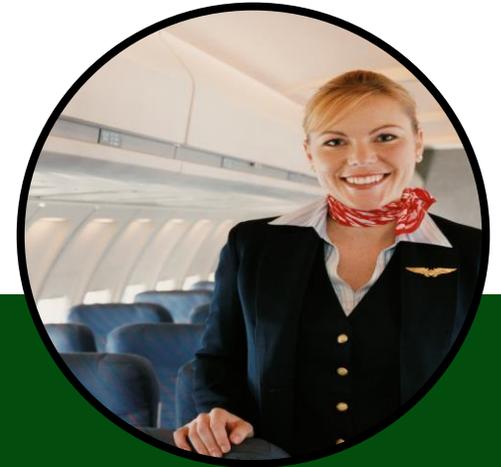




A Baines Simmons company



Fatigue Risk Management – what does good look like?

Sarah Booth Research Manager
Clockwork Research

UKTram Summit
2019

Clockwork Research

- Enhancing safety via effective management of human performance
- Specialists in fatigue risk management
- Translate academic research into operational solutions
- Independent and trusted advisors



Before we start

How many hours of sleep did you get last night?

8 hours?

Between 7 and 8 hours?

Between 6 and 7 hours?

Less than 6 hours?



How much sleep do we need?

“The number of people who can survive on 6 hours of sleep or less, without showing any impairment, rounded to a whole number and expressed as a percentage of the population is

0%”



Contents

- What is fatigue?
- What does fatigue management look like?
- Benefits of effective FRM



What is fatigue?

'A state of perceived weariness that can result from prolonged working, heavy workload, insufficient rest and inadequate sleep. It involves a general feeling of tiredness, resulting in a reduced ability to perform work effectively. A fatigued person will be less alert, less able to process information, will take longer to react and make decisions, and will have less interest in working compared to a person who is not fatigued.'

ORR Managing Rail Staff Fatigue, 2012



We live in a sleep loss society

*'an employee who works **irregular hours**, commutes **30 to 60 minutes** to work (one way) and is exposed to a set of **measures of workplace psychosocial risks** (pressures, sleeps on average about **29.5 hours** per week) compared to an employee that has **regular work hours** (one way) and is not exposed to **workplace**'*

