

**SAFE WORKING HOURS**

**The Case for a Profession-Wide  
Working Hour ~~Regulation~~ in  
South Africa**

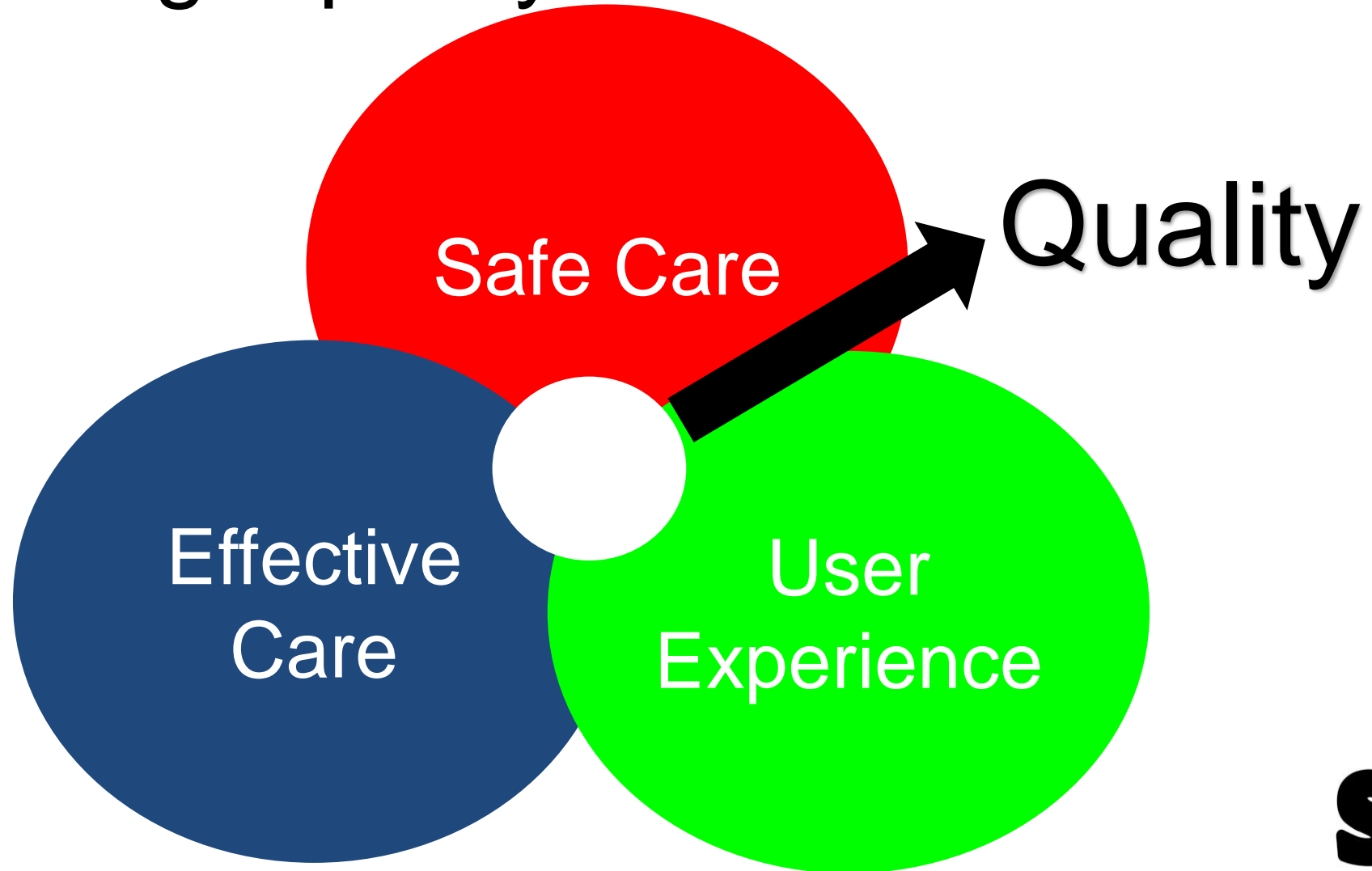
**Reorganization**

# What are the main points?

- 1 • Fatigue is harmful
- 2 • Unsafe working hours are all around us, but not because it is unavoidable. There are also positive practice examples
- 3 • The HPCSA is ideally situated to continue a drive for patient safety and professional guidance



# What is high quality care?



# The Safe Working Hours Puzzle: An Invitation



# We are on the right track

## Guidelines for after hour duty

- The Sub-Committee for internship training noted that **continuous working hours of 30 hrs may be excessive and can lead to fatigue, compromising the intern's ability to provide appropriate patient care.** The workload in different hospitals and different clinical domains may vary across the country. Periods of rest within this continuous 30 hrs may also vary from hospital to hospital and domain to domain. The subcommittee also noted that the interns should be part of the post intake rounds for training and teaching purposes. Hence the subcommittee recommended that the **number of continuous working hours an intern may work be reduced from thirty (30) hours to a maximum of twenty six (26) hours.** This is to accommodate training requirements and to avoid fatigue related negative outcomes. **However individual hospitals and clinical domains are requested to modify the roster with shorter shifts depending on the workload** and taking into consideration the possibility of periods of rest within a call. **The National Department of Health to engage with provincial departments**



# What this contains

- Acknowledgement that fatigue may lead to harm
- Recommendation for an action
- Recommendation for local adaptation
- Involvement of other stakeholders



But this begs the question...



