



Australian Government
Civil Aviation Safety Authority



Updates to CAO 48.1

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PACDEFF 7 Nov 2018

Recent 48.1 Timeline



Actions on Recommendations

Overall

54 actions to address the review team recommendations

CAO 48.1

Proposed Instrument 2019

30 September 2019

Target 7 actions to support the transition of high capacity regular public transport operators to the new rules

26 March 2020

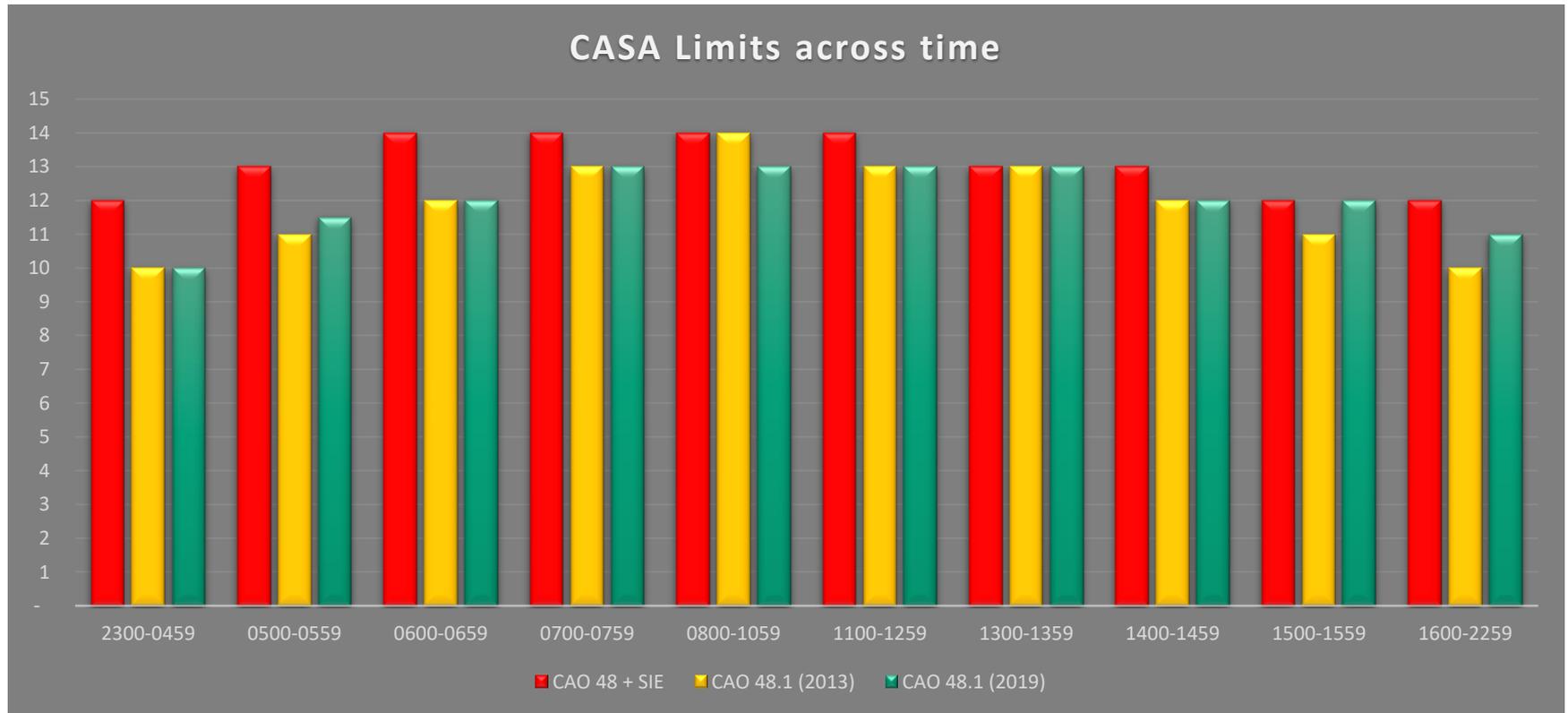
A further amendment is planned in 2019 to support the transition of other operators to the new rules

