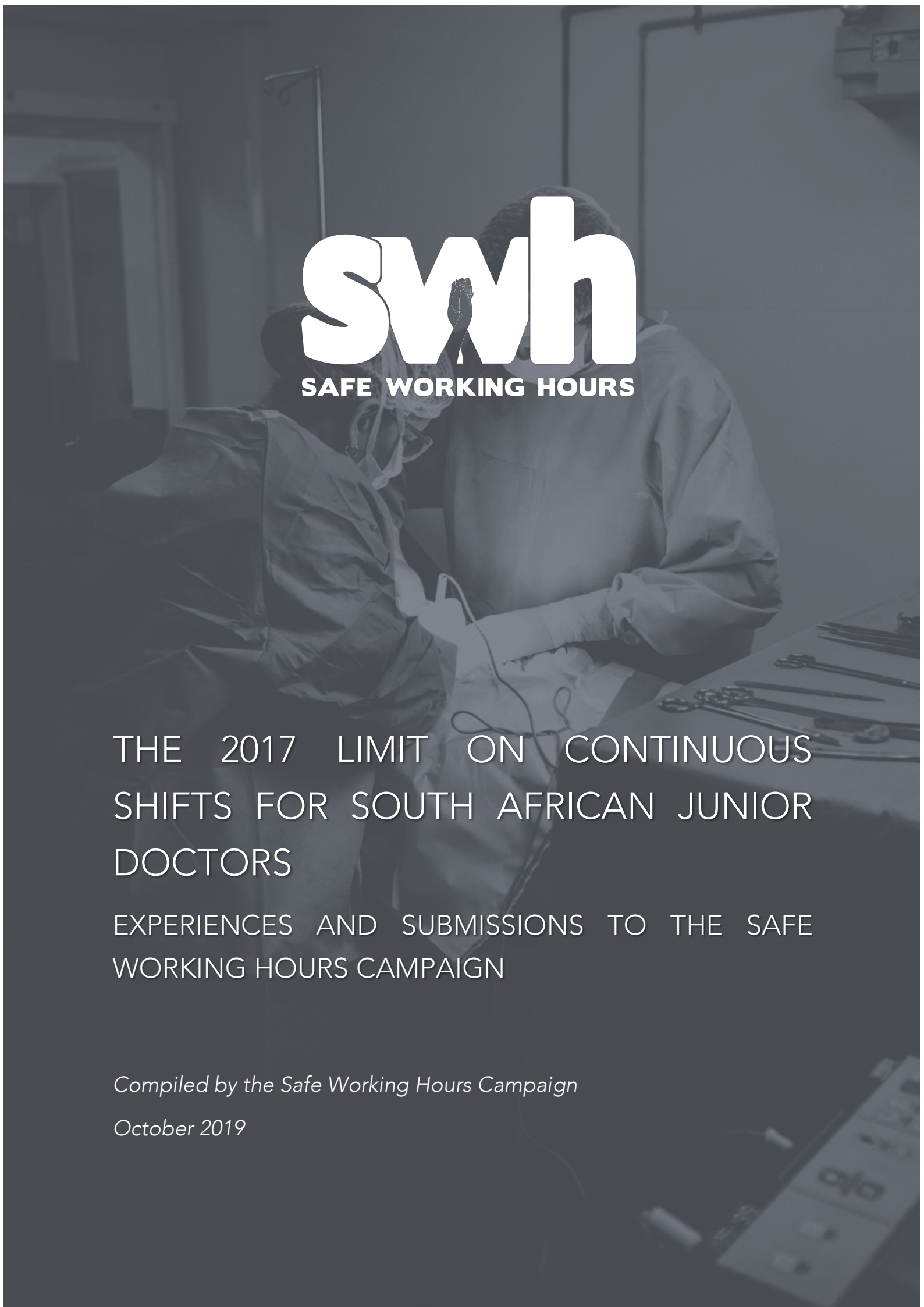

SAFE WORKING HOURS

# THE 2017 LIMIT ON CONTINUOUS SHIFTS FOR SOUTH AFRICAN JUNIOR DOCTORS

## EXPERIENCES AND SUBMISSIONS TO THE SAFE WORKING HOURS CAMPAIGN

*Compiled by the Safe Working Hours Campaign*

*October 2019*

CONTENTS

# 1 SUMMARY

Following the 2017 guideline on internship training, which recommended that interns not work shifts exceeding 26 hours, working hour organization has been scrutinized more closely within the medical community. This report is a collation of the experiences of junior doctors in response to the 2017 guideline.