# Where does the literature come from?

Human Physiology (Neuroscience,  
Endocrinology, etc)

Non-Medical Industries

Healthcare





# What do we mean by “fatigue”?

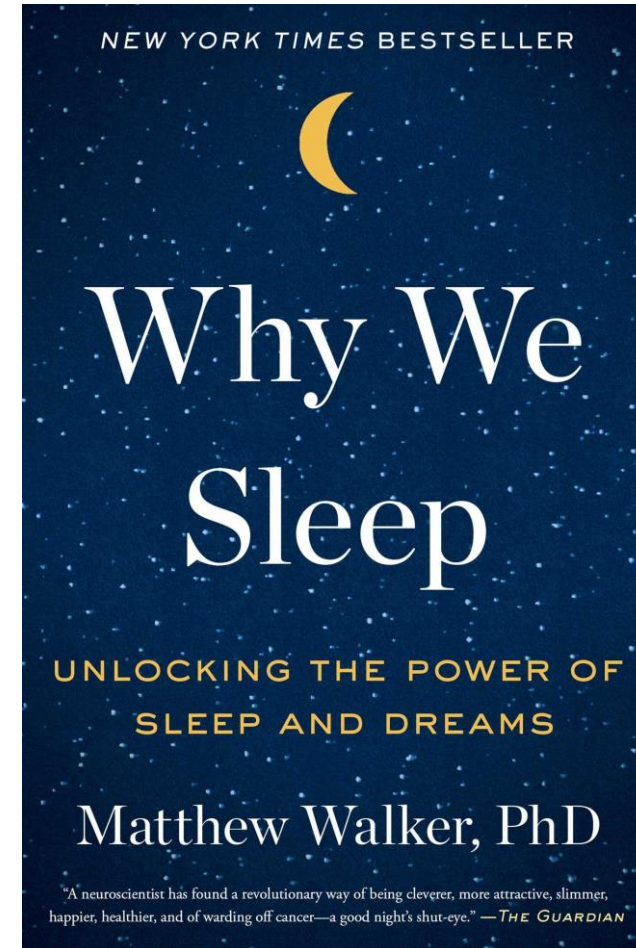
- Heterogenous literature
- Numerous terms used:
  - Fatigue
  - Sleep deprivation
  - Exhaustion
  - Extended periods of wakefulness
- Various cut-offs used:
  - 12h-30h
- Various Measures:
  - Objective measures
  - Self-reporting
  - Observation



# What does fatigue and sleep deprivation do to humans?

Increased risk of:

- Cancer
- Cardiovascular events
- Dementia



Walker M. Why we sleep: The new science of sleep and dreams. Penguin UK; 2017 Sep 28.

