already strained relationship and unintentionally broke the space down further between these two actor groups. By widening our lens of analysis to

before the OSD's inception and using the HPA triangle to identify contextual factors of the health system at that time, we could investigate the process and events which catalyzed the breakdown in actor engagements later.

In another instance, the demoralization of nursing staff was already present for years before the OSD's introduction. However, the mandate unintentionally exacerbated demoralization by addressing remuneration, and not the frontline challenges nursing staff deemed more urgent. We also discovered that nursing participation and input in policymaking spaces was already limited well before the OSD's inception and development. Their exclusion during the mandate's development, meant that nurses were not involved in creating policy content (such as eligibility and benefits criteria) that they felt would be fair and effective. This, alongside the policy's varied implementation, created division amongst the nursing cadres and effected their distribution across the health system.

The abovementioned examples highlight how unintended consequences form within a 'complex-adaptive' system and demonstrates the value of the concept of 'unintended consequences' in the fields of HPA and HPSR. The concept allows researchers to recognize and account for the unforeseen and wide-ranging impacts policy can have across various components of the system. The exploration of these unintended consequences reveals dynamics of the health system that may otherwise have been left unrecognized or unaddressed, and, in turn suggests how such consequences might be pre-empted and mitigated in future policy interventions.

Our analysis of the 2007 OSD policy process, and the unintended consequences it produced, also demonstrates that historical contextual factors—like political and social climates within a health system— contribute to unintended consequences. HPSR literature encourages policymakers to view and approach the development of public policy through a lens that recognizes and incorporates the

wider set of contextual, political and social factors that will impact it (de Leeuw et al. 2014; Gilson & Raphaely 2008; Walt & Gilson 1994; Walt et al. 2008).

However, even with a greater focus on the historical contextual factors, wider policy implementation research suggests that introducing an intervention into any health system will inevitably create unintended consequences (De Savigney & Adam 2009; Gilson & Raphaely 2008; Jabeen 2016). It is the nature of policies to become 'embedded' within a system that is constantly being reshaped and remodeled by the human interactions which form it (De Savigney & Adam 2009; Lehmann & Gilson 2013; Walt & Gilson 1994). As a result, policy intention, no matter how well thought out, can often leave those it intends to benefit worse off than prior to its implementation (Jabeen 2016).

Nonetheless, our findings suggest that unintended consequences can be mitigated, or at least better predicted, when policy interventions include frontline-level actor knowledge and perspectives. It also suggests that unforeseen policy implications can often be traced back to frontline-level issues that were either left unaddressed, or perhaps poorly understood by policymakers. This highlights the idea that policymakers can often lack the social understanding needed to design policy that adequately addresses the needs and reality of the intended beneficiaries (De Savigney & Adam 2009; Oliver et al. 2019). Our results reveal that inclusion of frontline staff can offer a richer contextual understanding of the frontline-level reality policies are implemented within. The inclusion of these perspectives can give implementing actors greater insight into why policies do not always achieve their expected outcomes (De Savigney & Adam 2009; Walker & Gilson 2004).

Implementation research commonly refers to this idea as a 'bottom-up' approach to health policymaking. It focuses on widening actor engagement and utilizing frontline perspectives to help close the gap between policy intentions and its health system impact (De Savigney & Adam 2009;

Walker & Gilson 2004; Walt et al. 2008). There is limited research to guide policymakers seeking to anticipate and ameliorate unintended consequences during policy development and implementation (De Savigney & Adam 2009; Lorenc & Oliver 2014). Our research reiterates the importance of policymakers including frontline perspectives in policymaking processes to close the gap between policy intention and impact.

There is little recent or contemporary evidence on the practice of the OSD, and the challenges still being experienced on a frontline level, which proved to be a limitation in this research project. Oftentimes, there is less research on an intervention as time progresses because researchers move on to explore new topics and fields of interest. As a result, the long-term and more recent impact of policy can be challenging to track through literature review. At the same time, this limitation highlights the need future research to explore the potential frontline challenges still being experienced with the OSD. The authors recommend including frontline perspectives in such future research as a method to gather empirical data from the practice of the strategy on current frontline levels nationally. In doing so, researchers can examine if many of the unintended consequences spoken of in this paper, have been addressed and rectified.

Conclusion

South Africa suffers from a host of HRH challenges that hinder efficient and effective service delivery across the public health sector. In attempts to rectify these challenges, government released the 2007 OSD strategy. The policy sought to bolster the amount of available HRH personnel in the public sector and address the maldistribution of nurses. Despite the policy achieving some of its intended goals, it also created a host of unintended health system consequences including the demoralization of nurses; nursing division; a breakdown in the relationship between nursing managers and staff, and an even greater HRH maldistribution of these cadres across the public sector.

The OSD provided an opportunity to study unintended consequences and the relationship it shares with the policy process factors that form them. To do this, we used the theoretical underpinnings of the Walt and Gilson (1994) HPA triangle to group and assess the interplay between the contextual, policy content, policy processes and actors engagement factors within the policy process. Additionally, the use of a longitudinal lens across this policy experience highlighted that unintended consequences can often be linked to contextual factors occurring well before a mandate's development and implementation. Our results show that many of these factors are shaped by the historical and socio-political climate of the health system.

The interaction of these factors contribute to the unpredictable reshaping of a mandate within the system and can often lead to the unintended consequences experienced. Our findings should prompt policymakers to be more inclusive of frontline-level actors that have greater historical insight into the frontline reality these policies are introduced. These actors, whether frontline workers or their managers, can better inform policymakers on the way current and historical context may influence a policy and its subsequent processes. The inclusion of frontline-level actor participation in policymaking can aid in identifying, predicting, and possibly mitigating the potential unintended health system consequences a policy may cause.

It should also be noted however, that the inclusion of frontline perspectives in policy processes is not a straight-forward and simple task. Although the benefits of frontline input is strongly encouraged and recommended in this paper, the complexity of developing a well-structured 'bottom-up' policymaking approach takes time, planning and strategies which consider the dynamism of the 'complex-adaptive' health system. The results from this study offer valuable insights towards further understanding of unintended consequences. However, the complexity in answering and fully comprehending the

relationship between unintended consequences and policy process factors, should not be undermined.

Ultimately, this study has only begun to shed light on the relationship between unintended consequences and policy factors in the HRH policymaking sphere. Future research should focus on the impacts of including frontline staff in policy development and implementation processes. Research should also explore the way that frontline-level actor knowledge and inclusion can be used as a method to help mitigate the severity and/or number of unintended consequences that arise from that policy experience.

Abbreviations

ANC	African National Congress
DPSA	Department of Public Service and Administration
HPA	Health Policy Analysis
HPSR	Health Policy and Systems Research
HRH	Human Resources for Health
LMICs	Low-and Middle-Income Countries
NP	National Party
OSD	Occupation-Specific Dispensation
PHSDSBC	Public Health and Social Development Sectoral Bargaining Council
PSCBC	Public Sector Co-ordinating Bargaining Council
QSR	Qualitative Systematic Review
SDGs	Sustainable Development Goals
UHC	Universal Health Coverage
WHO	World Health Organization

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Supplementary Text: Articles included in this qualitative systematic review

Title	Author and Date	Publishing Journal	Aims	Methods	Key Findings
Transformation management of primary health care services in two selected local authorities in Gauteng.	Sibaya W, Muller M. 2000.	<i>Curationis</i>	<ul style="list-style-type: none"> To explore and describe the perceptions (both expectations and fears) of managers employed in a primary health care facility. The results were used to compile a framework for transformation management and leadership within this specific space. 	A qualitative, exploratory and descriptive research strategy using in-depth individual interviews and content analysis	<ul style="list-style-type: none"> Actor expectations of successful transformation included adequate staffing as a "pre-requisite" for primary care transformation. Half of participants in the study noted consultation as being important during transformation process. Many participants felt as if they were not previously consulted by management on health sector changes implemented. Consultation and adequate communication considered one of the most important pre-requisites for HS transformation management.
Job satisfaction among nurses in a public hospital in Gauteng.	Selebi C, Minnaar A. 2007.	<i>Curationis</i>	<ul style="list-style-type: none"> To describe job satisfaction among nurses in a public hospital. To compare the job satisfaction levels of professional and sub- 	Quantitative descriptive survey	<ul style="list-style-type: none"> Dissatisfaction amongst nurses in the study hospital was driven by low salaries, lack of promotion and career development, working conditions and Department of Health policy implementation.

			professional nurses in a specific public hospital.		<ul style="list-style-type: none"> • Job satisfaction cannot be achieved in this hospital until factors such as working conditions, policy implementation, equitable salaries, appreciation in the workplace supervision and the ability of supervisors improves.
Constraints to implementing an equity-promoting staff allocation policy: understanding mid-level managers' and nurses' perspectives affecting implementation in South Africa.	Scott V, Mathews V, Gilson L. 2012.	<i>Health Policy and Planning</i>	To build understanding around the dynamics surrounding the proposed implementation of one set of South African staff allocation strategies responding to broader equity-oriented policy mandates.	Case-study using participatory research that takes place in 2003	<ul style="list-style-type: none"> • Relationship problems between mid-level managers and frontline staff, and for managers, their relationship with their superiors. These problems include: nurses feeling victimized by managers; nurses felt as if managers had not kept their promises in the past; unease in communication between managers and nurses; nurses and managers felt as if consultation was poor and nurses were not involved in decision-making; nurses did not believe managers considered their well-being; nurses were suspicious about researcher potentially telling them about a new policy because managers did not want to directly do it; district managers felt unsupported by their superiors. • Resistance to the staff reallocation strategy was not just a response to equity goals. Instead, this study highlights how broader South African

					<p>Health system context at the time of the study also influenced policy implementation resistance.</p> <ul style="list-style-type: none"> Trust, or lack thereof was of central importance to this policy experience when considering policy implementation looking at equity goals.
An examination of the factors fueling migration amongst Community Service practitioners.	Reardon C, George G. 2014.	<i>African Journal of Primary Health Care and Family Medicine.</i>	<ul style="list-style-type: none"> To explore the migration intentions and the factors that influence these intentions amongst nurses and doctors performing their mandatory community service years. To explore the views and opinions of this group on the bilateral agreement between the United Kingdom and South Africa. To understand the impact of these policies on the migration plans of the group. 	Qualitative empirical evidence/research through focus groups and interviews with 23 comm serve doctors and nurses. Six additional interviews conducted with nurses and one doctor who had worked in the UK.	<ul style="list-style-type: none"> This study confirms what other qualitative studies have also noted; finding that large proportions of medical and nursing students are considering migrating abroad within a few years post-graduation. Research has shown that the OSD has made significant strides in closing the gap between the salaries earned abroad and those earned in South Africa. However, there was a mixed review amongst participants around whether the introduction of the OSD has or will have a potential impact on the exodus of public healthcare workers from the country. By govt' communicating better with health professionals and telling them about policies and bilat agreements