It is clear that the guideline has had limited to no impact following implementation. The medical community, nationwide, has failed to recognise the risks posed by fatigue to the quality and safety of medical care, and the well-being of practitioners, specifically junior doctors. The 2017 guideline has ignited a much-needed discussion about the problem of extended, continuous shifts. While this is an important step in the right direction, a clear strategy is needed to improve awareness and implementation of the existing guideline.

Although the guideline only applies to doctors in their internship training, the entire medical profession is affected by the traditional system of organizing the provision of after-hours care. This presents an opportunity to rethink working hour organization amongst medical professionals, and to develop a longer-term strategy for profession-wide regulation of working hours.

The current system of working hour organization amongst medical professionals has not been updated to reflect the emerging evidence. We hope that this report can serve as a step towards understanding, and then solving, the problem at hand.

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October 2019

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# 2 BACKGROUND

2.1 Working hour organization for doctors in South Africa

- Doctors routinely work up to 30 hours continuously. These "on call" shifts in many places do not represent a period of rest with occasional call-outs, but rather continuous blocks of work without rest.
- The call system has acted as a buffer to increasing demands on the health system. Patient loads, complexity of care and expected standard of care have all increased out of step with the number of doctors. As a result, after hour work has gone from requiring "doctors on call" to requiring that doctors work continuously.
- Human physiological limits dictate that after 12 hours of wakefulness, cognition and motor function becomes increasingly impaired in a dose-dependent fashion. This is analogous and comparable to progressively increasing alcohol intoxication on psychomotor performance.[1,2]
- Extended periods of wakefulness (defined as more than 16 or 24 hours awake – depending on the study), have been associated with increased risk of diagnostic and treatment error[3] (prescription and surgical), percutaneuous injury[4] and motor vehicle accidents[5] on return from work.
- It is undeniable that fatigue is a form of impairment, or as defined by the Health Professions Act: "a condition which renders a practitioner incapable of practising a profession with reasonable skill and safety".[6]
- Shifts of 26 hours and beyond are not an effective, nor a safe way of providing the continuous care required in healthcare settings. However, it is not the result of high patient loads or care requirements, but a matter of organizational culture and resistance to change.
- Much of the medical community has ignored the growing body of evidence that points to how continuous wakefulness introduces systematic error and increases risk to patient safety. The lack of awareness around this issue has meant that fatigue has been neglected as a systematic cause of medical harm in South Africa, and its effects are only recorded, if at all, as part of other parameters. These would include diagnostic and treatment errors and resulting morbidity and mortality; needle-stick injuries; and staff absenteeism, burnout and mental health disorders. It is likely that fatigue poses a significant undocumented risk to patient safety throughout South Africa, and this is especially important in light of increased scrutiny of medical errors and medical litigation.
- The continued organization of medical work into 30 hour shifts is an outlier among all professions and must be scrutinized with the same scientific rigor as other areas of medical practice. There is no evidence to support current working hour organization.
- Emerging evidence supports a number of different solutions to providing continuous medical care, such as exclusively working shifts, pre- and post-call periods, and protected sleeping time on call. While there is no evidence yet for a clear one-size-fits-all solution, this does not justify ignorance and inaction in response to the clear dangers posed by 30 hour shifts.

2.2 The development of this report

- In 2017, the HPCSA's Guidelines on Internship Training were updated in recognition of the hazards of extended continuous shifts, and overtime (or after-hour) work was limited to 24-hour shifts with 2 hours for hand-over, with qualifications and caveats.
- Over the past 5 years, the Safe Working Hours Campaign has been repeatedly contacted by interns and more senior doctors who have continued to work 30 hour shifts and more, with minimal or no rest.
- In August 2019, we made an attempt to gauge attitudes and the extent of implementation of the 2017 guideline.
- This report is a synthesis of the experiences of junior doctors and an invitation to continue the journey which the 2017 HPCSA Internship Guideline started. It is clear, however, that the depth and complexity of the problem of working hour organization will require more than guideline changes, but rather a profession-wide reorganization around patient safety, efficient use of human resources and practitioner wellness.
- This report has been written partly at the behest of current interns, partly following conversations with senior doctors throughout South Africa, and partly as a response to the following excerpt to the 2017 HPCSA Handbook on Internship Training:

> The MDB looks forward to ongoing improvement in the nature and quality of internship training as part of its role and mission of "Protecting the Public and Guiding the Professions". Part of this improvement is through the feedback and inputs from all our interns during their internship training. The Subcommittee would appreciate your input on this document.[7]

2.3 Safe Working Hours

Safe Working Hours (SWH) is a volunteer organization, comprising mostly doctors. The campaign was founded in 2014 and advocates for an evidence-based restructuring of working hours amongst health professionals in South Africa. The "on-call" system, which in many places amounts to 30 hour shifts with no rest, is the least safe option in organizing doctors' working hours. The campaign does not call for a reduction in the overall working hours of doctors, but rather for a reorganization in the manner in which these hours are worked.