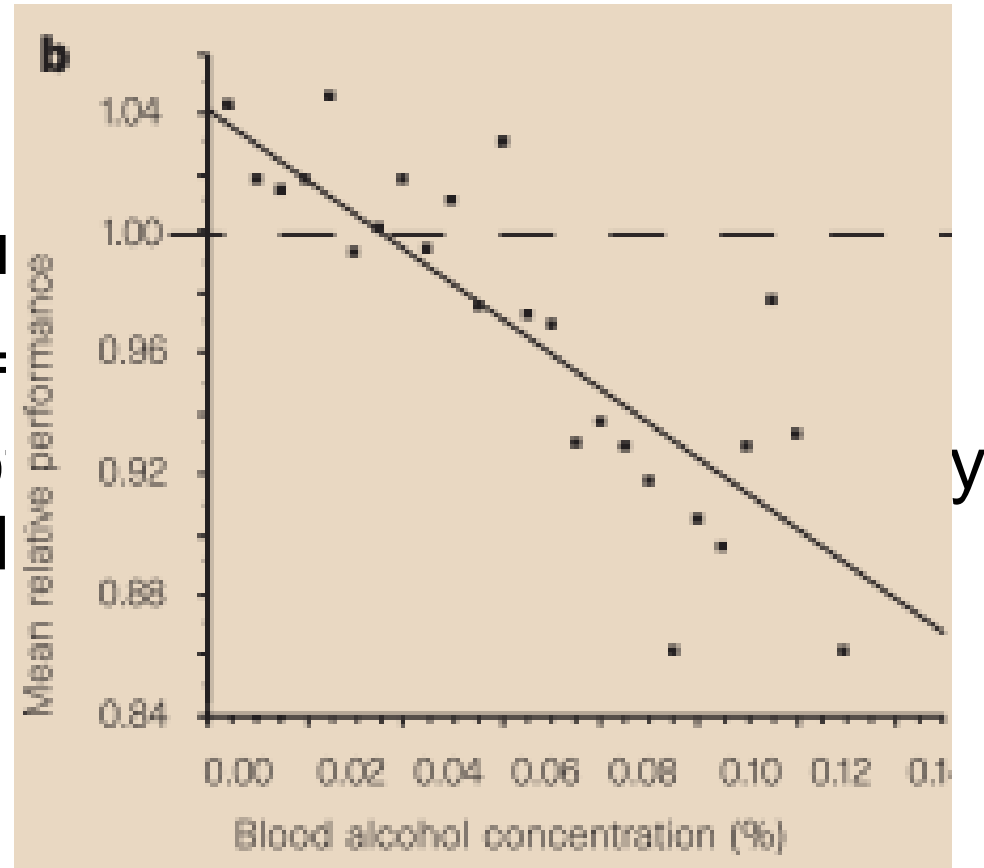
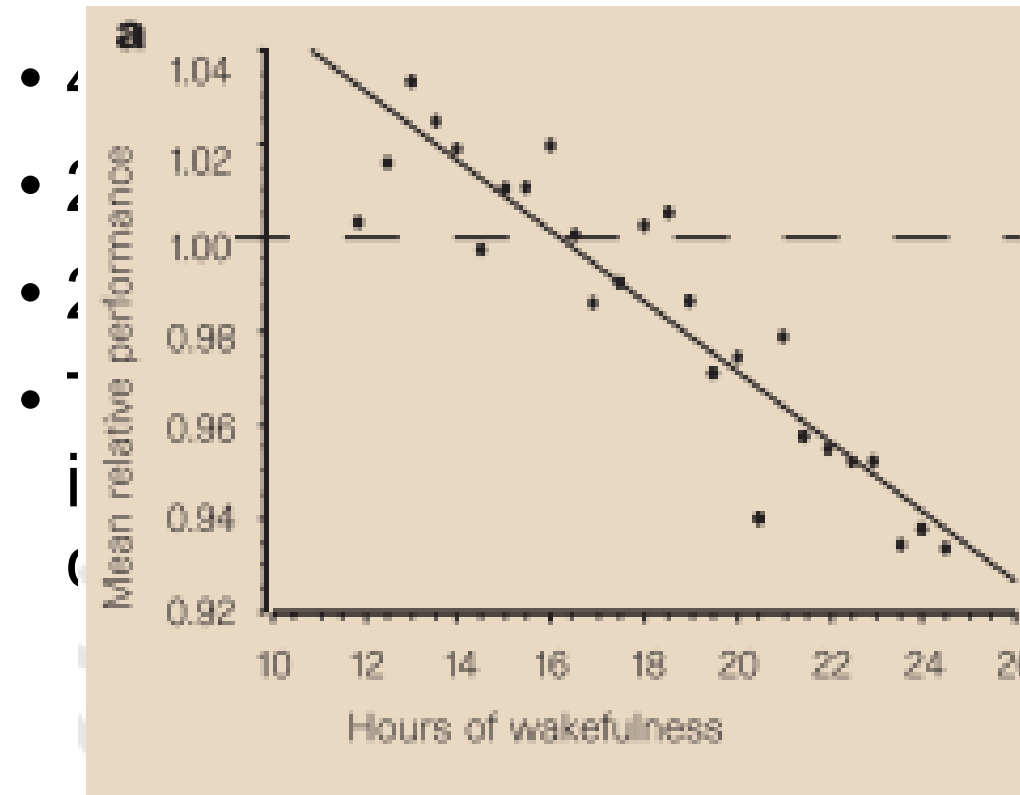
# What does fatigue and sleep deprivation do to humans?

Increased risk of:

- Obesity
- Diabetes
- Erectile dysfunction
- Impaired memory formation and problem solving



# “Fatigue, alcohol and performance impairment”



Dawson, D. and Reid, K. (1997) ‘Fatigue, alcohol and performance impairment.’, *Nature*, 388(6639), p. 235. doi: 10.1038/40775.

# What about the real world?

Human Physiology (Neuroscience,  
Endocrinology, etc)

Non-Medical Industries

Healthcare



# Fatigue is a risk factor for:

- Motor vehicle accidents
- Aviation accidents
- Unethical behaviour (cheating and theft)



# But does this apply to medicine?

Human Physiology (Neuroscience,  
Endocrinology, etc)