Actions on Recommendations: FDP

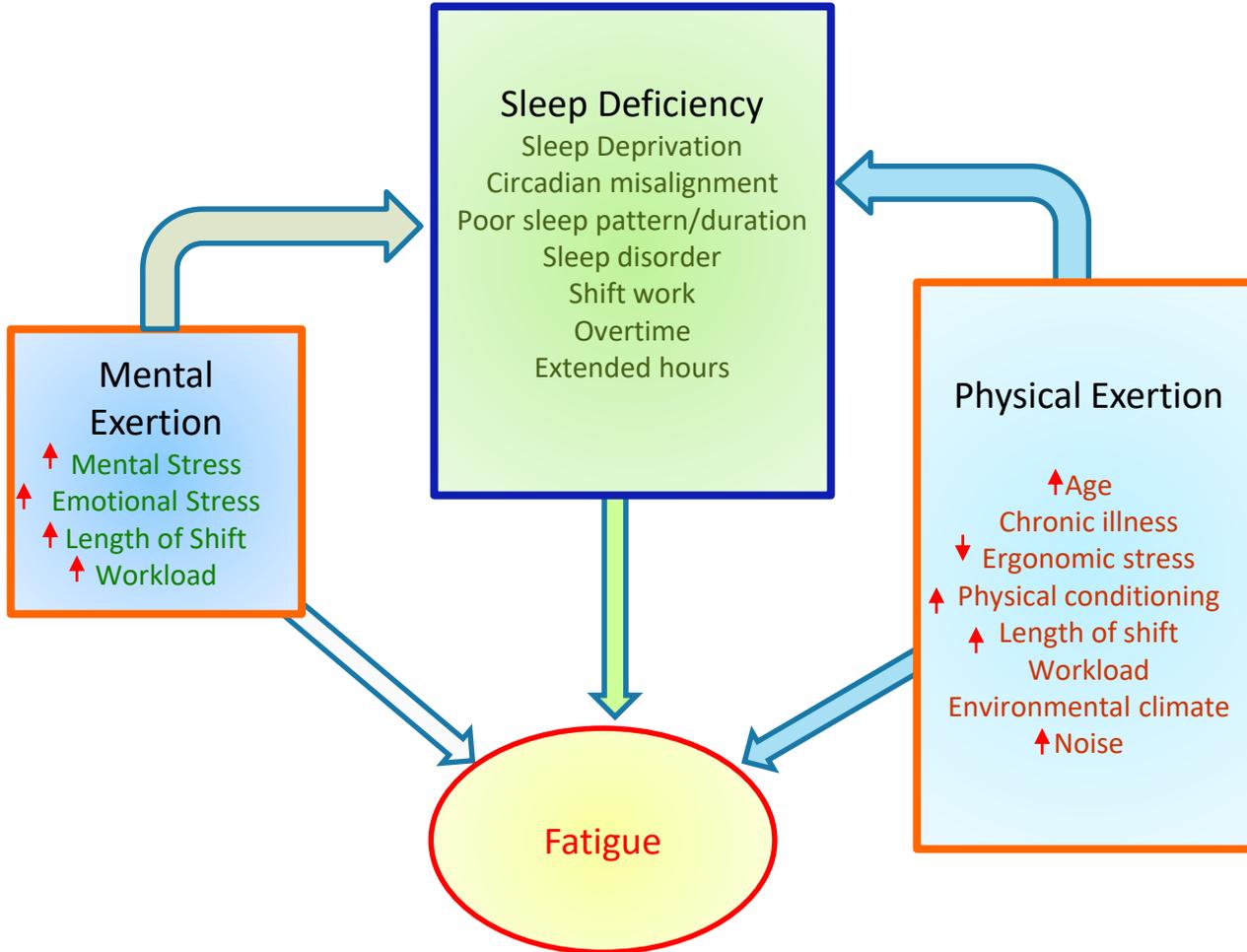


“C’m on, c’m on — it’s either one or the other.”

Comparison of CASA Limits (1-2 Sectors)



Enhancing Guidance for Fatigue Construct



Changes to Regulations won't change people

5-20% of the general population suffer from persistent and troublesome fatigue.

40% Australians do not get sufficient sleep (Neuroscience Research Australia)

Fatigue is twice as likely to be reported by women and is not strongly associated with age or occupation.