Continuous discussions with key stakeholders including the Department of Health, the HPCSA, the medical profession and the public have contributed to renewed awareness about the risks of the way that the provision of continuous medical care is currently organized. It is clear that a thorough analysis, and weighing of the risks and benefits, needs to be undertaken in order to achieve safe working hours in the interest of both patients and doctors. This process of change is slow, and hinges on shifting our perception of risk. This shares similarities with other major medical revolutions such as the rise of antisepsis, the surgical safety checklist and the evidence-based medicine movement.

## 3 MEDICAL INTERN WORKING HOUR ORGANIZATION IN SOUTH AFRICA

SWH has ascertained information about general trends of intern working hour organization in South Africa from continued discussions and interaction with doctors since 2014. Much of this information is anonymous and has not been linked to verifiable identifiers (a complete

discussion of the limitations of this report is listed under "Limitations" below). While our data is in no way fully representative, it does serve as a useful starting point for discussion. Importantly, we are of the view that the nature of our preliminary findings necessitates a systematic study of the matter of working hour organization amongst medical professionals.

3.1 Estimated demographics

Interns that we have been in contact with mostly work in the largest provinces, namely Gauteng, Kwazulu-Natal, the Eastern and Western Cape, although we have been in discussion with interns nationwide.

The majority of discussants work at higher levels of care, such as tertiary and secondary hospitals, although some interns did relate the conditions at district hospital level.

The interns whose inputs inform this report mostly began their internships in 2017, 2018, and 2019, although we also include the perspectives of those who started in 2015 and 2016.

3.2 Variation in working hour organization according to discipline

Our experience shows that working hour organization varies more between departments, or disciplines, than between different facilities. It is our view that a major contributing factor to shift length is not patient load, but rather organizational culture.

The vast majority of interns report that they routinely work more than 26 hours at a time in Surgery, Orthopaedics and Internal Medicine. A small minority of interns have reported that they are dismissed at the 26 hour mark in Internal Medicine.

Paediatrics and Obstetrics and Gynaecology departments appear to be split, with around half of interns reporting calls exceeding 26 hours and half reporting that their calls adhere to the 26 hour guideline.

Departments where interns worked pre-call and post-call include Anaesthetics, with a minority of Anaesthetics departments working shifts.

Finally, in Emergency Units (where most interns do their overtime work during Family Medicine rotations), approximately half of the discussants report that they worked shifts, with around a quarter working traditional calls exceeding 26 hours and a quarter reporting calls adhering to the 26 hour limit.

We have not included Psychiatry, ENT, Ophthalmology, Urology and Dermatology in our discussion, as these departments do not generally have interns working after hours.

Our impression from this is that there is a spectrum of working hour organization, largely determined by department or discipline. The figure below illustrates an approximation of the general trend:

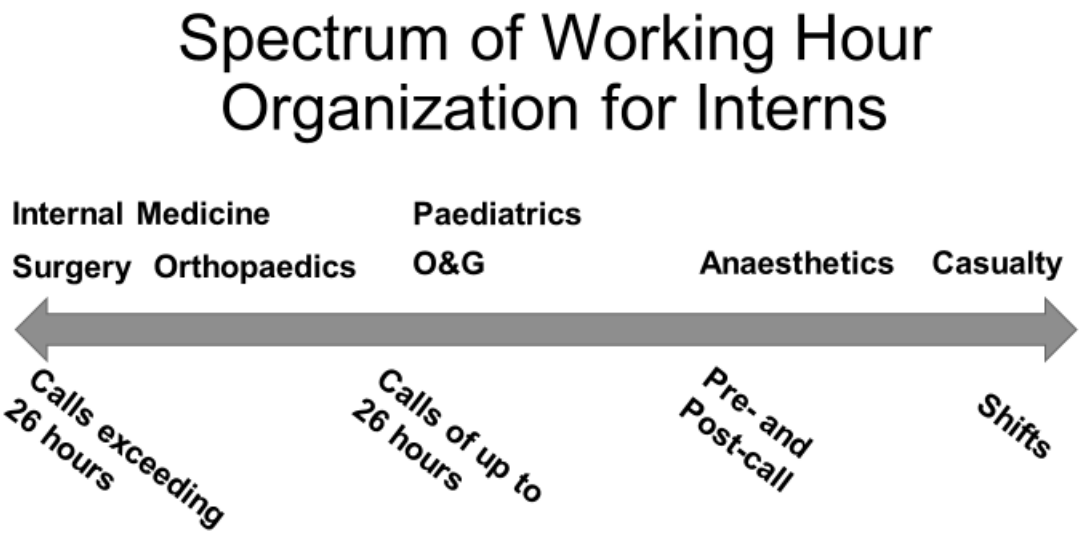


Figure 1: The spectrum of working hour organization in South Africa

Given the nature of our discussions and contact with interns, we do not know what the geographic or temporal variation in these trends are. Anecdotally, the limited trend towards a capped 26-hour shift can be traced largely to the 2017 guideline, although many interns were not aware of the 2017 guideline's limitation on shift length.

3.3 Rethinking how we work

If the problem of unsafe working hours is to be addressed, one needs to interrogate the problematic assumptions and practices that uphold the status quo.

It is our view that much of the current way of providing continuous medical care can be attributed to an inherited work organization which has not kept pace with changes in medical practice. In addition to this inherited organizational culture and inertia, we believe that inefficiencies in the healthcare system are also often absorbed by junior doctors, largely through the apprenticeship model.

> *"The departments use interns to do work that came as a result of systems or people not working. For example, everyday one intern must walk to the lab and back the whole day getting results for the patients in MOPD because the computer doesn't work. The problem has been there for more than a year but the solution is always to make interns pick up the pieces and therefore they never get solved. The staff member who used to do ECGs for the hospital retired so now an intern is allocated to do ECGs all day. Because of this they refuse to give us 26 hour calls because they "need" us."*

One of the questions that we have posed to junior doctors, is what proportion of time interns spend on work which can be done by differently qualified members of the healthcare team.

The majority of interns reported that they spend at least 3-4 hours per shift, with about a third reporting spending more than 4 hours per shift, on non-medical tasks. Examples of such tasks include pushing patients to X-ray departments, fetching X-rays and reports, trying to locate patient notes, obtaining consumables for procedures, and stocking emergency trolleys. As one intern put it:

> *"…the reason we need to work some long shifts is because of inefficiency of the healthcare system. More than 50% of the work I do as an intern could be done by someone with basic training."*

Even if exaggerated, this result is familiar to many doctors working in the public sector. It is possible that thousands of doctor-hours are wasted daily on non-medical, non-specialized tasks. Senior medical practitioners may justify this as necessary experience, and part of the socialization into the medical fraternity. This amounts to a "we did it, so should you" attitude.

Part of this stems from junior doctors' perceived limited influence. It might be difficult to insist that nurses, clerks, porters, and cleaners do more, but comparatively easy to insist that junior doctors, who fall under senior doctors' authority, do these tasks instead.

This has three pernicious effects:

- It is a waste of money. Interns earn more than the cadres of healthcare workers whose work they are doing.
- It degrades the quality of experience that internship is meant to provide. Internship and further postgraduate training has the explicit goal of furthering the professional development of junior medical staff. Professional training is the confluence of experience, knowledge and mentorship. For interns to spend a significant proportion of their time on clerical work has an opportunity cost, and means that interns leave internship less prepared for community service.
- It contributes to burnout and negativity among junior staff.

The last two points are encapsulated in the following statement from an intern in an interaction with Safe Working Hours:

> *"Unfortunately as with most things in our healthcare system this [project referring to Safe Working Hours] won't actually change anything. Doctors will be expected to work longer and harder as the healthcare system continues to fail..."*

Junior doctors are demoralized by their working conditions. Although South African medical doctors are obligated to work for the state for three years, it is clear that for many this experience is profoundly negative. This has major implications in a world where South African medical graduates, especially those registered for independent practice, are sought-after in other nations. We believe that steps must be taken wherever possible in order to reduce push-factors when it comes to the emigration of professionals.

It is clear, however, that the solution to this problem is complex, and relies heavily on creativity, responsiveness, and tenacity from all members of staff, especially senior medical personnel

with management responsibilities. We understand that these individuals have numerous competing priorities and this report intends to raise the issue of working hour reorganization higher on the list of issues to address.