Non-Medical Industries

Healthcare



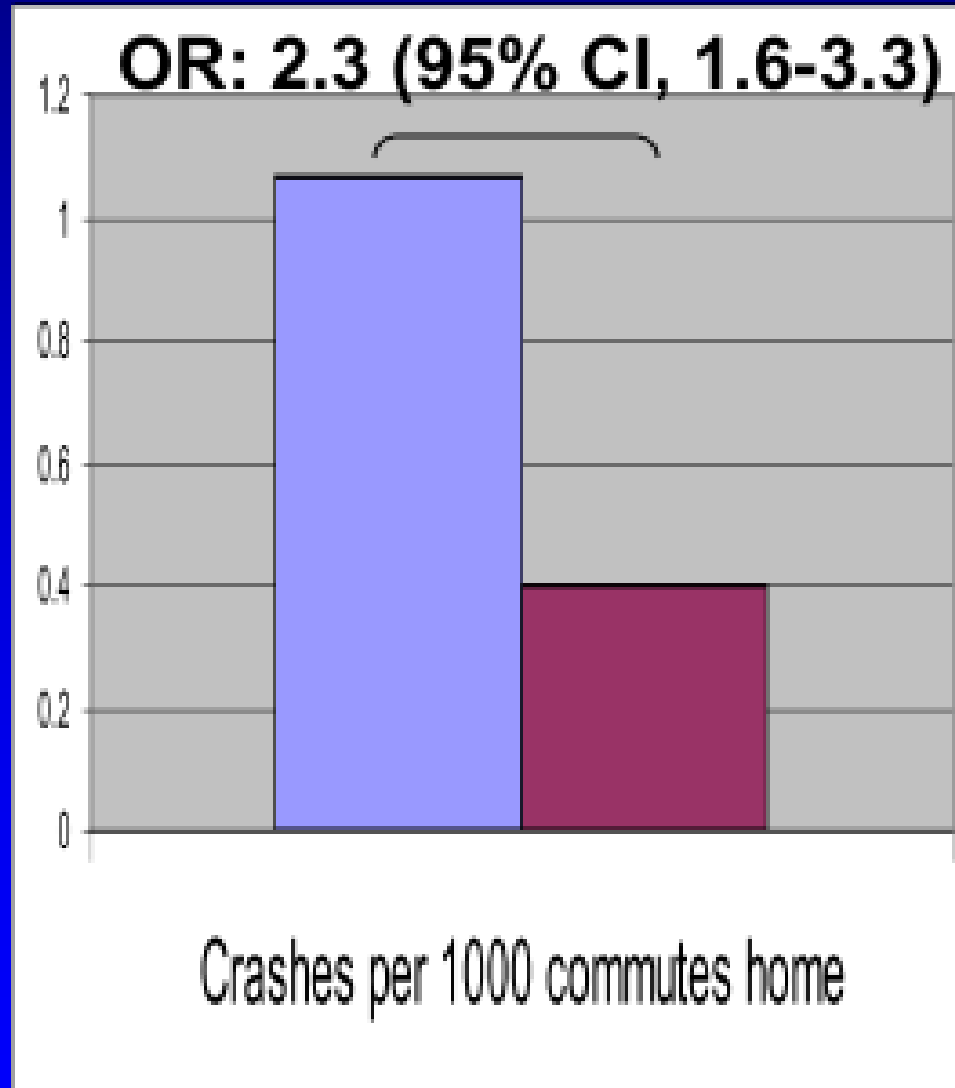
# Fatigue in Medical Practice

- Are doctors immune to the effects of fatigue?



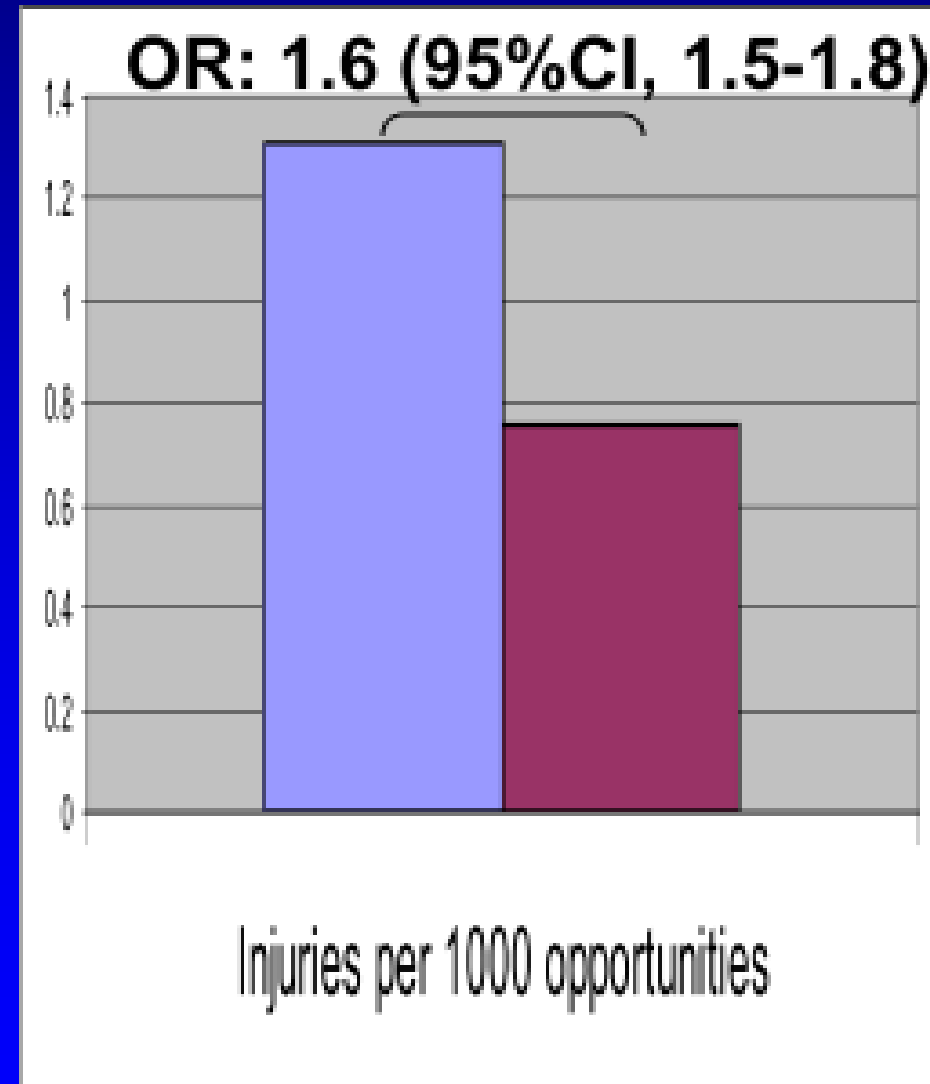


## Motor Vehicle Crashes



**Barger LK et al. NEJM 2005;  
352:125-134**

## Percutaneous Injuries



**Ayas, et al. JAMA 2006;  
296:1055-1062**



**Slide from:  
Landrigan, C. P.  
(2012) 'Safe Work  
hours and  
Rostering to  
Reduce Patient  
Harm',**

# Fatigue in Medical Practice

- But does it impact care?