This equates to over 173 hours of lost sleep per year

RAND Europe. Why Sleep Matters – the economic cost of insufficient sleep



Based on scientific evidence, and 'driven' by data.
A shared responsibility

FRMS and nine stage
approach to managing
fatigue in safety critical work

Fatigue Risk Management
Systems

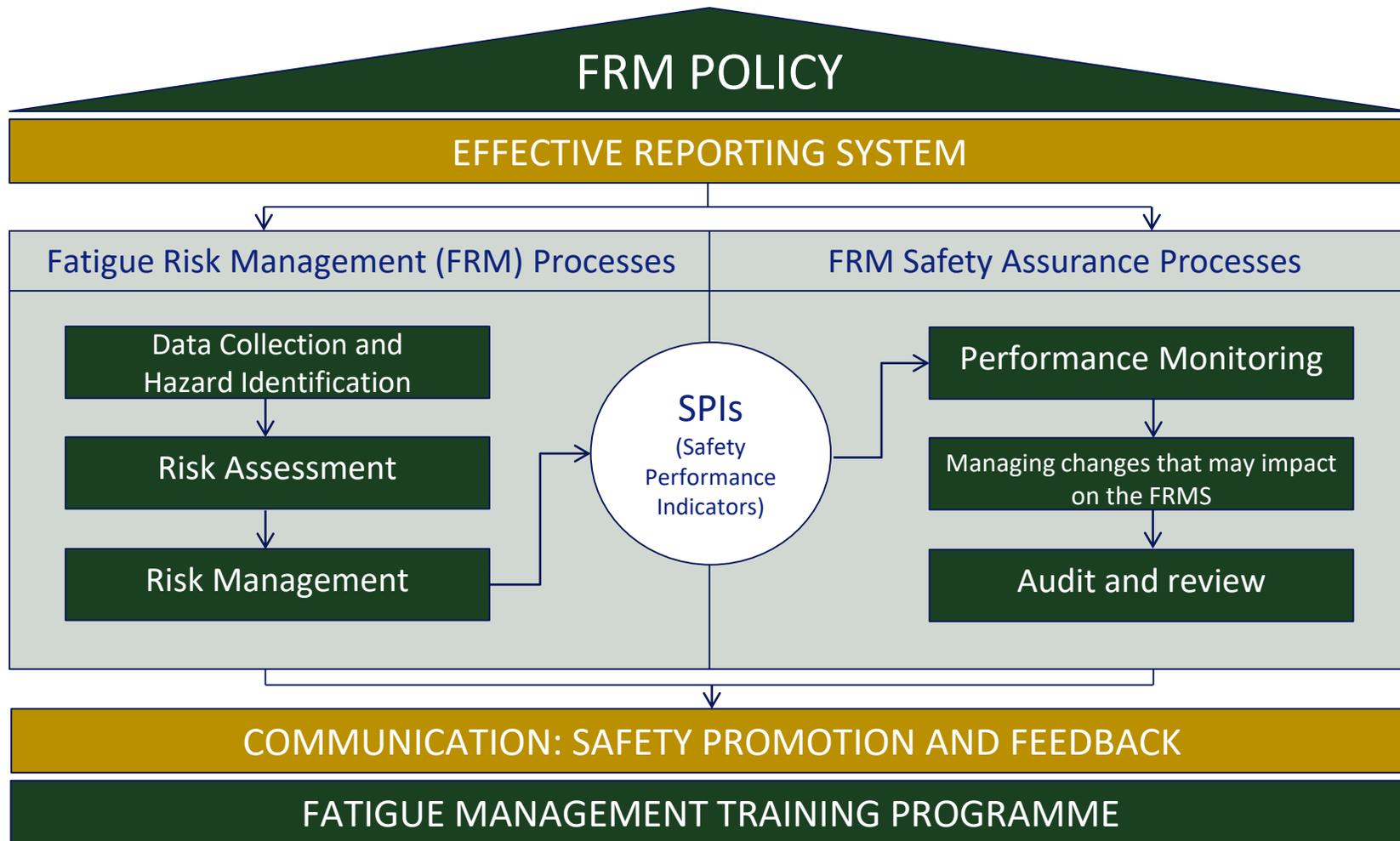
~~Simple compliance – the
Hidden Limits~~

The Hidden Limits were withdrawn in 2012

Shift work
and/or
significant
overtime, but
no ROGS safety
critical work

ROGS
safety
critical
work

What does fatigue risk management look like?



Computer software can help here, but is not necessary



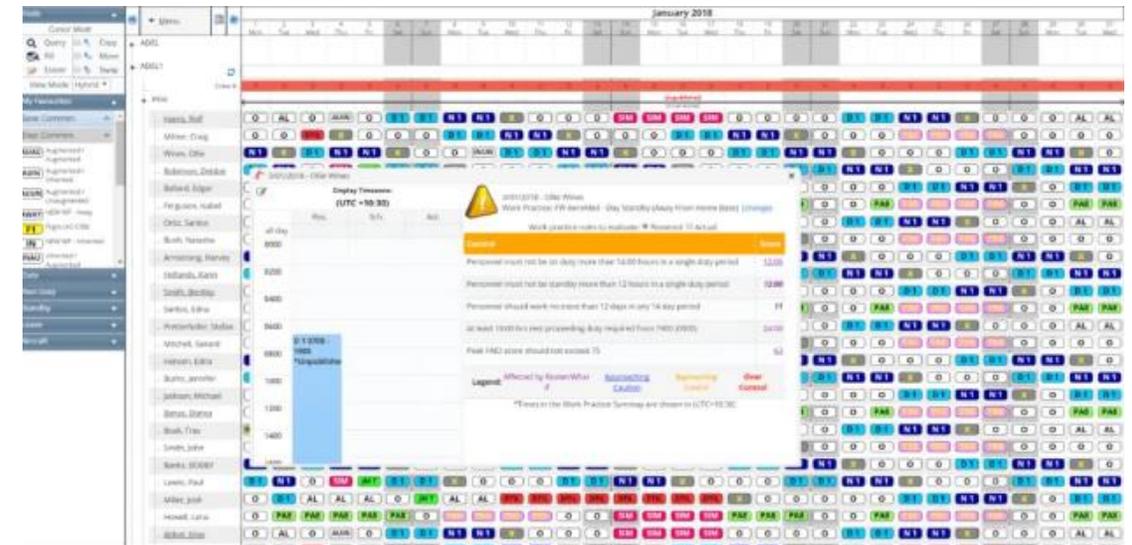
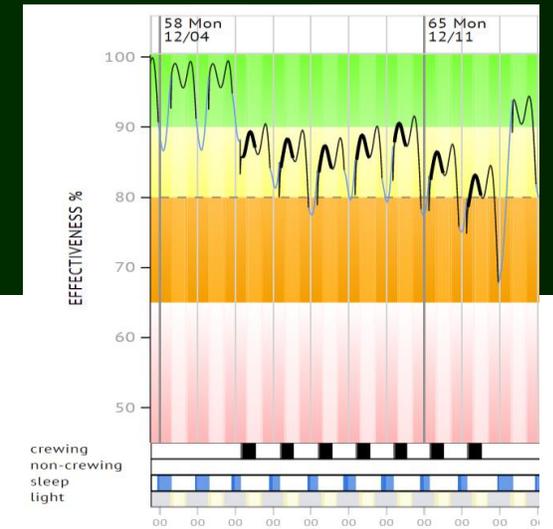
FRMS needs to be proportional and specific to your level of risk