# 4 PERCEIVED IMPACTS OF SHIFTS BEYOND AND LESS THAN 26 HOURS

Before exploring the impact of the 2017 guideline, we first discuss the perceived positive and negative impacts of 30+ hour shifts still being worked throughout South Africa by many doctors in internship and beyond. Importantly, the majority of doctors we speak to would prefer not to work 30 hour shifts, and would prefer alternative working arrangements where properly implemented. To present a balanced analysis, we list the perceived negative and positive impacts of both the old and new systems. The results are summarized in table 1.

| Perceived impacts of shifts exceeding 26 hours | | Perceived impacts of shifts less than 26 hours (including pre- and post-call, and shift work) | |
|---|---|---|---|
| Positive | Negative | Positive | Negative |
| • Extreme continuity<br>• Acclimatization<br>• Simplicity<br>• Convenience<br>• Enhanced training | • Depression and burnout<br>• Diagnostic errors<br>• Treatment errors<br>• Substandard care decisions<br>• Motor vehicle accidents<br>• Percutaneous injuries | • Improved mood and attitude towards work<br>• Increased organizational awareness around fatigue risks<br>• Large changes in work organization, task sharing | • Increased frequency of calls<br>• Poor Hand-over<br>• No significant reduction in fatigue if shifts still 26 hours<br>• Negative attitudes of senior staff |

Table 1: The perceived impacts of shifts exceeding and less than 26 hours, according to current and recent medical interns

## 4.1 Perceived impacts of shifts exceeding 26 hours

### 4.1.1 Perceived positive impacts

#### 4.1.1.1 Extreme continuity

In a 30+ hour shift system, doctors who are post-call can be expected to continue a near-normal day of work. This means that little patient hand-over is necessary and that the same doctor cares for patients daily. It is expected that interns care for patients with close supervision, yet it is clear that many interns do the work of medical officers and this is enabled by 30+ hour calls. This continuity also comes at the cost of decreasing effectiveness and safety.

#### 4.1.1.2 Acclimatization

Although this is frequently mentioned by senior and some junior doctors, there is no evidence that humans can acclimatize to fatigue. Fatigue impairs psychomotor function, regardless of how frequently it has occurred before. Senior doctors are as impaired by fatigue as junior doctors.

#### 4.1.1.3 Simplicity and Convenience

The 30+ hour shift system is favoured by some doctors because it is a simpler system to arrange and roster. It also allows doctors to "get over with" their large amounts of overtime. We must ask ourselves whether we are willing to compromise patient safety and practitioner wellness for the sake of convenience.

#### 4.1.1.4 Enhanced training

There is pervasive attitude among senior clinicians that the 30+ hour shift system offers unique training opportunities which would not otherwise be available with caps on continuous working hours. This is a view based on anecdote and contradicted by evidence from training programs in the United States.[8] Human ability to learn and form new memories is compromised after extended periods of wakefulness. Learning which takes place towards the end of a 30 hour call is likely to be of low quality, if any learning takes place at all.

### 4.1.2 Perceived negative impacts

#### 4.1.2.1 Low mood, depression, and burnout

Sleep deprivation and fatigue is a known risk factor for depression and burnout. The anguished and desperate tone of messages sent to and conversations with the Safe Working Hours campaign emphasizes that interns (and more senior doctors) in South Africa are suffering partly as a result of their working hour organization. Frequent periods of 30 hours of wakefulness is likely more damaging than the structured disruption of a shift system. Those who would dismiss these complaints should not be stewards for young professionals nor tasked with protecting the public.

> *"I feel like I'm dying. I struggle so much. I literally can't think and I make the most mistakes in my notes. "*
>
> *"Anxiety, depression, chronic fatigue, constant guilt from mistakes made as a result of fatigue, negative attitude towards patients…"*
>
> *"It is truly the worst part of being a doctor and if I could go back I would choose a different career."*
>
> *"I'm moody and stressed out and can't remember the last time I laughed. I'm just too tired…"*

#### 4.1.2.2 Errors in diagnosis and treatment

Many interns reported witnessing or making errors on call, specifically emphasizing that these occur after extended periods (more than 16 to 20 hours) of wakefulness. For example:

> *"I had a child come in shock at 02:00 (hour 18 on call). I struggled to get peripheral IV access and in the end had to put in an IO line. There was a IO drill in POPD so I decided to try use it. I chose too short a needle and ended up burning an ulcer on the patients skin because the plastic of the drill was flush to the skin and rotating and providing friction that then*

*burnt an ulcer. I was so tired (by now 04:00 - hour 20) that I didn't even realize what was happening. I was alerted by the smell of burning flesh. I felt so guilty after that. It's hard to remember that the system is broken not just you."*

#### 4.1.2.3 Substandard care for patients

Numerous submissions emphasize that doctors tend to work 30 hour shifts in defensive manner, avoiding as much work as possible. This takes the form of refusing referrals, "turfing" patients to other departments, making decisions for conservative management where interventions are warranted, or scheduling care decisions for the hand-over period. The perceptions of interns working in these areas are that doctors are trying to conserve energy, make time to rest, and avoiding work which would keep them at the hospital after the 30 hour mark (such as an operation which would prevent them from doing their post-call ward round).