# Extended shifts (>24) are associated with:

- Self-reported “serious medical errors” that lead to
  - Patient harm (1 in 20 surveyed)
  - Patient death (1 in 5 surveyed)(n=2737)
- Objective measures of
  - Increased medication errors (20.7% more than when on 16h shifts)
  - Increased diagnostic errors (5.6x more than when working 16h shifts)



Lockley, S. W. et al. (2006) ‘When Policy Meets Physiology’, Clinical Orthopaedics and Related Research, PAP(449),

# But are shorter shifts better?

- Heterogenous literature
- Multiple ways to alter working hours
- Systematic review in 2010
- Evaluation of positive, negative and neutral outcomes
- Out of 11 studies
  - **7 demonstrated improvement in Quality of Care**
  - 4 demonstrated no difference
  - **None found evidence of decreased Quality of Care**



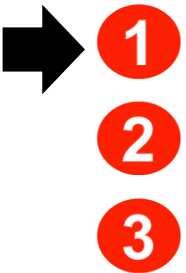
Levine, A., Adusumilli, J. and Landrigan, C. (2010) 'Effects of reducing or eliminating resident work shifts over 16 hours: a systematic review', *Sleep*, 33(8), pp. 1043–53.

# But what about the educational value?

- Concerns regarding experience and education

Systematic Review:

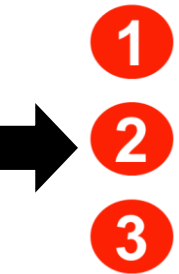
- Elimination of shifts >16h for residents (registrars)
- 14 studies included, outcome measures were various postgraduate evaluations
- **4 demonstrated improved scores on postgraduate examinations**
- 9 showed no difference in educational outcomes
- **1 showed decreased ratings by consultants (unblinded)**



Levine, A., Adusumilli, J. and Landrigan, C. (2010) 'Effects of reducing or eliminating resident work shifts over 16 hours: a systematic review', *Sleep*, 33(8), pp. 1043–53.

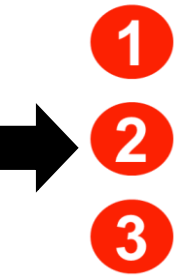
# Where are we now?

- 1 • Fatigue is harmful
- 2 • Unsafe working hours are all around us, but not because it is unavoidable. There are also positive practice examples
- 3 • The HPCSA is ideally situated to continue a drive for patient safety and professional guidance



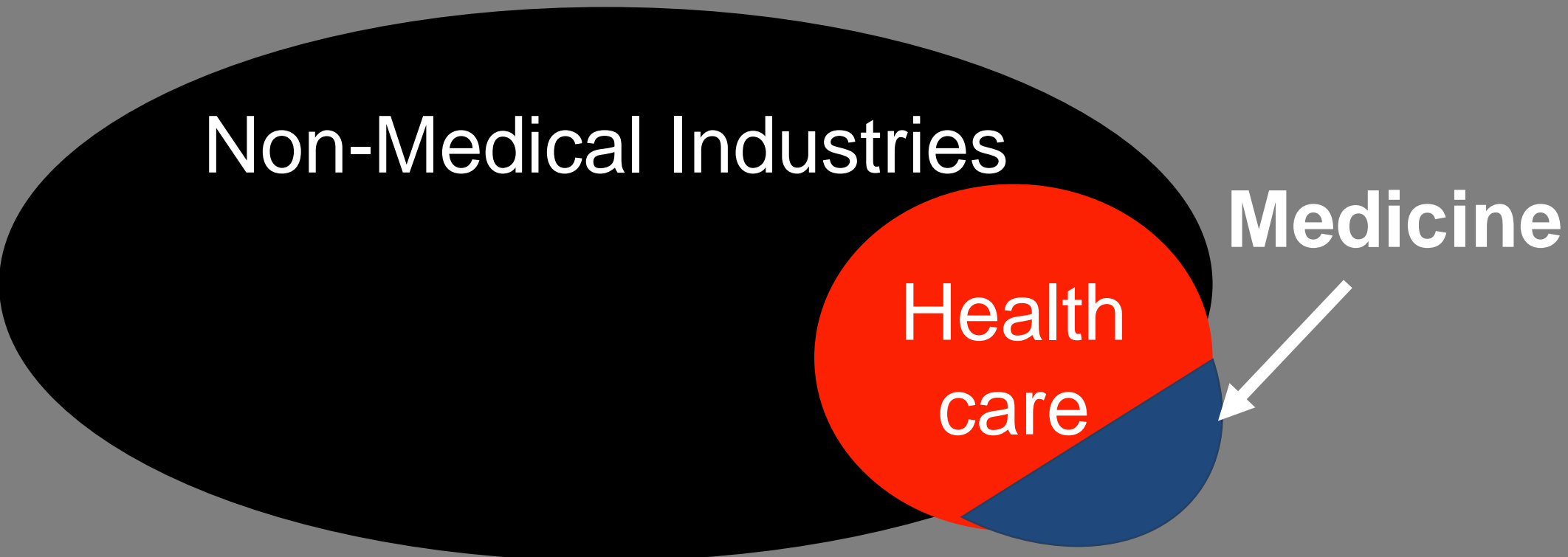
# Why do doctors work extended shifts?