					<p>that can affect them, it is believed that this would be beneficial in changing the perceptions of health personnel towards government as their employer as well as voicing their frustrations in working the in the public health sector.</p> <ul style="list-style-type: none"> Although salary increases have been achieved through the OSD, the findings of this study suggest that increased salaries without the improvements to working conditions and resources will not be enough to encourage health professionals to return to or remain in South Africa.
Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces.	Munyewende PO, Rispel LC, Chirwa T. 2014.	<i>Human Resources Health, 12: 27.</i>	To determine the job satisfaction of PHC clinic nursing managers in two South African provinces (Gauteng and the Free State) and the predictors of their job satisfaction.	cross-sectional study using pre-tested Measure of Job Satisfaction questionnaire and open-ended questions.	<ul style="list-style-type: none"> The increasing responsibilities of nursing managers and a salary that does not reflect this, has also been worsened by the fact that they believed that the performance management and reward system was also unfair towards them. A result of such unhappiness has created bad relationships between the manager and staff. Almost one third of participants being unaware of PHC re-engineering strategies is an example of how nursing managers feel left out of

					<p>current health system reforms and feel as if information is just passed down to them without prior consultation.</p> <ul style="list-style-type: none"> • Key issues influencing job satisfaction amongst nursing managers at the PHC level include working in a clinic of choice, exhaustion secondary to increasing responsibility and workload, and verbal abuse (note, salary does not feature in these main complaints/issues). These issues are not featured high on health workforce policies/strategies and could be used to inform both.
<p>Nurses' perceptions of the implementation of Occupational Specific Dispensation at two district hospitals in the Gauteng Province, South Africa.</p>	<p>Motsosi KS, Rispel LC. 2012.</p>	<p><i>Africa Journal of Nursing & Midwifery</i>, 14: 130-144.</p>	<ul style="list-style-type: none"> • Explore key informants' and nurses' understanding of the OSD policy • Determine nurses' perceptions of how the OSD policy influenced remuneration, hospital service delivery, relationships between management and nurses and relationships among 	<p>Qualitative review using interviews</p>	<ul style="list-style-type: none"> • Understanding around the rationale and goals of OSD varied between key informants and front-line level nurses. Frontline nurses interviewed had a misunderstanding/ insufficient understanding of aims. • Perceived negative aspects of OSD related to policy design (including the eligibility criteria of OSD), but mainly because of implementation (misinterpretation of the policy) led to unintended consequences such

			<p>different categories of nurses.</p> <ul style="list-style-type: none"> • Assess nurses' perceptions about the OSD implementation. • Obtain nurses' recommendations for improving policy implementation. 		<p>as unhappiness amongst nurses who did not benefit or whose posts were incorrectly translated). "...the nursing manager of the district hospital is earning the same salary as area managers."</p> <ul style="list-style-type: none"> • Although the DPSA drafted a detail set of OSD implementation guidelines, some complex clauses (such as the grandfather clause) were interpreted in different ways by local managers and did not consider the nuances of staffing structures and grading levels at different hospitals
Perceptions of nurse educators regarding the implementation of the occupational specific dispensation at a selected nursing college in Limpopo Province.	Mcur N., MDN, Mulaudzi, FM. 2015.	<i>Health SA Gesondheid.</i>	To explore and describe the perceptions of nurse educators regarding the implementation of OSD at a selected nursing campus.	qualitative review using in-depth interviews in response to a central research question. A qualitative exploratory and descriptive design was used in this study using unstructured interviews.	<ul style="list-style-type: none"> • Participants felt that OSD was unfairly implemented with unfair adjustments causing dissatisfaction and demoralization. Managers felt the most unfairly treated. In their opinion, the notch increase was lower than that of their supervisees since the experience of the Supervisees were considered and recognized in financial terms. • OSD implementation also started causing mistrust and broke down interpersonal relationships amongst staff members because of its perceived unfairness.

					<ul style="list-style-type: none"> The OSD implementation process has caused dissatisfaction and disparities amongst nursing educators, especially those in senior positions. As a result, this has contributed to job dissatisfaction, demoralization, burnout, anger, emotional distress, confusion, and frustration, which might lead to a high turnover of nurse educators in the long term.
Determining the efficacy of national strategies aimed at addressing the challenges facing health personnel working in rural areas in KwaZulu-Natal, South Africa.	Mburu G, George G. 2017.	<i>African Journal of Primary Health Care and Family Medicine.</i>	This study reviews the challenges faced by health personnel against government strategies aimed at attracting and retaining health personnel in these underserved areas.	Qualitative data using semi-structured interviews	<ul style="list-style-type: none"> As a result of exclusion from the rural allowance, staff nurses felt that the allowance created chaos amongst health personnel as only certain positions were afforded this benefit. As a result, staff nurses interviewed called for the benefit to be standardized. There is a policy-practice gap noted in key objective of the HRH 2030 strategy that health personnel should have access to further development opportunities, but (on a frontline level) this not experienced. Literature has cautioned that while financial incentives are important, they cannot/do not adequately

					<p>compensate for the other, particularly systemic challenges facing health personnel in rural areas.</p> <ul style="list-style-type: none"> • Management and supervision are a key component in optimizing any workforce. This study supports findings suggesting that the need to feel valued and supported is greater than challenges such as infrastructure and equipment. Other studies have shown that management and supervision determine 50% of work-life satisfaction, meaning that good management directly contributes to the decision of health personnel to stay or leave.
Health worker migration from South Africa: Causes, consequences and policy responses.	Labonté R, Sanders D, Mathole T, et al. 2015.	<i>Human Resources for Health.</i>	To report on the methods and findings on the causes and consequences of SHW migration from South Africa and the program and policy responses.	Mixed-methods study consisting of a scoping review, empirical data collection, surveys and interviews.	<ul style="list-style-type: none"> • A primary concern of SHW migration is staff shortages. Such staff shortages partly arise from poor management of an under-funded public health system. Unfilled posts for nurses between 2006-2010 rose from 31% to 46% respectively. • There have been efforts to increase training of SHWs with increased intakes for nurses, an increase in the number of private nursing colleges

					<p>and a commitment to re-open 84 colleges which are inactive while renovations are underway.</p> <ul style="list-style-type: none"> • Several training institutions now work with provincial governments in efforts to retain staff in rural locations.
<p>Level of job satisfaction amongst nurses in the North-West Province, South Africa: Post occupational specific dispensation.</p>	<p>Khunou SH, Davhana-Maselesele M. 2016.</p>	<p><i>Curationis.</i></p>	<ul style="list-style-type: none"> • To describe the level of job satisfaction amongst professional and other category nurses at a public hospital in the North-West Province. • To describe the perceptions of nurses about OSD and their intention to continue working in the hospital. 	<p>Descriptive cross-sectional design using a qualitative approach using a questionnaire.</p>	<ul style="list-style-type: none"> • Factors that have contributed to dissatisfaction within the nursing sector were low salaries, poor working conditions, the way policies were implemented and the incompetency of the supervisor. • Majority of nurses agreed that OSD was able to adequately attract nurses back into the public sector; disagreed that OSD led to the retention of nurses since its implementation • Half of the participants indicated that PNs and other nursing categories were intending to only remain in the public sector for five years. It can therefore be concluded within this study that the primary objectives of attraction and implementation of nurses were not met. The

					<p>dissatisfaction of the policy could also be due to other factors such as the working conditions and supervision.</p> <ul style="list-style-type: none"> • lack of workshops by the DoH resulted in OSD implementation varying across different health facilities and provinces. This led to confusion with regards to implementation. • Nurses level of job satisfaction remains low after the implementation of OSD.
<p>Is there really a pot of gold at the end of the rainbow? Has the occupational specific dispensation, as a mechanism to attract and retain health workers in South Africa, levelled the playing field?</p>	<p>George G, Rhodes B. 2012.</p>	<p><i>BMC Public Health.</i></p>	<p>Examines how that new salary structure compares to selected foreign countries in comparable HRH categories using PPP adjustments.</p>	<p>Quantitative paper making comparisons, using a PPP index to identify the differences in salaries for selected countries (SA, US, UK, Ca, Aus and Saudi Arabia</p>	<ul style="list-style-type: none"> • OSD has helped to reduce the gap between international and domestic salaries, however, most SA HRH salaries are still dwarfed by their international counterparts. • Interesting to note that the improvement of salaries of SA medical officers has resulted in net earnings surpassing their counterparts in the UK and Australia. This lends support to research which

					<p>suggests that push factors (mainly working conditions) outweigh pull factors such as increases in remuneration gained abroad in health worker emigration decisions.</p> <ul style="list-style-type: none"> OSD has made significant progress in reducing the wage gap between HRH in SA and overseas. However, this gap is unlikely to close any further. This can potentially be due to the pressure that salary increases have placed on health budget. This suggests that SA healthcare workers should only expect moderate salary increases for the foreseeable future.
<p>Policy implementation and financial incentives for nurses in South Africa: a case study on the occupation-specific dispensation.</p>	<p>Ditlopo P, Blaauw D, Rispel LC, Thomas S, Bidwell P. 2013</p>	<p><i>Global Health Action</i></p>	<ul style="list-style-type: none"> To examine implementation of the OSD for nurses using Hogwood and Gunn's framework that outlines 'perfect implementation' pre-conditions. To highlight the conditions for the successful implementation of financial incentives. 	<p>Qualitative case study design using a document review and in-depth interviews with key informants.</p>	<ul style="list-style-type: none"> Unintended health system consequences include unmet nurses' expectations, inequities in the amounts received, perceived unfairness and dissatisfaction amongst the different nursing cadres. Lack of explicit expression of who would be trained on OSD implementation and length of training within the policy content is a reason

					<p>that the policy did not achieve its stated intentions.</p> <ul style="list-style-type: none"> • OSD was able to attract nurses from overseas back into the country and move from private back into public- therefore policy was able to meet some of its intended outcomes. • Lack of policy clarity on the responsibilities needing to be taken up by provincial or hospital managers, nor the steps needed to effectively implement it resulted in variations in Implementation across the nine provinces.
Contestations and complexities of nurses' participation in policymaking in South Africa.	Ditlopo P, Blaauw D, Penn-Kekana L, Rispel LC. 2014.	<i>Global Health Action</i>	This paper analyses the dynamics, strengths, and weaknesses of nurses' participation in four national health workforce policies: the 2008 Nursing Strategy, revision of the Scope of Practice for nurses, the new Framework for Nursing Qualifications, and the Occupation-Specific Dispensation (OSD) remuneration policy.	Using a policy analysis framework and conducting in-depth interviews with key informants and frontline nurses in four South African provinces.	<ul style="list-style-type: none"> • Majority of key informants and frontline nurses stated that nursing participation in policy development was sub-optimal and therefore support other studies of limited nursing involvement in health policy development • Contestation during policymaking involving the nursing sector shows that the nursing profession is not uniform, and that policymaking is a struggle between groups with competing interests.