It is clear that the system predisposes doctors to make defensive decisions as an act of self-preservation, but at the cost of reducing quality of care.

*"It's blunt and nonspecific, but after working a certain number of consecutive hours you just stop caring as much. So you'll see a patient who you might have treated with more respect, taken a more extensive history from, examined more carefully, worked up more thoroughly, and thought to institute more holistic management rather than just the bare minimum, which is actually quite out of character for me. I tend to be type A and pedantic when it comes to patients, but at a certain point you become so tired that you behave differently and act like a different person, and then start cutting corners which 1) compromises patient care and 2) later leads to feelings of regret and guilt, which corrode your self-esteem and resilience."*

#### 4.1.2.4 Motor vehicle accidents

Several interns reported making car accidents on their commute home. This is a known result from extended periods of wakefulness.

*"My friend ran over a motorcyclist post call because she fell asleep…"*

*"I fell asleep behind the wheel a few times; I lost a friend in a car accident after she drove post call."*

*"I have fallen asleep behind the wheel countless times driving home post 24hour call."*

*"I had two (2) car accidents where I fell asleep behind the wheel during internship. Both where when I was post call, well after 10am. Not only did it cost hundreds of thousands of rands in damage, but it also put my life and the lives of other road users in serious jeopardy."*

*"I have crashed my car driving home post call and ended up in ICU after doing four 26 hour calls in eight days last year. The working hours are not safe."*

4.1.2.5 Percutaneous injuries

Many interns report injuring themselves towards the end of a call and this is corroborated by evidence from the United States – showing that doctors were 1.61 more likely to injure themselves after working more than 24 hours, than during the course of normal duty.

4.2 Perceived impacts of the 26 hour shift limit, where implemented

We would like to note that many interns, if not the majority, report that the 26-hour call limit has not been implemented, or is dismissed by hospital or departmental management.

*"No real change. Was told it's not approved by the NDOH and is just a guideline. As such not implemented by all departments as it's not 'law'"*

4.2.1 Perceived positive impacts

4.2.1.1 Improved mood and attitude towards work

Some interns reported improved mood and well-being as a result of a shift cap at 26 hours, although many still felt that they could not function optimally after 26 hours of continuous work.

*"In the few instances where the limit is implemented, it is a massive help to interns. It helps with mental well-being simply knowing that you won't have to work until 4pm after already being on call through the night."*

*"Rotations that adhere to the 26 hours are a pleasure to work for."*

4.2.1.2 Increased awareness of the hazards of fatigue

The conversations around the guideline has meant that numerous departments have begun to reorganize care with the intention of minimizing the care provided by fatigued doctors. These changes are slow and heterogenous.

This has meant that duties for post-call doctors have been altered, or that staff not on call agree to a longer day at work, with the understanding that they will also be relieved sooner when it is their post-call day.

What is clear is that once an awareness of the risk of fatigue emerges, doctors can be incredibly creative in attempting to mitigate this risk.

*"It brought awareness to HODs about the impact of working for a long time and since then there's been an active attempt to try and allow post call doctors to leave early."*

### 4.2.2 Perceived negative impacts

#### 4.2.2.1 Increased Frequency of Calls

A questionable practice now adopted in some facilities is the selective deduction of 'post-call' hours (i.e. the hours not worked after a 26-hour shift) from normal working hours and the subsequent rostering of extra overtime calls. In the Western Cape there is a guideline stating that that overtime work can only be recorded once standard working hours have been filled. This is not systematically or transparently done.

> *"When we asked for 26-hour calls we were told that we would be put on call more times even if we were making our hours in the month."*

#### 4.2.2.2 Poor hand-over

Some interns have pointed out that the 26-hour shift limit in the absence of an arrangement to hand-over patients leaves interns with a dilemma: they are instructed to go home and to finish "their" work. This either leaves them working 30 hours to finish post-call tasks (such as ward work or daily administrative tasks), or to neglect patient care.