- Need for 24/7 care?
- Convenience?
- Historical precedent?
- Artificial selection for the best doctors?



# Need for 24/7 care?

## Ways to organize working hours



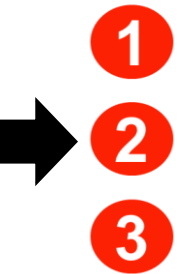
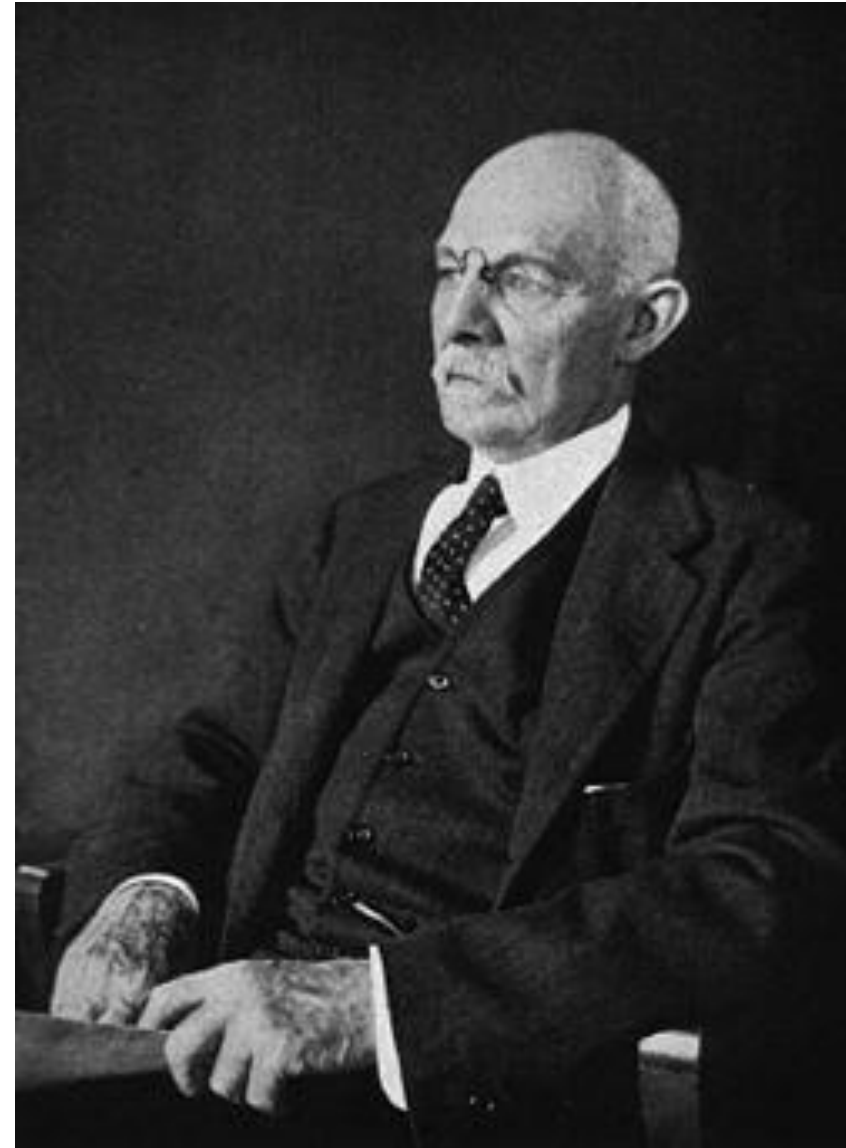
- ➔
- 1
  - 2
  - 3



# Historical Precedent

- Pioneers in medical education
- “Residency”

Mukherjee, S. (2010) The Emperor of All Maladies. First. New York: Scribner.



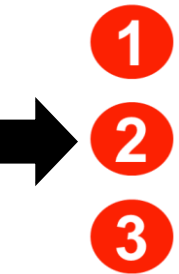
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SAFE WORKING HOURS

# How common are extended shifts in South Africa?

 Unaffected

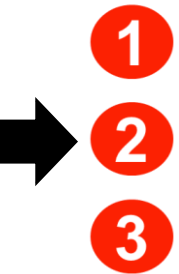
 Affected?

“You can’t  
manage what  
you don’t  
measure” –  
Peter Drucker



# What do we know?

- Extended shifts are probably common throughout the profession
- Teams generally organized around similar rosters
- Highly variable patterns
- No central database or record
- 2016 survey: Majority of intern respondents working more than 24h shifts



Bola, S. (2016) 'The state of South African internships : A national survey against HPCSA The state of South African internships : A national survey against HPCSA guidelines', (July 2015).