66 Billion annual cost.



Pilots are People

Annually, 1.5 million Australians see their doctor about fatigue.

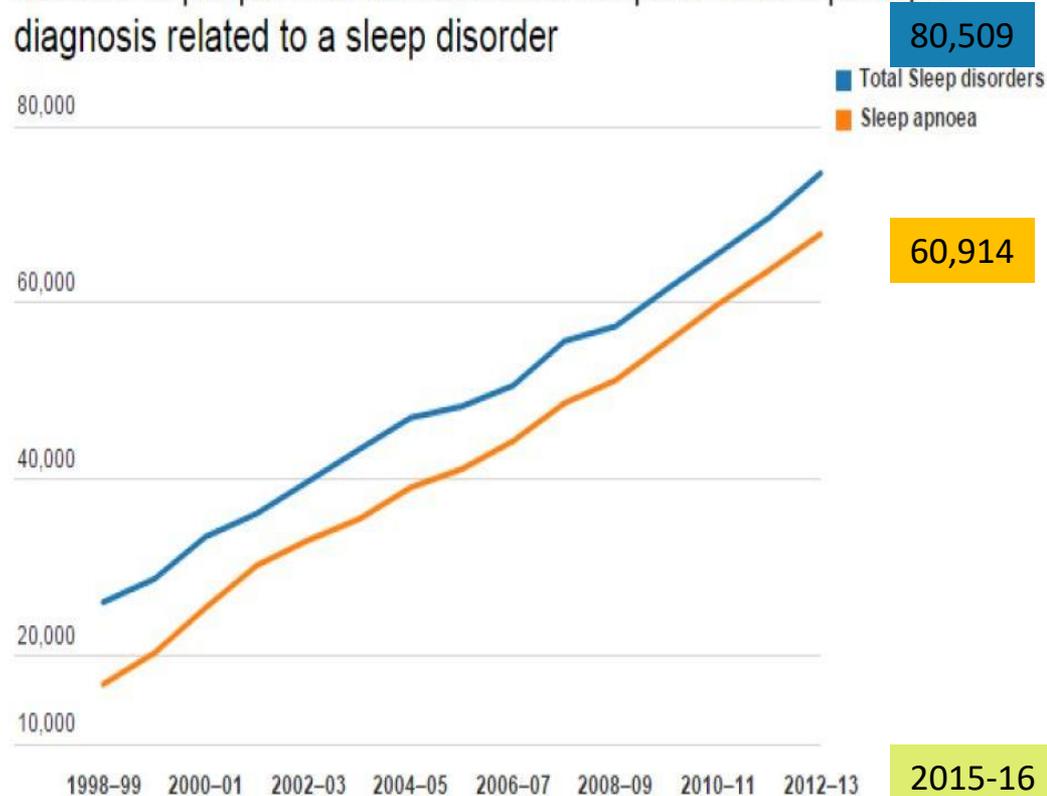
Medical causes – continual exhaustion may be a sign of an underlying illness, Sleep Apnea maybe present as well as a thyroid disorder, heart disease or diabetes.

Lifestyle-related causes – alcohol, drugs or lack of regular exercise in addition to social and family demands and personal habits impacting sleep can lead to feelings of fatigue..

Workplace-related causes – Along with scheduling practices and physical conditions, workplace stress can lead to feelings of fatigue

Emotional concerns and stress – fatigue is a common symptom of mental health problems. Depression and grief, anxiety, and stress frequently include irritability, lack of motivation, and feelings of tiredness.

Number of people who left Australian hospitals after a principal diagnosis related to a sleep disorder



Personal Sleep Disruptors (Deloitte, 2017)

Check phones 560 million times per day.

Check phones 35 times a day on average.

46% use phones immediately before going to sleep, despite expert advice on the impacts of screen light on rest.