					<ul style="list-style-type: none"> OSD policy given as an example of the unintended consequences that occurred during policy implementation because their perspectives or insights from nurses were ignored.
Security and skills: the two key issues in health worker migration.	Bidwell P, Laxmikanth P, Blacklock C, et al. 2014.	<i>Global Health Action</i>	To determine the experiences of South African trained health workers who have migrated to the United Kingdom. The findings of this study focus on the reasons for migration, and the reality of migration.	Qualitative content analysis	<ul style="list-style-type: none"> 2003 MoU resulted in a 99.9% reduction in new registration of SA doctors and a 45.2% decrease in nurses and midwives at the GMC from 2003-2004. A variety of financial and non-financial initiatives (Hospital Revitalisation Programme, Rural and Scarce Skills Allowance and OSD have been implemented to help improve issues of health worker motivation and retention-these policies have had varying degrees of success.
Salary inequality and primary care integration in South Africa.	Bachmann MO, Makan B. 1997.	<i>Social Science and Medicine</i>	<ul style="list-style-type: none"> To estimate the numbers, distribution, and conditions of service of all health personnel in the South 	Qualitative modelling and policy analysis	<ul style="list-style-type: none"> Public Service personnel working alongside local authorities are likely to continue to feel demotivated and

			<p>African public health sector.</p> <ul style="list-style-type: none"> • To model options for equalizing salaries between health authorities • To consider the financial and political feasibility of the options discussed. 		<p>frustrated if salary inequalities are not addressed.</p> <ul style="list-style-type: none"> • These actors will continue to resist reform efforts because they do not feel as if their grievances are being answered. • Consequences of this can lead to limitations in the development of the district health system (DHS).
<p>A descriptive analysis of the 2007 public sector strike in South Africa: forum section.</p>	<p>Banjo A, Balkaran S. 2009.</p>	<p><i>South African Journal of Labour Relations</i></p>	<p>Traces the root of the 2007 public service union strike in South Africa, the strategies adopted by the parties to the dispute, the way the dispute was resolved and the cost of the strike. The article concludes by highlighting the intended and unintended outcomes for both the government and the unions.</p>	<p>Descriptive qualitative analysis using content analysis.</p>	<ul style="list-style-type: none"> • The 2004 multiterm wage agreement of 4% per year meant for three years meant that unions could not negotiate salary increases for three years. This would result in another collision between unions and government in 2007. • The strike action in 2007 saw a host of implications: border posts, licensing offices, port authorities, deeds offices and other important administrative services were not available. Most importantly, health services at most government hospitals were paralyzed and workers stayed away despite government threats of being fired. • Government's ability to withstand PSU pressure was because it firmly held its stance that boosting

					<p>conditions of service instead of just increasing wages would be a better long-term solution. Three health system consequences came to be: it set a benchmark for wage settlements in all sectors; negotiation processes started laying the groundwork for differential pay, for different level of achievements; workers within the movement were made to realize that the strike involved more than better wages and conditions, it was also political by the Unions against the economic policies of President Mbeki. As a result, the public held the unions responsible and this will probably make future widespread, multisectoral strike, less likely.</p>
<p>Migration of South African health workers: the extent to which financial considerations influence internal flows and external movements.</p>	<p>George G, Atujuna M, Gow J. 2013.</p>	<p><i>BMC Health Services Research</i></p>	<p>This paper specifically investigates whether financial factors – in particular, salaries – are the primary reasons for HWs’ motivation when considering moving from their current place of work.</p>	<p>Cross-sectional data collection using a survey instrument and supplemented with in-depth interviews to corroborate findings.</p>	<ul style="list-style-type: none"> • This study shows that health worker decisions to migrate are not linked to salaries they earn in their current jobs. Rather, HWs consider migration based on age, their level of stress at work and the extent to which they feel happy in their current job. • Although gap in earnings still exists, it has been narrowed down by a considerable degree thanks to OSD. The movement of HWs previously

					<p>linked to lower salaries, has been minimized by the implementation of the OSD.</p> <ul style="list-style-type: none"> • Current production rates of HWs have not kept up with population growth rates and will not be able to off-set the shortfall of HWs created by migration unless significant improvement is made in retaining and producing Health workers.
Occupation-specific dispensation-an exercise in bad faith negotiations or promise for the future?	Gray A, Van der Merwe L. 2009.	SA <i>Pharmaceutical Journal</i>	To investigate if the OSD is rooted in potential to provide meaningful change in the future.	Descriptive review article.	<ul style="list-style-type: none"> • There was growing awareness that the application of OSD for nursing had proved more expensive than expected and that the employer (govt') was weary about repeating/having a similar experience. • The offer of specific salary dispensations for identified professional groups was contained in the Resolution of Public Sector Co-ordinating Bargaining Council (PSCBC) which ended the civil service strike in 2007. • In addition to providing general salary increases for the 2007/08 and 2008/09 financial years, the

					Resolution included a commitment to revise salary structures that caters for career pathing, pay progression, grade progression, work experience.
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Appendices

Appendix 1: Research Protocol

Introduction

The World Health Organization (WHO) describes a health system as, “...all organizations, people and actions whose primary intent is to promote, restore or maintain health.” (World Health Organization 2007). The well-known health systems framework identifies six key blocks that make up any healthcare system (World Health Organization 2007). These are namely: service delivery; the health workforce; information systems; medical products/vaccines in combination with other technologies; financing and lastly, leadership/governance (World Health Organization 2007). All six blocks (seen in figure 1) are important for the development of a strong and resilient healthcare system. However, a well-established and capable health workforce is key to achieving global universal health coverage (UHC) goals.

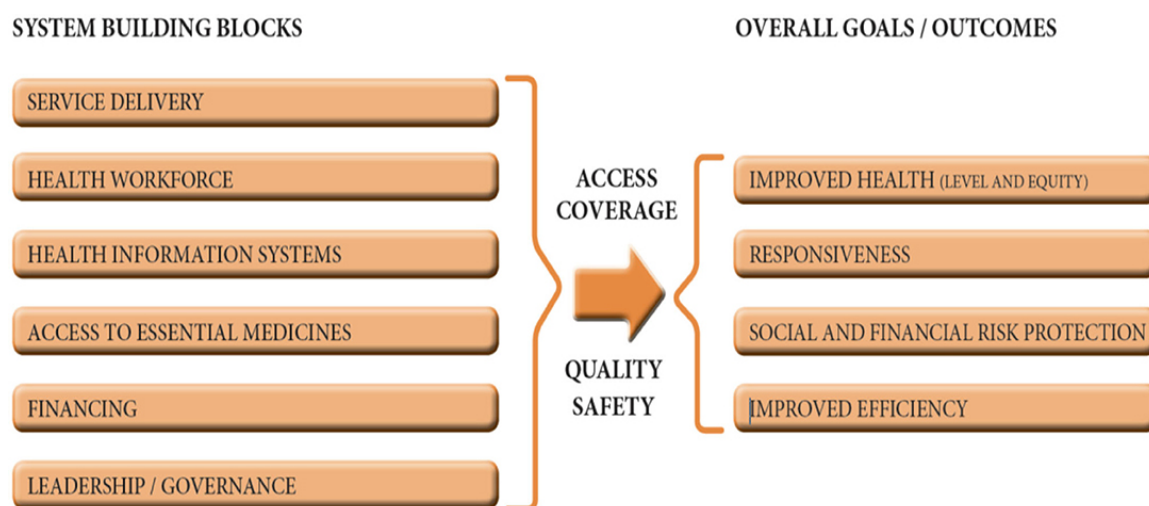


Figure 4: The WHO health systems building blocks framework (Source: Frontiersin.org)

Many low- and middle-income countries (LMICs) are in the process of transforming their health systems without the reliance on international aid for support (Campbell et al. 2013). As a result, there is a greater need for them to establish how best to use domestic resources to fund their health systems (Campbell et al. 2013).

One essential aspect to this decision-making is how best to expand health workforce development and service delivery (Campbell et al. 2013). This has led to a global push towards developing human resourcing for health (HRH) policy that addresses international health system challenges. Evidence of this was seen in 2013, when 57 countries and 27 independent bodies made renewed commitments to HRH on the eve of the Third Global HRH Forum (van de Pas et al. 2017).

However, policy discourse often focuses on addressing the 'HRH crisis', that refers specifically to the shortage and migration of health workers in LMICs (Campbell et al. 2013). Although these issues are still relevant today, there is an expanding body of knowledge highlighting additional challenges faced in HRH (Campbell et al. 2013). One of these challenges, and most pertinent to this research, is the policy implementation and practice gap of HRH strategies (Rispel & Barron 2012).

In South Africa, there have been numerous HRH policies produced in the public sector that are aimed at retaining health workers (Rispel & Barron 2012). This has been in response to the exit of health workers from the public into the private sector in search of better remuneration packages (Wadee & Khan 2007). The flight of public health personnel into private has created a nation-wide maldistribution of healthcare workers (Wadee & Khan 2007).

Another reason for HRH policy development in South Africa is because of health worker shortages. The number of health workers in the country falls far below the WHO standard of 2.3 health

professionals per 1000 people (Ile 2021). On a frontline level, statistics have revealed that there is only one doctor per 4000 people in the public sector (Ile 2021).

However, despite significant policy development to resolve these issues, the policy practice and implementation gap of HRH strategies remains challenging to address. This is partly because there is little research examining how these policies are experienced by frontline level workers when implemented (Rispel & Barron 2012). In addition, there have also been no formal assessments conducted on the overall effectiveness of some of South Africa's major HRH strategies and their resultant health system impact (Van Ryneveld et al. 2020). Without research examining the practice and implementation gaps or assessing the way these strategies impact the health system, HRH reform efforts cannot be adequately assessed or understood.

In this study, we examine the policy process and implementation of the 2007 Occupation-Specific Dispensation (OSD). The OSD policy came into effect in 2007 and aimed to attract, motivate and, most importantly, retain health care workers in the public sector (Ditlopo et al. 2013). The policy is a financial incentive (FI) package that introduces remuneration structuring, pay progressions and career pathing for the relevant health professions (Ditlopo et al. 2013). It initially focused on the nursing sector because they form the bulk of the country's health workforce (Ditlopo et al. 2013). However, problems quickly arose as implementation began. Some of these problems included inadequate planning, budget constraints and frontline worker inequities amongst nursing cadres (Ditlopo et al. 2013).

Current literature on the OSD predominately explores nursing perceptions and understanding of the strategy, in addition to the frontline level consequences experienced during implementation. These studies are limited in number and tend to be geographically fragmented. As a result, it is challenging

to assess the overall implementation gaps found in the OSD and to understand the reasons behind how and why the strategy produced the initial health system consequences experienced. To address this gap, a policy analysis synthesizing available literature on the 2007 OSD must be conducted. By synthesizing all available literature, a broader and deeper understanding of the policy process can be produced.

Background and Literature Review

Universal Health Coverage (UHC) and Extending Service Expansion

UHC is a prominent global health objective and integral to achieving fair and equitable health systems. The WHO defines UHC as, “All people receiving quality health services that meet their needs without being exposed to financial hardship in paying for the services.” (Norheim et al. 2014). This implies that the entire population of a country must have access to the same range of good quality health services that match their specific needs and preferences (Gilson et al. 2007).