- This means it does not need to be incredibly complicated!
- It may be appropriate to have a more complex system if your fatigue risk is high
- The system needs to be tailored, with your energy focussed on managing **your** specific hazards, not just those that are common in the industry
- The system needs to be continually learning and evolving – data collection is always occurring

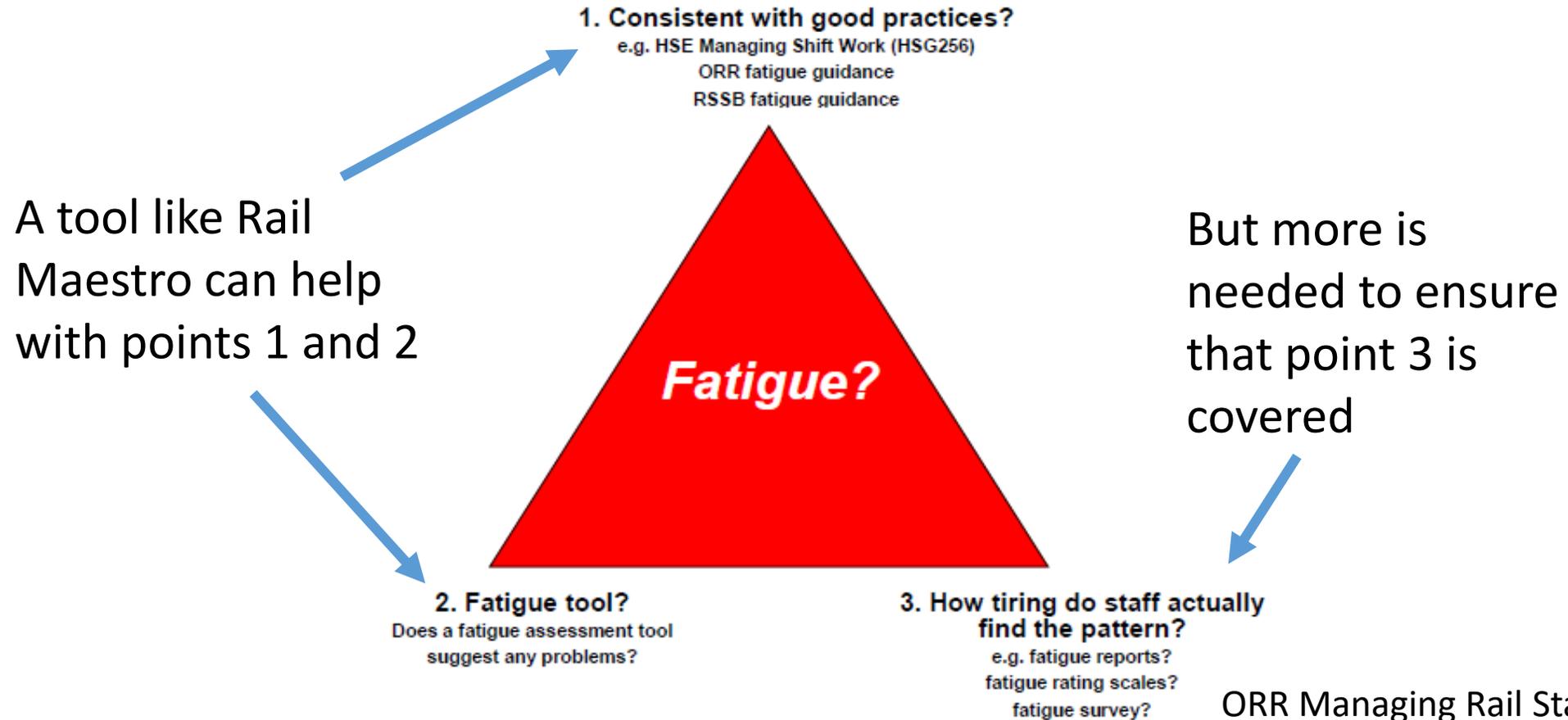


Software solutions

- Including fatigue models, rostering software, software that combines the two etc.
- Can be very helpful to allow the planning of rosters with a visualisation of elevated fatigue risk
- Building of 'soft' rostering rules into the software allows for consistent application, and 'flagging' if any are exceeded



Software solutions



ORR Managing Rail Staff Fatigue, 2012



Beyond software

- **Data collection**, e.g. from fatigue reports, surveys, incident reports and investigations
- **Training**, tailored to your organisation, equipping people to manage their own fatigue, and that of those that they may influence
- **Communication and Culture**, how is fatigue spoken about across the business? Is there an open culture encouraging reporting?



Fatigue reporting

“We don’t receive fatigue reports, therefore we can’t have a fatigue problem”



JUST CULTURE

VISIBLE
OUTCOMES

~~"IT'S LEGAL SO
IT'S SAFE"~~

CLEAR POLICY OF
WORKER
RESPONSIBILITY

EDUCATION

"HOW DO I IDENTIFY
FATIGUE?"

~~"I DON'T WANT TO
MAKE
A MISTAKE I CALL
LAST MENTH"~~

"IT'S OK TO CALL
FATIGUED"

~~"DO YOU
U'RE
FATIGUED?"~~

RIGHT FORM,
RIGHT
PROCESS

PAY
PROTECTION

TRUST

TRUST

SUPPORT FOR
WORKERS
WHERE
NECESSARY

TRUST

TRUST

Training

- Training is the bedrock of effective fatigue management – if people don't know how they can manage fatigue, then the effectiveness of any FRMS will be limited