Several comments have highlighted the need for appropriate hand-over following intake of patients, and delegation of ward work to incoming, rather than post-call staff.

The need for team-based care has been mentioned as a solution. Often interns are left with their "own" patients, whom they should see every day. If teams take responsibility for patients, there is more flexibility to allow a post-call staff member to return home.

#### 4.2.2.3 Fatigue

Fatigue is dose-dependent. An anticipated problem with a 26-hour limit is that it has no physiological grounding. Most studies demonstrating decreased physician performance use 24, 16 or 12 hour cut-off marks. Although 26 hours is an improvement on 30 hours, 26 hours still means that physicians are severely impaired. Although the limit is a step in the right direction, it falls short when compared to best available evidence.

> *"Nothing changed, interns are still working dangerously long shifts"*

> *"Calls limited to less than 26 hours are more manageable but still very difficult."*

#### 4.2.2.4 Attitude of senior staff

Several interns have reported that they have been victimised by more senior staff as a result of the limit. Some have reported perceived resentment at what is perceived to be "special treatment".

> *"They acted like we were spoiled children who are lazy. If they had to do it, so do we."*

*"At my facility senior doctors are cruel about the changes. They constantly compare it to how they had to work long hours back in the day. Others refuse that you leave, saying if you do leave you are not a team player."*

#### 4.2.2.5 Inadequate Pre-Call

Some interns have noted that, in order to comply with a strict 26 hour limit, they are dismissed at 4pm, and told to return to work shortly after (at 6pm). Many of these interns would be unable to return home during this time, meaning that they cannot rest. This is then followed by a further uncapped period of work, thus never exceeding 26 hours. Adequate pre-call rest should be defined as a minimum of 3 hours rest with access to a facility to rest. It should not be offered as the sole solution, but be used in combination with post-call rest.

## 5 DISCUSSION

### 5.1 The reasons for extended shifts

There is an awareness that the root causes for extended shifts is not limited to high patient loads and too few staff, although this fact is still frequently acknowledged by interns.

Below is a summary of organizational factors that contribute to the perceived need for extended shifts:

- A fundamental lack of knowledge about the risks of extended wakefulness to both patients and clinicians

  Because of this lack of knowledge, very little is done to mitigate the risk of extended shifts. Where the risk is acknowledged, typically in emergency medicine and anaesthetics, alternative work arrangements are made.

- Inadequate task sharing

  Interns on call, who are trained (and remunerated accordingly) to provide medical diagnosis and treatment, are routinely expected to do administrative work and phlebotomy. Many of these tasks may be shared with nurses, clerks, or other members of the medical team at a far lower cost.

- Late hand-over rounds

  Some interns have reported having post-call hand-over rounds starting as late as 12pm, due to consultants and senior doctors arriving late from private practice or academic meetings. This demonstrates that the fatigue of junior doctors, and the subsequent risk posed to patients, doctors, and road users, is a low priority for many senior clinicians.

- Inflexible human resource management

  Some interns report difficulty with their respective HR departments. At hospitals where no post-call was previously allotted formally, the 6 hours of work missed during post-call periods (10am to 4pm) are deducted from the total hours worked and it is insisted that the intern work this back. This is done even if the interns are working more than their minimum

contracted hours per week on average. This is a contentious issue which must be unpacked. Many interns work 56 more or less equivalent hours per week, akin to shifts, compared to consultants who may be on-call off-site during overtime. Some interns work many hours in excess of that.

For employers to insist that there is a difference between the work provided during office hours and after hours is to neglect the reality of frontline medical work, especially at this junior level. Furthermore, to institute such punitive measures when working hours are reorganized to be safer, is counterproductive.

- More staff does not solve the problem

At hospitals where the number of interns have rapidly grown over the past two years, this has not led to the introduction of shifts or safer arrangements, but rather simply less frequent calls. This falsifies the assumption that that staffing is the underlying problem.

## 5.2 Possible solutions

### 5.2.1 No silver bullet

It is clear from our discussions with interns that there is no expectation for a single solution, and that upholding the quality of patient care is supremely important while finding alternatives to extended continuous shifts. Solutions must be tailored to the needs and working arrangements of each discipline and department. For example, there is an awareness that shifts are easier to implement in Anaesthetics and Emergency Medicine.