In many countries, UHC has remained a cornerstone in implementing sustainable change and better health for all. Evidence of this can be seen through the action of over 70 countries requesting both technical advice and policy support from the WHO in efforts to further advance its UHC planning and implementation (Norheim et al. 2014). UHC has also been endorsed by the United Nations General Assembly which in 2012, called on governments across the globe to scale up all efforts relating to UHC development (Campbell et al. 2013).

Health system reforms for UHC includes: the redistribution of resources from the rich to the poor, the slashing of high out-of-pocket payments for healthcare services, the availability of a more comprehensive set of health services and private sector regulation to safeguard equity gains (Gilson et al. 2007). This transformation is aligned to the three key dimensions the WHO established as the UHC

mainframe: expanding services, improving population coverage and reducing out-of-pocket payments (Norheim et al. 2014). Although all three dimensions must be used together for sustainable UHC progression, emphasis must be placed on service expansion as many health system inequalities stem from the inability of countries to provide a wider range of services needed by the population (World Health Organization 2010).

The health workforce is central to service expansion and delivery in the health sector. It is only when health workers are equitably distributed, fully competent and easily accessible, that UHC service coverage effectively translates from theory into practice (Norheim et al. 2014). Furthermore, the development of a health workforce that is motivated and well-trained contributes to achieving the UN's sustainable development goals (van de Pas et al. 2017). However, in many contexts, the availability of health workers is insufficient to attain the service expansion needed (World Health Organization 2016).

The Global Push for Health Workforce Expansion and the 'HRH Crisis'

HRH policy development was accelerated in the wake of major health emergencies and other global health effects caused by the 2008/9 financial crisis (van de Pas et al. 2017). This underscores the importance of a well-skilled and capable health workforce that is able to significantly contribute to building community resilience in the face of disaster (World Health Organization 2016). Moreover, the development of a health workforce that is well-trained, skilled and motivated will help bolster UHC and other health efforts (van de Pas et al. 2017). Despite these efforts, there are still shortfalls experienced in HRH development and implementation strategies.

The 'HRH crisis' is a commonly coined term referring to acute HRH challenges brought about by national or international events. The 'crisis' often refers only to health worker shortages. However,

challenges in this area, stem from a wide-ranging set of drawbacks that go far beyond just lack of health workers (Van Rensburg 2014). Among these are skills deficits, weak managerial and supervisory capacities, reduced capability of the health workforce and ineffective leadership during HRH policy implementation (Van Rensburg 2014).

While it is often assumed that immediate action will be taken to respond to a situation deemed a 'crisis', challenges in HRH can seldom be easily fixed. Furthermore, when evaluations of HRH policy have been conducted, it is often done within an acute 'crisis' setting (Van Ryneveld et al. 2020). When performed in this manner, evaluations are often unable to generate feedback that contributes to more systematic and long-term change (Van Ryneveld et al. 2020).

The 'HRH Crisis' in the African Context

It is predicted that by 2030 there will be a global shortage of 15 million health workers, and Africa will be disproportionately affected by this (Van Ryneveld et al. 2020). Many African countries generally experience a host of difficulties regarding HRH and service delivery. This includes severe resource constraints, pervasive poverty, poorly developed health professionals, and maldistribution of healthcare workers (Van Rensburg 2014). In addition, poor health-worker motivation, lack of supplies, high vacancy rates and overwhelming workloads further contribute to the HRH challenges experienced in these countries (Van Rensburg 2014). Although the content within HRH mandates are progressive in many countries, the ability of governments to bridge the gaps between policy implementation and practice remains poorly understood (Van Rensburg 2014).

HRH has become a widely explored and pertinent area of healthcare development within South Africa. In 2012, a study conducted by Rispel and Barron found a host of HRH factors affecting service delivery and costs. This included organizational structuring, performance management, training and

development, HR information systems, and the inability to address policy-practice gaps identified during implementation (Rispel & Barron 2012). In addition to this, the private-public split (PPS) and the maldistribution of HRH across both health systems presents a key limitation of HRH progression domestically. This unequal distribution of health workers across the PPS needs to be addressed if South Africa is to improve its overall health outcomes (Van Rensburg 2014).

South Africa has produced two major HRH policies over the past two decades: the 2006 National Human Resources Plan for Health and the 2011 Human Resources for Health Strategy: 2012/13-2016/17. In the 2006 HRH document, stewardship for healthcare through government and the National Department of Health is highlighted as a core guiding principle (South African National Department of Health 2006) The 2011 HRH document highlights governance and leadership as one of the eight thematic priorities used to create an HRH development framework (South African National Department of Health 2011). From both policies, stewardship and strong governance are key in achieving the HRH goals in South Africa.

Financial Incentives and their Role in Health Worker Retention

Financial incentives (FIs) have been used since the early 2000s as a strategy that rewards the performance of healthcare providers if certain criteria are met (Mannion 2014). The achievement of these criteria are often centered around the use of practices and treatments that are evidenced-based (Flodgren et al. 2011). By incentivizing the use of evidence-based practices, health systems encourage personnel to utilize methods of care that are of higher quality and more effective for its population. There is global consensus that FI schemes mainly aim to improve healthcare services and provision in four main areas: access, quality, efficiency and integration and cooperation (Fainman & Kucukyazici 2020). It can be argued that FIs are used as a health system strengthening intervention to improve the quality of services delivered to the public. Evidence of this is described in its theoretical potential to

change health worker behavior, improve quality of care and patient outcomes, reduce health-related costs and improve health access (Fainman & Kucukyazici 2020).

Developing FI schemes that will work well in different health contexts can be complex. It requires the utilization of multiple economic and psychological theories that will best suit the wide-ranging target market (Mannion 2014). Some of the economic modelling and theories commonly used include sessional payments, fee-for-service, capitation and target payments/bonuses (Flodgren et al. 2011).

From a psychological perspective, the understanding of intrinsic and extrinsic motivational factors also influence service delivery and quality of care (Flodgren et al. 2011). Designing an FI scheme can become arduous and expensive, and is likely to face scrutiny due to the complexity involved in designing it (Fainman & Kucukyazici 2020). As a result, FIs often produce unpredictable and unintended behaviors in health workers (Flodgren et al. 2011).

The complexities around FI scheme development requires policymakers to be informed and strategic when establishing and implementing such a strategy. It is essential that policymakers assess how structuring the FI will best benefit the health system and mitigate adverse responses during its implementation (Mannion 2014). In response to this, stakeholders and actors working outside of the policymaking sphere have begun conducting empirical research on FI packages to assist health administrators and government officials in making informed decisions (Fainman & Kucukyazici 2020).

The Occupation-Specific Dispensation (OSD) Strategy in South Africa

The OSD strategy was released by the national department of Public Service and Administration in 2007 and was intended to initially be implemented in the nursing sector. The main objective of the OSD is to attract and retain healthcare workers in the public sector by creating specific remuneration packages that cater for their unique needs (George & Rhodes 2012). Part of this policy seeks to

restructure health worker salaries based on occupation-specific criteria established by government (George & Rhodes 2012). The policy aims to provide salary progressions and career growth opportunities based on skills, experience and performance (George & Rhodes 2012).

However, shortly after rollout, the mandate created unintended consequences on frontline worker understanding, perception and satisfaction with the strategy. These consequences included unmet nursing expectations; inequities within the financial packages; perceived unfairness; general dissatisfaction towards the policy which, and division between the various nursing cadres (Ditlopo et al. 2013). In addition to this, the OSD created large budget overruns that gave the impression that it was poorly planned and not thought through (Ditlopo et al. 2013).

Nonetheless, the OSD has shown positive signs since its inception. It has been able to narrow the gap between salaries abroad and domestically and contributed towards slowing down the flight of healthcare workers overseas (Labonté et al. 2015). In this way, it has been partially successful in retaining health personnel in the public sector and met some of its intended actions of bolstering HRH efforts in South Africa.

Health Policy and Systems Research Theoretical and Conceptual

Background Review

“Systems thinking” is form of problem solving that views “problems” as part of a wide-ranging set of factors found within a complex system (De Savigney & Adam 2009). This frame of thinking requires a lens that explores relationships, linkages and the interactions between the different elements of the system being investigated (De Savigney & Adam 2009). Exploring the engagements of these elements reveals their interconnected nature and further highlights that no one element within a system works in a silo.

“Systems thinking” is particularly useful when exploring problems found within the health system and is linked to the WHO’s Framework for Action model seen earlier in figure 1 (De Savigney & Adam 2009). The model highlights the key elements that form the building blocks of any health system. By using a “systems-thinking” lens, the exploration of the way health system blocks engage, are connected and impact one another is deliberately emphasized (De Savigney & Adam 2009). In doing so, this lens can shed further understanding on how system-level interventions impact the wider health system. To cultivate a more in-depth understanding of the 2007 OSD policy process, this lens and approach can be applied.

The OSD strategy is considered a system-level intervention because of the multiple health system building blocks it interacts with. It primarily targets the “health workforce” building block by being a national public health sector strategy. However, these types of interventions frequently have a secondary impact on other blocks that is often highly unpredictable and non-linear (De Savigney & Adam 2009). These secondary impacts on other parts of the health system are because of the interconnected relationship between the building blocks (De Savigney & Adam 2009). Therefore, introducing system-level interventions not only impact its intended building block, but will subsequently affect the other blocks as well (De Savigney & Adam 2009).

For example, in addition to primarily being an intervention that targets the “health workforce” building block, the implementation and maintenance of the OSD requires coordinated efforts from actors and organizations in the “leadership/governance” block as well. Furthermore, the intervention uses financial incentivization in attempts to retain and improve the amount of public health workers available. This means that the OSD interacts with the “financing” and “service delivery” block of the framework as well.

The complex interactions of the OSD across multiple health system building blocks calls for a different way of thinking and approaching the analysis of this policy process. The “systems thinking” approach equips the researcher with the conceptual framing needed to explore the relationships between the health system building blocks and better understand why the expected outcomes of system-level interventions are not often attained (De Savigney & Adam 2009).

The ability to understand the OSD policy process through these “systems thinking” perspectives require background knowledge into some of the theoretical and conceptual frameworks used within health policy and systems research. For this research, understandings the importance of health policy analysis, the Walt and Gilson Health Policy Analysis (HPA) triangle, and the ‘hardware-software’ components found in organizational-level engagements need to be briefly explained.

The Importance of Health Policy Analysis

The exploration of policy processes is important when considering health objectives that contribute to larger health system goals (de Leeuw et al. 2014). Policy analysis is defined as assessing and evaluating public policy options within the intended goals established by policymakers and other relevant actors (Walt & Gilson 1994).

Oftentimes when conducting policy analysis, it is assumed that the policy process follows a linear chain of events that produce the anticipated health outcome experienced (de Leeuw et al. 2014). For instance, the Stages Heuristic Framework is a well-known theoretical model that divides the policy process into four stages: agenda-setting, formulation, implementation and evaluation (Walt et al. 2008). Although simplistic in its framing, the use of such a model to inform understanding of a policy process is limiting because it negates a policy’s complexity (Walt et al. 2008). It presumes linearity that

seldomly exists in a real-world context; creates boundaries between the stages that are blurred in practice, and does not offer further understanding about causality (Walt et al. 2008).