 - RSSB analysis showed that 40% of fatigue related incidents are linked to home-life related fatigue, and 38% were linked to work-related fatigue
- Training needs to be tailored, involving stakeholders in the design process helps ensure this
- Controllers, rostering, safety, and senior leadership need training too – they can impact the fatigue of others by their actions

Questions training may answer

- What sleep strategies could I use to be best rested for my working pattern?
- Why can't I fall asleep early in the evening before an early?
- Is drinking water an effective strategy to keep me alert during the day?
- How do I submit a fatigue report?
- Will I lose pay if I cannot come to work because I am fatigued?
- How should I best combine shifts into a fatigue-friendly roster?



Benefits of effective FRM

- Dropping HSE fatigue scores by 17% across the roster through feeding back collected data into the roster production process
- Fewer staff absences
- Fewer staff leaving to go to less demanding jobs
- Better understanding of organisational risk picture
- Improved culture



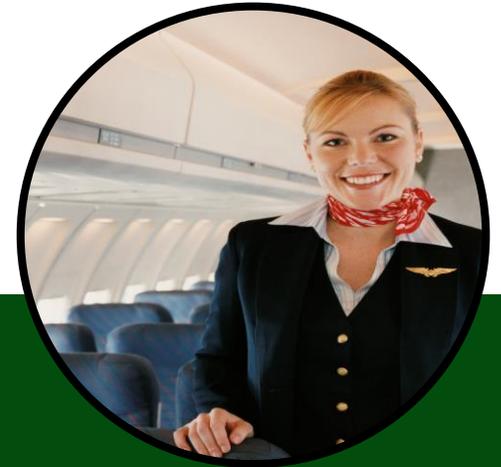
Conclusions

- Some degree of FRM is a requirement for most organisations, but the extent and complexity depends on your own risk profile
- Multiple measures of fatigue, from different sources across the organisation is the only way to get a complete picture
- An organisation with effective fatigue risk management can benefit in many ways
- Software solutions can make the job easier, but don't forget other areas that are not covered
- Effective training is vital to ensure that you maximise the benefits and success of FRM





A Baines Simmons company



Thank you!

Any questions?

Sarah.booth@clockworkresearch.com

www.clockworkresearch.com

UKTram Summit
2019