### 5.2.2 Ideal shift length

When asked about shift length and impairment due to fatigue, interns had wide-ranging perceptions about when they started to feel impaired. While opinions ranged from 12 to beyond 26 hours, the median perceived time of impairment appears to be between 16 and 22 hours. This approximates some of the published evidence and is understandable given the heterogeneity of work. If work is low complexity and low volume, rest might be more likely, and doctors might be impaired later. High intensity, complex work may lead workers to feel impaired sooner.

### 5.2.3 Overarching principles behind existing solutions

When asked about possible solutions in South Africa, numerous interns could name individual departments and hospitals that provide high quality care but where doctors never work more than 13 or 16 hours in a single block. These doctors still work their contracted hours every month. The cases that we have examined more closely were characterized by the following:

- An acknowledgement of the numerous negative effects of fatigue on quality of care and practitioner well-being. This is usually part of a larger culture of organizational learning and being responsive to emerging evidence.
- A patient-centred clinical team.

- Team based care, where patient care responsibility is shared between doctors, nurses and allied professionals, with excellent communication between hospital workers and an emphasis on maintaining good interprofessional relationships.
- Responsive, caring, and creative management who are pro-active in preventing and solving problems relating to staffing, task-sharing, and critical incidents.
- A long-term orientation with the aim of retaining staff and improving the quality of care, with low turnover of senior personnel.
- Careful implementation of alternatives (such as pre- and post-call rest as well as shifts), with frequent team discussions around difficulties or emerging risks during implementation.

### 5.3 Limitations of this report

Much of the information reported on here has been gathered through anonymized submissions on social media, and discussions with past and present interns at SWH presentations or discussions. It does not constitute systematic research and has not been collated with the intention of academic publication. This report is an act of advocacy aimed at filling a gap in discussions on South African healthcare. We hope that this report will spur much-needed research into this neglected aspect of healthcare.

## 6 THE WAY FORWARD

### 6.1 The HPCSA is a key partner to establish a safe working hour agenda

The HPCSA has the opportunity and means to protect the public and to guide the profession when it comes to unsafe working hour organization.

From our experience engaging with senior doctors at the HPCSA, during site visits and at the HPCSA conference, doctors who acknowledge the risks posed by fatigued doctors are in the minority. SWH has raised awareness among junior staff, but we still find that senior clinicians are uninformed and resistant. This needs to change.

Fatigue is a form of impairment. It is a risk to the public and it is an example of what the medical profession can institutionalize when uninformed and unguided.

The HPCSA needs to be aware of the working hour organization of all cadres of doctors and this can be achieved through a reporting system over a relatively short period of time.

### 6.2 Implementing and extending the 2017 guideline

Where adopted, the 2017 guideline raised the consciousness of senior doctors and led to the reorganization of working hours for interns, and often the rest of the medical team. A 26 hour cap is, unfortunately, a blunt instrument to deal with a complex problem. There is a need to extend this guideline to shiftwork (ie. how many consecutive night shifts are optimal), discussing best practice for pre-call and post-call rest periods and guidance on handover.

6.3 The need for profession-wide working hour regulation and reorganization

A clear thread in numerous submissions to the SWH campaign has been the need for extending a shift cap to the rest of the medical team, namely community service and other medical officers, as well as registrars. This is understandable – fatigue does not simply cease to be a hazard once one has been a doctor for two years.

The problem is also not limited to the public sector. In private, there is concern that locum doctors, without an explicit cap, move from shift to shift without rest, and thus increase the risk to patients and themselves in the pursuit of profit. Among senior doctors, Remunerative Work Outside Public Service (RWOPS) may compound this problem. Without guidance, the profession is allowing inertia and ignorance to put the public and practitioners at risk.

6.3 The need for high-quality data about working hours of doctors in South Africa

There is a large heterogeneity in working conditions and needs across South Africa. There is variation in the volume and complexity of medical work doctors are expected to do, both geographically and temporally. The result is that it is difficult to make a simple recommendation for action.

In order to avoid inadvertent adverse results, future guideline changes need to be based on high quality, local evidence. These findings must be accompanied by a menu of evidence-based options for reorganizing medical care, and support in implementing these changes safely. The various solutions must also be closely monitored at selected sites.

It is clear that the challenge at hand is large and complex, and any solution must be similarly ambitious. The HPCSA has taken the first step towards mitigating the risk that fatigue introduces into South African healthcare, yet there is a long road ahead.

The SWH campaign would like to partner with the HPCSA, academic and healthcare institutions in order to inform evidence-based policy, as we believe that it is possible to reorganize medical care in South Africa in a manner that would enhance patient safety, effectiveness of care, user experience and practitioner wellness.

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