# What we have learned as

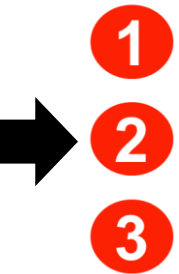


- Many doctors and facilities have taken initiative
  - Shift systems
  - Post-call cover
  - Specific post-call tasks
  - Pre-call rest periods
  - Task shifting and task sharing

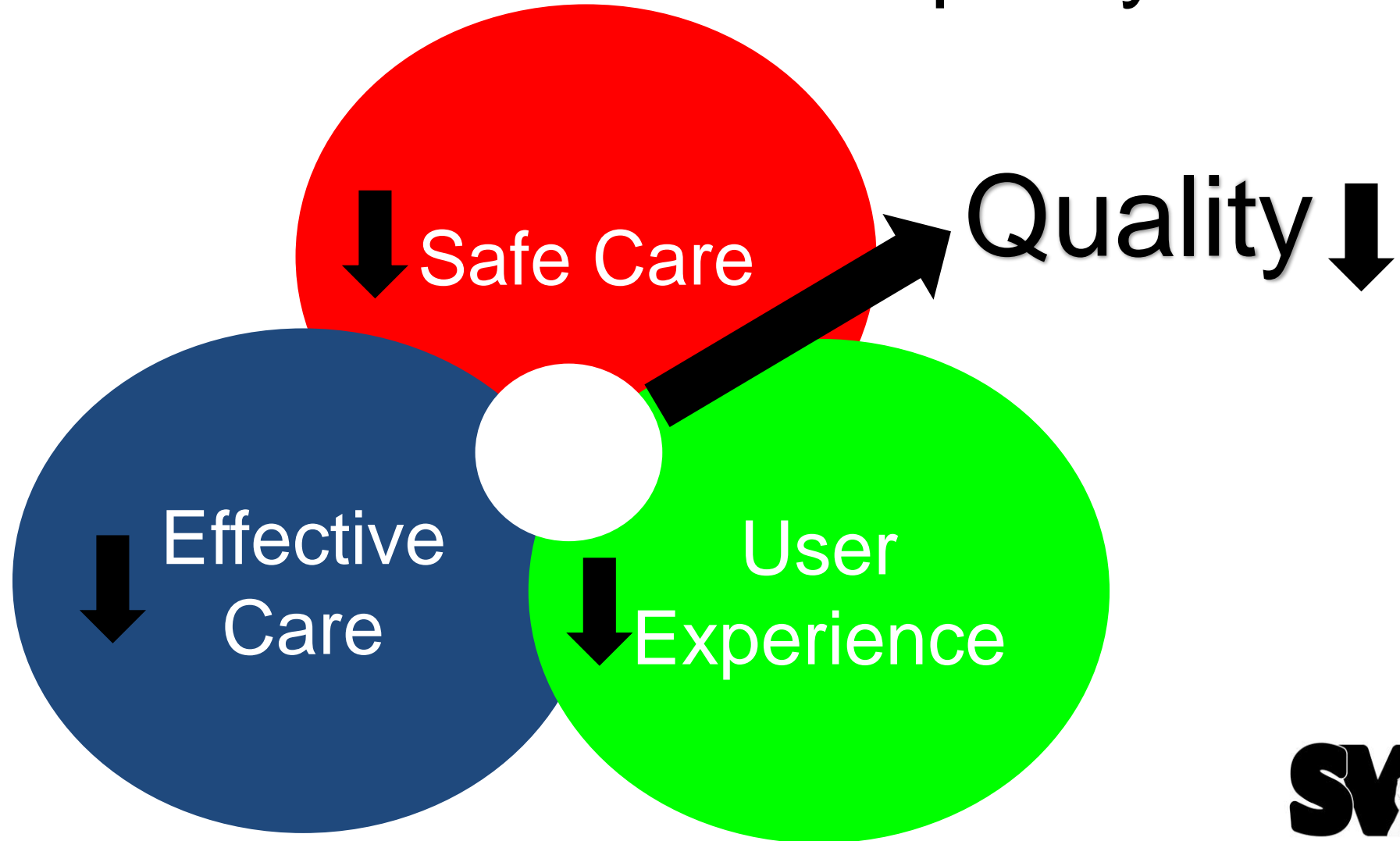


# Re-cap

- Extended shifts of >16h increase risk of harm
- These shift systems are likely common throughout South Africa, but not tracked
- There are alternatives in our setting
- Moving forward, the choice is between:
  - Historical ways of organizing work, increasingly at odds with human physiology and emerging evidence
  - A move towards a patient centred, safety oriented working hour organization

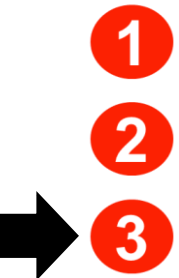


# What do unsafe hours do to quality of care?



# Where are we now?

- 1 • Fatigue is harmful
- 2 • Unsafe working hours are all around us, but not because it is unavoidable. There are also positive practice examples
- 3 • The HPCSA is ideally situated to continue a drive for patient safety and professional guidance



# Why was the HPCSA created?

- The objects and functions of the council **are to serve and protect the public** in matters involving the rendering of health services by persons practising a health profession
- to **guide the relevant health professions** and to protect the public
- “[I]mpairment” refers to a condition which renders a practitioner incapable of practising a profession with reasonable skill and safety