The limitations of such a model have challenged policy analysts to explore other ways of building policy process understanding. As a result, there has been a shift in thinking that instead places greater emphasis on the context in which policies arise (Gilson & Raphaely 2008). In most instances, policies are embedded within the context of changing political regimes; differing ideological frameworks; contestation of those who are in positions to exert influence and power over these processes, and by history and culture (Walt & Gilson 1994). All of these factors are what contribute to making policymaking deeply political and highly complex (Walt & Gilson 1994).

In reality, policymaking and its processes are directly influenced and transformed by the social, political and economic environment it is formed within (Walt & Gilson 1994). The engagement of these factors with one another and its impact on policy, is precisely what makes these processes so complex. Unfortunately, it is still often found that a linear approach to understanding policy processes continues to form the basis on which advice to government on policy matters is given (de Leeuw et al. 2014).

The HPA Triangle Framework

Central to any policy analysis is understanding what happened throughout the policy process and why (de Leeuw et al. 2014). Deeper understanding of this can come through using theoretical frameworks. Policy analysis frameworks help identify and explore the different factors impacting a policy process (Walt et al. 2008). It also helps focus attention on how these factors engage with each other throughout the policy process (Walt et al. 2008). A well-known framework increasingly being used in a

wide range of policy experiences in LMICs is the Walt and Gilson Health Policy Analysis (HPA) triangle (O'Brien et al. 2020).

The HPA triangle created by Walt and Gilson in 1994 uses a simplistic modelling framework (figure 2) that allows for understanding of the policy process itself. It has been used across multiple countries to assess wide-ranging health issues including reproductive health, mental health and most relevant to this research—health sector reform (Walt et al. 2008). In addition, it has also been used to assess HRH policymaking in health systems rooted in post-conflict and post-crisis countries such as Sierra-Leone, Uganda and Zimbabwe (O'Brien et al. 2020).

The key understanding in this assessment model points to health policy focusing too much attention on the content of reform strategies (Walt & Gilson 1994). In so doing, it negates the role of various actors within the policy process; the context in which these processes occur; and the various processes among different actor groups that contribute to shaping the reform strategy (Walt & Gilson 1994).

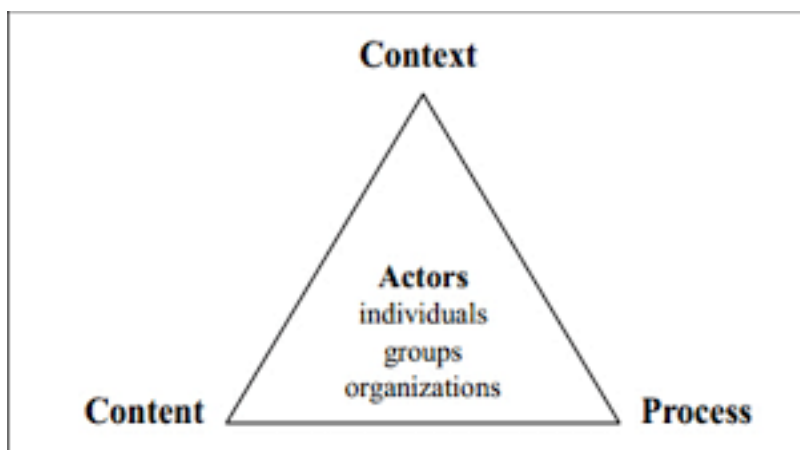


Figure 2: The Walt and Gilson HPA triangle (Source: Walt and Gilson, 1994)

Hardware and Software of Organizational-Level Health Systems

The HPA triangle in health policy analysis calls for an understanding around how these different factors engage and interact with each other. One part of this interaction is around how larger national (or ‘system-level’) factors can influence a policy process. Another part is how different health setting (or ‘organizational-level’) factors impact policy processes and health system consequences experienced from policy implementation. Elloker et al., 2012 emphasizes the importance of the interaction of these organizational-level components and assert that an organization’s capacity to perform is influenced by the interaction of the three dimensions as seen below in figure 3.

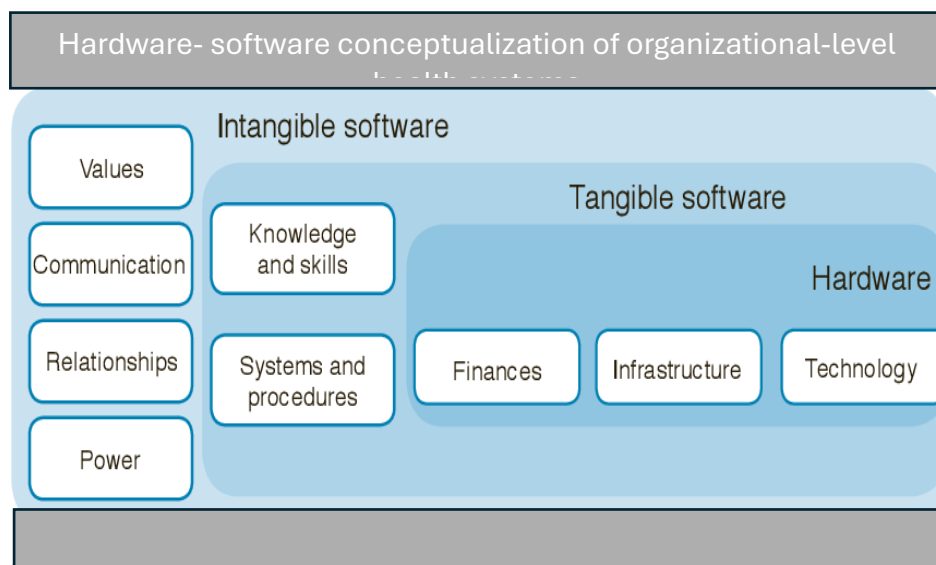


Figure 3: The different components contributing to organizational capacity (source: Elloker et al., 2012)

‘Hardware components’ refer to the fundamental architecture of an organization including infrastructure, technology and finances (Elloker et al. 2012). ‘Tangible software’ refers to the knowledge, skill and decision-making processes held by actors within the organization as well as organizational procedures and systems (Elloker et al. 2012). The ‘intangible software’ refers to the way in which individuals within the system communicate, interact, their values, norms and the power they hold within that respective space (Elloker et al. 2012). The interaction of these components produces an organizational-level outcome that will impact the policy process. Connecting the hardware-

software components to the HPA triangle, helps to explain the way organizational-level factors impact policy processes.

Knowledge Building in the Field of Health Policy and Systems Research

The OSD Policy Analysis and Building Broader Policy Process Knowledge

As previously mentioned, linear models and understanding of policy processes are still often used to inform government on decisions regarding policy development and implementation (de Leeuw et al. 2014). In doing so, the complexity within a policy process is negated.

This research supports a shift away from the use of simplistic and linear models for policy analysis by using the HPA triangle to explore a domestic HRH strategy. Performing a thorough policy analysis of this nature rather seeks to expose and unpack the complexities overlooked by simplistic modelling frameworks and highlights the shortcomings experienced within a policy process through a systematic and rigorous assessment (de Leeuw et al. 2014). Doing so adds to the growing global recognition that focusing on the content and design of health policy while neglecting the way other health system factors such as how context and actors impact the policy process is short-sighted (Gilson & Raphaely 2008). By not considering how these factors interact and influence one another, an explanation to why some policies “succeed” while others “fail” within different health systems cannot be further explored (Gilson & Raphaely 2008).

By using the HPA triangle, this research supports the use of more comprehensive models to inform policymaking both domestically and internationally. The findings from this policy analysis can be compared to similar analyses conducted in other LMICs in Africa and globally. Countries that share similar political environments to that of South Africa, can use this analysis as a reference to help understand the potential cause of challenges experienced in their own HRH policymaking sphere. As a

result, there can more research available for policymakers and other actors to make informed policy decisions that are not based on simple understandings of policy processes (Gilson & Raphaely 2008). In addition, this research seeks to add to knowledge development surrounding the implementation-practice gaps found in health policy by drawing from the OSD experience. In theory, it is assumed that policy is a product of evidence-based evaluation and knowledge and therefore will create the desired health system change (de Leeuw et al. 2014).

However, as previously discussed, the 2007 OSD created multiple unintended health system consequences that negatively impacted the South Africa health system. It is the aim of policy analysis to conduct deeper inquiry into the unintended consequences of policy decision making and implementation (Gilson & Raphaely 2008). Through this, the researcher aims to use the lessons from this policy experience to add to global understanding around the gap between policy intent and outcomes.

The OSD Policy Analysis and Building Domestic Policy Process Understanding and Knowledge

It has already been established that using the HPA triangle for the review of HRH policy analysis proves effective (O'Brien et al. 2020). However, the scoping review performed for this research shows that much of the available literature on HRH strategies in South Africa only mentions its development and content. These resources do not analyze these strategies through firmly established conceptual frameworks (such as HPA triangle) to aid in policy understanding. This lack of in-depth analysis of domestic HRH mandates provides an opportunity to apply wider health policy analysis knowledge to the local South African context.

By doing so, this research can answer domestic 'system-level' questions through the application of broader health policy process knowledge and frameworks already developed. Additionally, using a conceptual framework such as the HPA triangle to guide the understanding of the 2007 OSD policy process can help determine if such a framework effectively aids in understanding local policy processes in the realm of HRH.

The OSD strategy has been an HRH intervention for almost two decades, and only a handful of studies have explored the policy process to date. This means that the repository of literature assessing the mandate and process behind it remains limited. Much of the research dates to a decade ago, uses qualitative methods of assessment, and focuses on the implementation challenges faced on a frontline level.

Studies examining the OSD tend to focus on the different elements of policy processes in a way that makes the elements seem siloed. For example, Ditlopo et al. in 2013, conducted a descriptive case-study that used document analysis and in-depth interviews to assess the OSD implementation. Part of the aim was to explore the policy process, but the larger aim was to examine how successful the implementation was on a frontline level and why (Ditlopo et al. 2013). A similar study was published by Motsosi and Rispel a year before the publication by Ditlopo and colleagues. Motsosi and Rispel aimed to explore the development and implementation of the OSD by conducting semi-structured interviews and performing document analysis on government resources (Motsosi & Rispel 2012). Both these papers assessed slightly different aspects of the OSD strategy. A synthesis of these resources allows the interaction between the different elements of the policy process to be explored.

Although it is widely understood that qualitative research does not aim to produce generalizable research findings (Hammersley 2013), comparing findings from research studies exploring the same

phenomenon in different settings can prove useful. The comparison of data sets in different settings allows for a wider and deeper understanding of complex phenomena (Hammersley 2013). Therefore, assessing the findings of different studies produced on the OSD within different domestic settings could provide insights into the overall policy process.

However, to do this, an understanding of the wider health system factors that influenced the OSD policy process must also be explored. This requires the examination of available HRH literature to help explain and give context to the policy process. In doing so, questions regarding the development, implementation and reasons behind why the OSD produced the health system consequences experienced can be answered.

The Need for Policy Analysis of the OSD in the Nursing Sector

Specific focus on the OSD policy process in the nursing sector proves important for numerous reasons. Firstly, nursing is an expensive healthcare resource that needs to be continuously analyzed to assess its contribution and the cost thereof (Scott et al. 2013). In many health settings, the nursing sector forms most of the HRH personnel. This is especially true in South Africa, where nurses make up approximately 80% of the total health workforce and provide the bulk of health services (Van Rensburg 2014).

Secondly, about 90% of the population have access to primary health care settings that are run mainly by nurses (McKenzie et al. 2017). It is therefore safe to say that South Africa's health system is predominantly driven by nurse-based care (Van Rensburg 2014). Because of this, the nursing sector has the biggest potential to influence health system changes across macro-, meso- and micro-levels of the health sector.

Thirdly, there is a large maldistribution of nursing staff across both the public and private sectors.

Table 1 presents statistical evidence of the number and distribution of health personnel across both settings in 2010. The table indicates that nursing had the most amount of health personnel compared to any other health worker category. The profession had 115,000 registered nurses spread across both public and private sectors (Van Rensburg 2014). The second largest group were medical doctors—totaling around 36,000 personnel. This means that there were approximately three times the number of nurses compared to doctors. The data also highlights that over 50 percent of nurses (about 63,000) were working in a private sector setting. The magnitude of this maldistribution is evident in statistics showing that the private sector caters for 16% of South Africa’s total population, while the public sector services the remaining 84% (McKenzie et al. 2017). Referencing Table 1’s figures would imply that more than 50% of nurses in South Africa are providing services to 16% of the population. This evidence illustrates the extent of nursing maldistribution in the country and the need for HRH retention strategies in the public sector.

Table 3: Public sector and non-public sector distribution of selected health professionals (in 2010)

Sector	Total registered	Public sector		Non-public sector*		Public/non-public ratio
		Number	%	Number	%	
Medical practitioners	36 912	11 309	30.6	25 603	69.4	1:2.2
Dentists	5320	770	14.5	4550	85.5	1:5.9
Pharmacists	12 218	2966	24.3	9252	75.7	1:3.1
Physiotherapists	5777	1009	17.5	4768	82.5	1:4.7
Occupational therapists	3508	838	23.9	2670	76.1	1:3.1
Psychologists	7037	498	7.1	6539	92.9	1:6.6
Registered nurses	115 244	51 966	45.1	63 278	54.9	1:1.2

(Source: van Rensburg, 2014).

*The category, non-public sector, should not simply be equated to private-sector health professionals. While it does indeed include private health professionals deployed in the private (for-profit) health sector, it also includes many health professionals who are retired, not actively practicing or working overseas, and health professionals deployed in the non-governmental organization (NGO), faith-based organization (FBO) and other private-not-for-profit sectors.

To date, there has been no research produced that systematically combines all qualitative evidence relating to HRH and the 2007 OSD policy process in the nursing sector. As mentioned earlier, most analyses conducted on the OSD use a mixed-methods approach (as seen in Ditlopo et al., 2013 and Motsosi and Rispel, 2012) combining policy analysis with in-depth and semi-structured interviews. None of these studies thoroughly combine all qualitative evidence on the OSD and HRH in the nursing sector to explore key factors that led to the policy's development and implementation, nor how it contributed to/caused the unintended consequences in the health system. This presents an opportunity for the researcher to support existing understanding by synthesizing the available evidence on the OSD policy process in the nursing sector.

As also previously stated, policy analyses of the OSD are more than a decade old. These assessments do not include more contemporary data available on HRH and OSD that can help to better explain the unfolding of the 2007 policy process. It is therefore crucial to revisit the 2007 OSD strategy and re-examine the available and related data and information that has come to light in the nursing sector over the last decade. This will not only give a more contemporary review and understanding of the policy process but will contribute to the literature and research related to HRH policy analyses in SA. The following research question, aim and objectives have been created to further examine the 2007 OSD policy process in the nursing sector:

Research Question

What factors influenced the development and implementation of the 2007 OSD strategy for the nursing sector, and what were/are the reasons behind its unintended health system consequences?

Research Aim

To conduct a desk-based policy analysis of the 2007 OSD strategy in the nursing sector using all current and available literature pertaining to OSD and HRH in SA.

Research Objective

Since the OSD is still being used as an HRH retention strategy in the public health sector, and the last policy analysis performed on the strategy was over a decade ago, the objectives of this research are to:

- a) Conduct an up-to-date policy analysis of the 2007 OSD strategy using all current and available literature pertaining to OSD and HRH in South Africa.
- b) Describe how various factors throughout the policy process influenced the development and implementation of the strategy and how it led to the health system impact experienced/being experienced
- c) Add meaningfully and uniquely to the dearth of holistic policy assessments done on HRH strategies in South Africa.

Research Design and Study Strategy

This research is a descriptive and explanatory health policy analysis that is designed as a qualitative systematic review (QSR). By seeking to describe the factors leading to the development and implementation of the 2007 OSD, this research will portray an accurate profile of events or situations that led to the certain outcomes experienced (Robson 2002). The study's explanatory aim means that the engagement and interaction of different key factors throughout the policy process can be explored to aid understanding around why the policy process unfolded the way it did. The interplay between these different factors supports an explanatory purpose of inquiry (Robson 2002). This review utilizes the HPA triangle in its approach to extract and synthesize all relevant data needed to produce a thorough and rigorous analysis of the 2007 OSD policy process in nursing.

There is a mounting call for qualitative research to be included in evidence-based practice and health research (Barbour & Barbour 2003; Finfgeld-Connett 2013). Qualitative research is commonly defined as the non-numerical analysis of data (Dixon-Woods et al. 2000). The term is also used to refer to research that explores how humans engage with phenomena experienced in the 'real-world' (Hammersley 2013). The use of such data can address complex questions that cannot be as appropriately answered through a quantitative approach (Finfgeld-Connett 2013). In attempts to answer these more complex health research questions, the QSR has become a developing research approach (Butler et al. 2016). It goes beyond just assessing the effectiveness of an intervention frequently seen in traditional quantitative systematic reviews (Butler et al. 2016).

Furthermore, it has been firmly established that review studies can assist in answering wide-ranging questions that stem from health policy making and its subsequent processes (Mays et al. 2005). To answer such complex questions, qualitative research proves useful (Dixon-Woods et al. 2000). The review of such research within the health system adds understanding to the role and impact that context and other factors play towards influencing a phenomenon (Barbour & Barbour 2003). Through this scoping review, it is noted that most of the literature and data relating to the OSD and HRH in South Africa are predominately qualitative in nature.

In addition, a policy analysis that systematically combines such data has not yet been performed. By conducting a QSR, the data findings from the literature can be integrated and/or compared to help develop a narrative that broadens understanding (Grant & Booth 2009). This broadened understanding of a particular phenomenon links to the concept of 'knowledge support' in health policymaking. 'Knowledge support' aims not only to aggregate and compare data, but also refers to developing explanations around a particular phenomenon in the health policy sphere (Mays et al. 2005). QSR is therefore well suited for this research as explanations concerning the development,

implementation, and reasons behind the health system impact of the OSD are what the research question intends answering.

As the 2007 OSD is a national HRH strategy, wider domestic health system factors that influence(d) the policy process requires a macro-level lens of inquiry. This lens looks at the health system on a national level, but also recognizes that the system itself can be influenced by other domestic or international contexts (World Health Organization & Alliance for Health Policy and Systems Research. 2012). The macro-level lens allows for the inclusion and unpacking of factors that extend beyond the national health system. For example, a domestic mandate and its subsequent policy process is often influenced and shaped by international input and global events (Walt et al. 2008). This is due to the globalized and interconnected nature of the policymaking (Walt et al. 2008). As a direct result, international networks, relationships, events and decisions can all influence the type of policies introduced into a health system on a national level (Walt et al. 2008). This macro-level lens also ensures that the assessment of national policy considers both domestic and international factors when seeking to understand the policy process.

A meso-level lens is also applicable to this research. Meso-level refers to the local (district) health systems as well as the organizational level (hospital and other health settings) found within the larger macro-health system (World Health Organization & Alliance for Health Policy and Systems Research. 2012). Available qualitative data often includes primary studies on the OSD implementation in different healthcare settings across South Africa. For example, Mcur and Mulaudzi examined perceptions of the OSD at a nursing training college in Limpopo (Mcur & Mulaudzi 2015).

The paper uses in-depth interviews to help explore the understanding and viewpoint nurses had in the college five years after the implementation of the OSD (Mcur & Mulaudzi 2015). Assessing such data is

important for this research as it allows for greater understanding around organizational level factors influencing the policy process. These factors form the 'intangible' software components including relationships, communication, value systems and workplace norms mentioned earlier (Elloker et al. 2012). The interaction between the different 'intangible' software components has an impact on organizational-level outcomes. In turn, these outcomes inform understanding in the way which meso-level factors impact macro-level outcomes.

Methodology

A qualitative systematic review (QSR) is defined as a review method for integrating and comparing the findings from qualitative studies and literature (Grant & Booth 2009). Just as in a traditional systematic review, the QSR seeks to thoroughly review all available literature/evidence on a topic in a systematic and replicable manner (Butler et al. 2016). Because of the relative infancy of this review approach, the methodological 'gold standard' of research conduction for traditional systematic reviews, has not yet been achieved for QSR (Butler et al. 2016). Therefore, it is necessary for researchers to establish a pre-planned and clear approach when using this research methodology. A pre-planned approach ensures that all methodological decisions undertaken by the researcher are carefully considered and are appropriately justified (Butler et al. 2016). This in turn, strengthens the integrity and trustworthiness of the review (Butler et al. 2016).

This QSR will be divided into 4 steps:

1. Literature search
2. Review of data for inclusion against established criteria
3. Assessing data quality
4. Data extraction and analysis

Step 1: Literature search

The identification of relevant literature will be performed by searching electronic databases using key terms, 'Boolean operators' and 'wild cards'. Key terms refer to key words that come up in the literature being searched for (Forrester 2012). 'Boolean operators' are used to string together these key terms in different sequences and 'wildcards' allow a researcher to search for different variants of the same term (Forrester 2012). The search strategy will cast a wide net of inclusion for literature related to HRH and the 2007 OSD to prevent limitations in information gathered caused by the use of strict exclusion criteria too early in the search (Barbour & Barbour 2003).

The literature search will use an iterative process and trial different search term combinations to assess the quantity of data available for use. A flexible design strategy is needed for this step. Beginning with tight pre-set parameters found in fixed-design strategies will limit the freedom the researcher needs to explore the data (Robson 2002). In addition, most of the data collected will be qualitative in nature. Although not a strict rule, information that is non-numerical and in the form of words usually better suits a flexible design strategy (Robson 2002). In doing so, the researcher can include data that aims to describe and explain 'real-world' phenomena (Hammersley 2013).