1

2

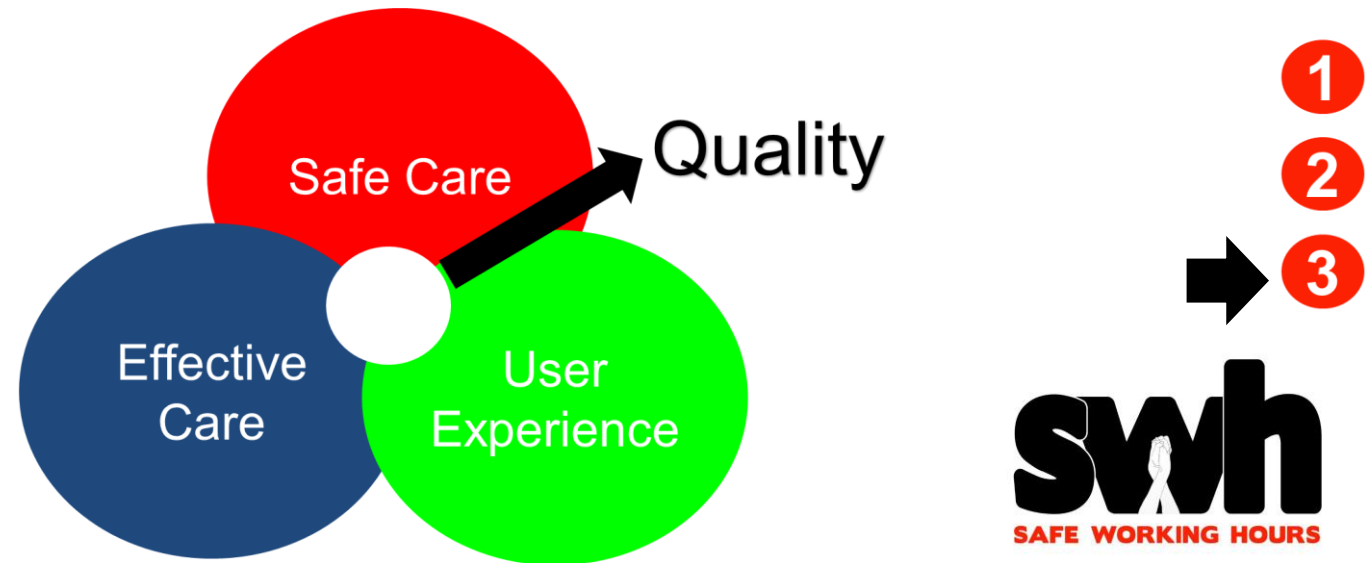
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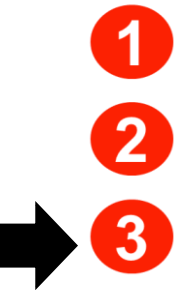
# How can we move forward?

1. The medical profession needs to be guided to protect the public from harm.
2. Regulate working hour organization for all doctors



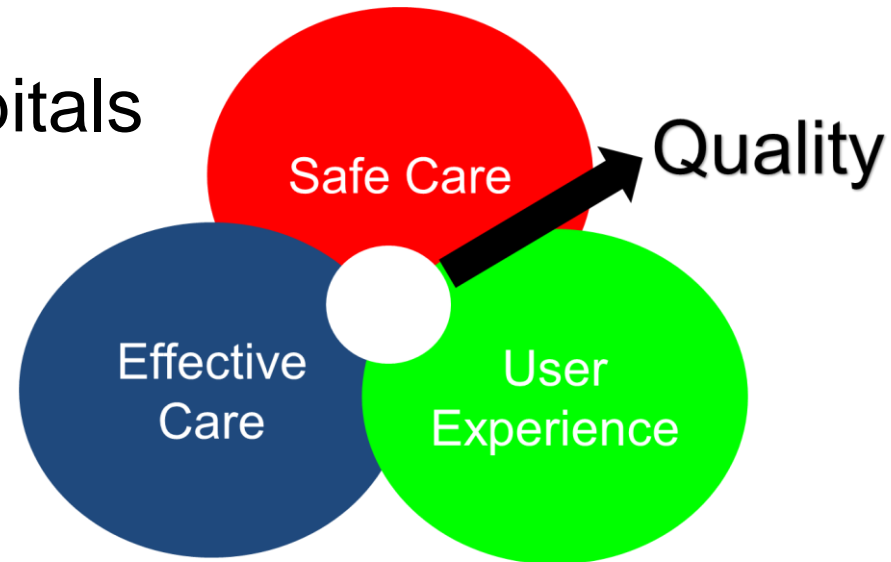
# What are the challenges?

- What does working hour organization look like for SA doctors?
  - Learning from positive outliers
  - Lessons from implementation case studies
- Uncertainty regarding best way forward
- Need to involve multiple stakeholders
- Optimizing interventions for our context



# We need to come together:

- To form a multi-stakeholder task team
- To evaluate doctors' working hour organization
- To encourage flexibility in appointments, task shifting, and task sharing
- To work with doctors and hospitals
- To make healthcare safer



*The Lord Darzi Review of Health and Care - Interim Report. (2018)*



: We want to work with you

## Questions and Discussion



@SafeWorkHours



<https://www.facebook.com/SafeWorkingHours>



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