This iterative process will be done with the guidance of the UCT Subject Librarian to ensure greater rigor. Any relevant and/or applicable search terms or databases identified through discussions with the Subject Librarian at a later stage will be added if necessary. If the researcher struggles to identify enough resources used to complete the systematic review, additional search methods including 'citation pearl growing' and 'snowballing' can be used (De Brún & Pearce-Smith 2013). Both methods involve using relevant data to identify additional useful resources for the study (De Brún & Pearce-Smith 2013), and therefore further justifies the use of an iterative search strategy that is flexible.

The primary researcher is a novice and has limited experience in conducting such literature searches. In such a case, it is recommended that the researcher seek additional support to improve the quality of the literature search (Bown & Sutton 2010). To address this, the identification of appropriate key terms will be performed through collaboration between the primary researcher and the Subject Librarian. Collaborating with more researchers creates opportunity for either search strategy modification (according to the database being used) or can allow for additional search terms to be created. The Subject Librarian can assist in modifying or expanding the search strategy for each database and can offer a more exhaustive search of the relevant databases. The search terms and strategies using 'Boolean operators' and 'wildcards' can be found in Appendix 2 under 'Protocol Appendices'. The use of these search strategies ensures that the literature search follows a replicable procedure across databases (Forrester 2012).

The primary researcher will only use electronic databases available via the UCT Online Library due to accessibility. Searching multiple databases reduces bias and improves the comprehensiveness of the literature search (Jesson & Lacey 2006). The researcher will narrow down applicable databases by reading a brief description of the types of resources each database would contain. Preliminary searches in HRH and the 2007 OSD in South Africa showed that EBSCOhost, Wiley Online Library and PubMed⁶ provide relevant resources. EBSCOhost is commonly used when searching for data relating to the African region. It also includes several additional combined databases like Africa-Wide information and CINAHL. The databases within EBSCOhost contain research conducted in the fields of allied health, nursing, and other medical disciplines. Wiley Online Library offers the widest selection of multidisciplinary health information. It also includes public health and policy research. PubMed offers life-sciences journals from MEDLINE and was often cited in a wide-range of public health research

⁶ Subject to the librarian's input and data availability, these databases may change accordingly.

noted in this scoping review. As data searching continues, the primary researcher will ideally begin seeing the same resources across different databases. This can indicate that ‘data saturation’ for the literature search may be achieved, but this is not a requirement for this research.

Table 4: Database options for the search strategy

Database	Focus
EBSCOhost	A multi-disciplinary database providing access to full-text and peer-reviewed journals. It includes other combined databases within it such as African-Wide.
Wiley Online Library	A multidisciplinary collection of online resources that cover a broad range of topics including health, physical science, social sciences and the humanities.
PubMed	Offers life sciences journals from MEDLINE and other sources related to biomedical information dating back to 1948.

(Source: UCT Library)

Step 2: Review of data for inclusion against established criteria

The selection of appropriate data will be narrowed down through both inclusion and exclusion criteria set by the researcher. These criteria cannot be too limiting, nor too broad. Criteria that is too specific can limit the identification of meaningful data (Bown & Sutton 2010). Criteria too broad will result in large quantities of unrelated studies (Bown & Sutton 2010). The process of screening for inclusion will be done under the supervision of the supervisor. It will be performed by reviewing the titles and abstracts of data retrieved through the search strategy. From there, the researcher will use the following criteria to assess the eligibility of the data for this study:

Information included

- I. Articles that are in English
- II. Articles with full access through the University of Cape Town Library
- III. Articles that include some of the key search terms and provide relevant information pertaining to the research question.
- IV. Articles that are largely qualitative in nature (but may include quantitative aspects)

- V. Any relevant information related to HRH policies/strategies that look at workforce retention issues in the health sector, specifically in nursing.
- VI. Information looking at the OSD frontline experiences of any health personnel (but specifically nurses) at any level of care (e.g. Primary, secondary or tertiary)

Information excluded

- I. Data that examines other financial incentive packages unrelated to the 2007 OSD
- II. Articles that relate to the private health sector
- III. Any data that primarily looks at the OSD through a quantitative lens
- IV. Articles that do not have full access through the University of Cape Town Library and therefore not accessible by the primary researcher
- V. Articles that are not in English (due to translation difficulties and time constraints)

Once resources have been identified through the inclusion criteria, the primary researcher will conduct a more in-depth review. This will be done by thoroughly reading through all resources to establish further relevance and applicability in answering the research question. Compliance of the article to the inclusion and exclusion criteria will also be re-checked during the in-depth review.

Step 3: Assessing quality

All data must be assessed for quality. Quality assessment checks the internal validity of a study by critically appraising data through standardized procedures (Templier & Paré 2015; Tranfield et al. 2003; Young & Solomon 2009). Assessments of qualitative data have traditionally been performed through appraisal checklists (Dixon-Woods et al. 2006). Although this assessment method has remained contentious, current literature still confirms that it is widely used when assessing such research (Dixon-Woods et al. 2006).

The Critical Appraisal Skills Programme (CASP) checklist will be used for this review. The CASP checklist consists of ten questions that look at different methodological aspects of the research (Long et al. 2020). Its aim is to assess the appropriateness and validity of the findings and is both user-friendly and applicable in health-related qualitative research assessment (Long et al. 2020).

Researchers using checklist tools to review qualitative data should be careful to not totally exclude studies if not all criteria are met (Tranfield et al. 2003). If data is excluded based on checklist findings, a detailed explanation on reasons for this should be stated (Tranfield et al. 2003). The CASP checklist used to guide the appraisal process in this research can be found in Appendix 3.

Step 4: Data extraction and analysis

Data extraction and analysis will be combined because of its joint utilization of the HPA triangle. The use of the policy triangle for both extraction and analysis stems from the model's core ability to examine the complexity of the relationships found between its different components (Walt & Gilson 1994). The triangle's firmly established categories of content, context, actors and processes cannot be thought of as siloed categories that do not engage with each other. Instead, the framework is used to establish and highlight the intrinsic connection and implicit influence that these factors have on one another (Walt & Gilson 1994). It is the way these components interact with one another that drives the policy process and ultimately leads to effective or ineffective policy implementation and outcomes (Walt & Gilson 1994). These engagements cannot be separated, therefore the way data is extracted and analyzed to understand the policy process should not be either.

For data extraction, the HPA triangle will be used to categorize the data into the model's four distinct groups. To successfully perform this, the primary researcher will first identify the key factors that influenced the 2007 OSD policy process and then group them according to the four components of the HPA triangle. The full data extraction chart can be seen in Appendix 4.

All general information of the resource including the article title, author(s), year of publication and the research design used will be charted. It also includes the time the data was collected, or the period the literature is assessing within the policy process. This ensures the identification of when key experiences, moments or situations occurred both within each individual resource and the wider policy process. After all relevant factors have been identified and categorized, the relationship amongst these factors and its influence over the policy process and its subsequent health system impact will be explored through narrative synthesis.

The strength of narrative synthesis in qualitative research stems from its ability to use words and text to 'tell a story' (Popay et al. 2006). It pieces together the data extracted and creates a synthesis of the information that can lead to new understanding or insights (Popay et al. 2006). In this way, narrative synthesis goes beyond just summarizing the data and is more systematic and transparent in its approach (Popay et al. 2006).

The component interactions column and health system impact column in the data extraction chart are designed to assist the researcher in creating a summary and synthesis of the interaction between the four data categories. Both columns have questions within them that will be used as prompts to guide the primary researcher's thinking during this step. As the data is analyzed, findings from the different resources will be integrated and compared to one another. Exploring the engagements between the different categories of the HPA triangle allows the researcher to establish the way in which key factors impacted each other and led to the resultant unintended consequences.

Ensuring validity and rigor during data extraction

Multiple investigators independently extracting and comparing data findings is considered best practice (Bown & Sutton 2010). However, there is only one primary researcher for this study. To offset this limitation, the researcher has put measures in place to support continued validity and rigor during data extraction.

Firstly, the extraction process will be supervised by an independent reviewer (the supervisor) that will offer oversight. Routine discussion and engagement will resolve any discrepancies noted in the extraction process between both parties.

Secondly, the primary researcher will keep a strict audit trail throughout this phase. Doing so provides evidence and transparency needed to support the researcher's reasoning during decision-making (Nowell et al. 2017). This additionally ensures that another researcher can follow all the extraction steps (Nowell et al. 2017). An independent researcher can therefore arrive at the same (or comparable) conclusions when provided with the same resources and data (Nowell et al. 2017). Furthermore, to ensure adequate charting of all data, the data extraction sheet will be reviewed by the research supervisor and can be found in Appendix 4.

Ensuring validity and rigor during data analysis

Robustness of a narrative synthesis is assessed against the methodological rigor taken throughout the study (Popay et al. 2006). If rigor has been firmly established, the robustness of the synthesis will be stronger. The quality of the data included also impacts the trustworthiness of the synthesis (Popay et al. 2006). If appropriate appraisal approaches have been used to assess the included data, the trustworthiness of the synthesis is greater (Popay et al. 2006). As mentioned prior, all research

included will be appraised using the CASP checklist and the use of this appraisal tool has already been justified. The strength of the conclusions drawn from the synthesis are therefore rooted in the thoroughness taken by the researcher during the appraisal process (Popay et al. 2006). After the synthesis of all data, the findings will be shared and discussed with the research supervisor to help limit bias.

Dissemination

Utilizing contemporary research to inform decision-making is fundamental to routinely assessing the impact of knowledge production in the health sector (Lavis et al. 2003). However, this does not occur as often as it should and evidence-based policy that draws on health research is insufficient (Hanney et al. 2003). To address this issue, international health organizations have emphasized the need for greater uptake of health research in creating policies that are evidence-based (Hanney et al. 2003).

This research adds to the limited number of HRH policy analyses in South Africa. Findings from this research will first be written up according to the requirements needed for the completion of the MPH mini-thesis. Once completed, the research supervisor will be consulted to assess the research's eligibility to be published in the Health Policy and Planning and Health Research Policy and Systems journals. Research findings are then more readily available and accessible to policymakers and other actors contributing to policy development and implementation. If this research does not meet eligibility criteria for publication, the primary researcher will consult the supervisor to assess the study's use as a resource within the University of Cape Town's Online Library.

Ethical Considerations

This study is a low-risk, desk-based review project. No participants are being used at any stage of this research, and therefore the exposure of vulnerable groups to research risk (such as participant confidentiality and consent) does not need to be considered. However, this review will still be submitted to the University of Cape Town's ethics board for approval. The research supervisor will provide support, guidance and validation throughout different phases of the project. There are no direct risks or benefits for this supervisor.

The intent of this research is to add to the field of health policy development and implementation in South Africa and other Low- and middle-income countries. Ethics around research dissemination is important to note. There is an ethical obligation to disseminate research results regardless of the negative or positive impact of the study findings (Gopichandran et al. 2016). Irrespective of the impact of the implementation and the strategy used by policymakers at that time, the findings may still be very important for other implementation researchers to reflect upon and learn from (Gopichandran et al. 2016).

Limitations

The OSD policy process provides unique insights into the domain of public health sector HRH strategy development and implementation in South Africa. The results found in this study are therefore difficult to generalize to other low- and middle-income countries or other health settings globally. Insights gathered from this research can still be informative to those assessing similar policies in different settings domestically or abroad.

The primary researcher is a novice in the field of health systems and policy research. As such, consultation with the research supervisor should offset many of the shortfalls experienced as a new investigator. Challenges such as personal bias may still impact researcher understanding and interpretation of data. These issues will be mitigated through rigor and validity strategies such as an audit trail, but there is no guarantee that some bias may not be found in the research results. Lastly, time was the biggest limiting factor in this research. If more time was available, collecting primary evidence in the form of in-depth and group interviews would have been performed. A group of the OSD policymakers, frontline level health workers and key informants could have been identified and utilized to shed greater light on the 2007 OSD both retrospectively and currently. This would have been a useful way of examining the way initial and current practice and understanding of the OSD has changed over time. It would have also provided deeper insight into how the OSD is currently being practiced and its current impact and future within the South African health system.

Timeline

Table 5: Predicted timeline of this review study

Component	Activity	Date
Part A: Protocol	Research topic formulation	September 2023
	First full draft of protocol	October – January 2024
	Edits	February – March
Part B: Journal manuscript	Literature search and data collection	April – May
	Data extraction and analysis	May – June
	Journal write-up	July – September
	Journal edits	October – December
	Intention to submit	January 2025
	Submission	January 2025

(Source: Author)

Budget

Given that this is a desk-based review, there are few costs associated with the research being performed. Whatever costs are incurred will be covered personally by the primary researcher of this review and can be seen in table 5.

Table 6: Budget Estimation

Item description	Cost (Rand)
Printing of mini-thesis	R400
Stationary	R150
Any additional miscellaneous printing required	R250
TOTAL	R900

(Source: Author)

Protocol References

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Appendix 2: Search Strategy

Search Strategy 1:

Human Resources for Health **OR** HRH

AND

South Africa

AND

Public Health **OR** Public Healthcare **OR** Public Sector

Search Strategy 2:

2007 Occupation-Specific Dispensation **OR** OSD **OR** OSD Strategy **OR** OSD Policy

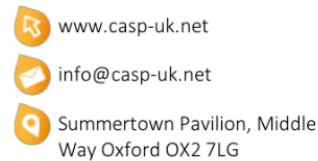
AND

Healthcare Workers **OR** Frontline Workers **OR** Health Professionals **OR** Health staff **OR** Health
Workers

AND

South Africa

Appendix 3: CASP Checklist



CASP Checklist: 10 questions to help you make sense of a **Qualitative** research

How to use this appraisal tool: Three broad issues need to be considered when appraising a qualitative study:

- ┆ Are the results of the study valid? (Section A)
- ┆ What are the results? (Section B)
- ┆ Will the results help locally? (Section C)

The 10 questions on the following pages are designed to help you think about these issues systematically. The first two questions are screening questions and can be answered quickly. If the answer to both is “yes”, it is worth proceeding with the remaining questions. There is some degree of overlap between the questions, you are asked to record a “yes”, “no” or “can’t tell” to most of the questions. A number of italicised prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

About: These checklists were designed to be used as educational pedagogic tools, as part of a workshop setting, therefore we do not suggest a scoring system. The core CASP checklists (randomised controlled trial & systematic review) were based on JAMA 'Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL, and Cook DJ), and piloted with health care practitioners.

For each new checklist, a group of experts were assembled to develop and pilot the checklist and the workshop format with which it would be used. Over the years overall adjustments have been made to the format, but a recent survey of checklist users reiterated that the basic format continues to be useful and appropriate.

Referencing: we recommend using the Harvard style citation, i.e.: *Critical Appraisal Skills Programme (2018). CASP (insert name of checklist i.e. Qualitative) Checklist. [online] Available at: URL. Accessed: Date Accessed.*

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Paper for appraisal and reference:

Section A: Are the results valid?

1. Was there a clear statement of the aims of the research?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- what was the goal of the research
 - why it was thought important
 - its relevance

Comments:

2. Is a qualitative methodology appropriate?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants
 - Is qualitative research the right methodology for addressing the research goal

Comments:

Is it worth continuing?

3. Was the research design appropriate to address the aims of the research?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- if the researcher has justified the research design (e.g. have they discussed how they decided which method to use)

Comments:

4. Was the recruitment strategy appropriate to the aims of the research?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- If the researcher has explained how the participants were selected
 - If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study
 - If there are any discussions around recruitment (e.g. why some people chose not to take part)

Comments:

5. Was the data collected in a way that addressed the research issue?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- If the setting for the data collection was justified
 - If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)
 - If the researcher has justified the methods chosen
 - If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide)
 - If methods were modified during the study. If so, has the researcher explained how and why
 - If the form of data is clear (e.g. tape recordings, video material, notes etc.)
 - If the researcher has discussed saturation of data

Comments:

6. Has the relationship between researcher and participants been adequately considered?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider

- If the researcher critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location
- How the researcher responded to events during the study and whether they considered the implications of any changes in the research design

Comments:

Section B: What are the results?

7. Have ethical issues been taken into consideration?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider

- If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained
- If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
- If approval has been sought from the ethics committee

Comments:

8. Was the data analysis sufficiently rigorous?

Yes

Can't Tell

No

HINT: Consider

- If there is an in-depth description of the analysis process
- If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data
- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
- If sufficient data are presented to support the findings
 - To what extent contradictory data are taken into account
- Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

Comments:

9. Is there a clear statement of findings?

Yes

Can't Tell

No

HINT: Consider whether

- If the findings are explicit
- If there is adequate discussion of the evidence both for and against the researcher's arguments
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question

Comments:

Section C: Will the results help locally?

10. How valuable is the research?

HINT: Consider

- If the researcher discusses the contribution the study makes to existing knowledge or understanding (e.g. do they consider the findings in relation to current practice or policy, or relevant research-based literature
- If they identify new areas where research is necessary
- If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used

Comments:

Appendix 4: Data Extraction Sheet

Author(s)	Year	Title	Document Type	Actors	Context	Content	Process

Ethics Approval Letter:



School of Public Health
Departement Openbare Gesondheid
Isikolo Sempilo Yoluntu



Dr Tammy Phillips (Chair)
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09 April 2024

STUDENT NUMBER: WTTDAN002

Dear Dane Witten,

Please be advised that this protocol has been reviewed by the School of Public Health Departmental Research Committee (DRC), agreeing that the study does not require Human Research Ethics Committee (HREC) approval.

Title: A Health Policy Analysis of the 2007 Occupation-Specific Dispensation Strategy: a qualitative systematic review

Please upload this to Peoplesoft in the 'Copy of Ethics Approval Letter' section when you do your Intent to Submit.

Kind regards

Dr Tammy Phillips
Chair: Departmental Research Committee
School of Public Health

Instructions for authors submitting to the Health Policy and Planning Journal:

Manuscript format and style for all articles

Only articles in English are considered for publication.

The journal follows Oxford SCIMED style. Please refer to these requirements when preparing your manuscript. More information on [preparing your manuscript](#) is available. Oxford English spelling style should be used consistently throughout your manuscript. (-ize/-ization), except in quotations and in references.

Prepare your manuscript, including tables, using a word processing program and save it as a .doc, .rtf or .ps file. Use a minimum font size of 11, double-spaced and paginated throughout including references and tables, with margins of at least 2.5 cm. The text should be left justified and not hyphenated.

Title Page

The Title Page should be uploaded as a separate file type "Title Page" and contain the following information:

1. Title
2. Corresponding authors name, address, country, e-mail address, ORCID details
3. Each authors affiliation and qualification (BSc, MA, PhD...)
4. Keywords
5. Reflexivity Statement
6. A word count of the full article: Word Limits do not include Abstract, References, Figure/Table legends.
7. Ethical Approval
 - if no ethical approval was required for the research, please note the reason:
 - Example A: Ethical approval for this type of study is not required by our institute.
 - Example B: Ethical approval for this research was waived by the authors institute/s IRB.
 - Ethical Approval Received-Please note the institute/s which approved the research with reference number.

Funding/Acknowledgements/Conflicts of interest/Ethical approval should be noted on the title page.

In the acknowledgements, all contributors who do not meet the [criteria for authorship](#) should be listed. Sources of funding for research must be explicitly stated, including grant numbers if appropriate. Other financial and material support, specifying the nature of the support, should be acknowledged as well.

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Figures should be designed using a well-known software package for standard personal computers. If a figure has been published earlier, acknowledge the original source and submit written permission from the copyright holder to reproduce the material.

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Alt text is applicable to all images, figures, illustrations, and photographs.

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Manuscript Preparation

Page 1: [Title Page](#) – as above.

Page 2: Abstract. To be prepared in one paragraph, no headings are required. It should describe the purpose, materials and methods, results, and conclusion in a single paragraph no longer than 300 words without line feeds.

Page 3: Key Messages. Include 3-4 key focusing on the main points in the paper, explaining the rationale for the research/paper, key finding(s), and implication(s) and lessons for health systems and health policy. Text should not be taken verbatim from the abstract. Please see [this article](#) as an example.

Page 4: Introduction. This should state the purpose of the investigation and give a short review of the pertinent literature and be followed by:

Materials and methods. This section should follow the Introduction and should provide enough information to allow repetition of the experimental work. For chemicals or equipment, the name and location of the supplier should be given in parentheses.

Results. This section should describe the outcome of the study. Data should be presented as concisely as possible, if appropriate in the form of tables or figures, although very large tables should be avoided.

Discussion. This should be an interpretation of the results and their significance with reference to work by other authors.

Abbreviations. Non-standard abbreviations should be defined at the first occurrence and introduced only where multiple use is made. Authors should not use abbreviations in headings.

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References. References must follow the Harvard system and must be cited as follows:

Baker and Watts (1993) found...

In an earlier study (Baker and Watts 1993), it...

Where works by more than two authors are cited, only the first author is named followed by 'et al.' and the year. The reference list must be typed double-spaced in alphabetical order and include the full title of both paper (or chapter) and journal (or book), thus:

Baker S, Watts P. 1993. Paper/chapter title in normal script. Journal/book title in italics Volume number in bold: page numbers.

Baker S, Watts P. 1993. Chapter title in normal script. In: Smith B (ed). Book title in italics. 2nd edn. Place of publication: Publisher's name, page numbers.

Tables All tables should be on separate pages and accompanied by a title - and footnotes where necessary. The tables should be numbered consecutively using Arabic numerals. Units in which results are expressed should be given in parentheses at the top of each column and not repeated in each line of the table. Ditto signs are not used. Avoid overcrowding the tables and the excessive use of words. The format of tables should be in keeping with that normally used by the journal; in particular, vertical lines, coloured text and shading should not be used. Please be certain that the data given in tables are correct. Tables should be provided as Word or Excel files.

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Manuscripts reporting quantitative or fixed design studies should be a maximum of 6,000 words, excluding tables and figures/diagrams and references.

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