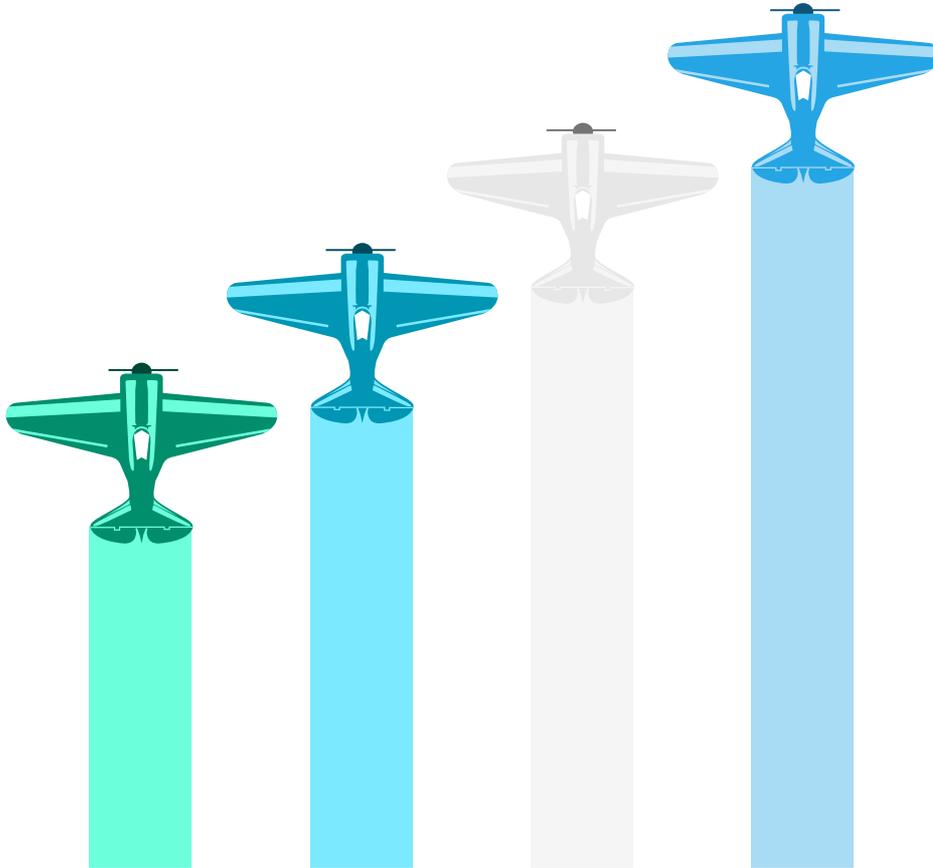
35% check phones within 5 minutes of waking up.

70% use phones during mealtimes.

26% use their phone for business purposes outside of work hours.



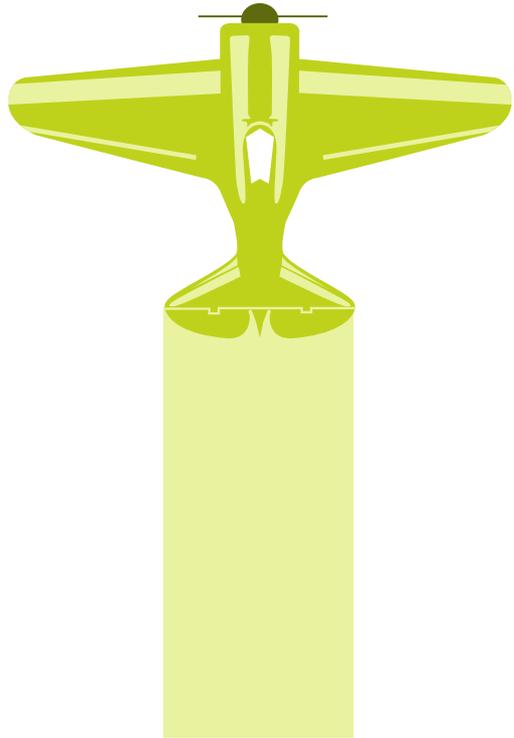
Fatigue Matters



Fatigue in Organisations

- Nearly a quarter (23%) report their typical weekday routine of work or home duties does not allow them to get enough sleep.
- In the past month 17% have missed work because they were sleepy and 17% have also fallen asleep on the job.
- In the past 3 months 29% of adults report making errors at work due to sleepiness or sleep problems.
- People with sleep problems are significantly more likely to report decreased work productivity (as assessed on the Stanford Presenteeism Scale).

Training & Education



Nutrition

FACT: 35% of diets is made up of junk food.

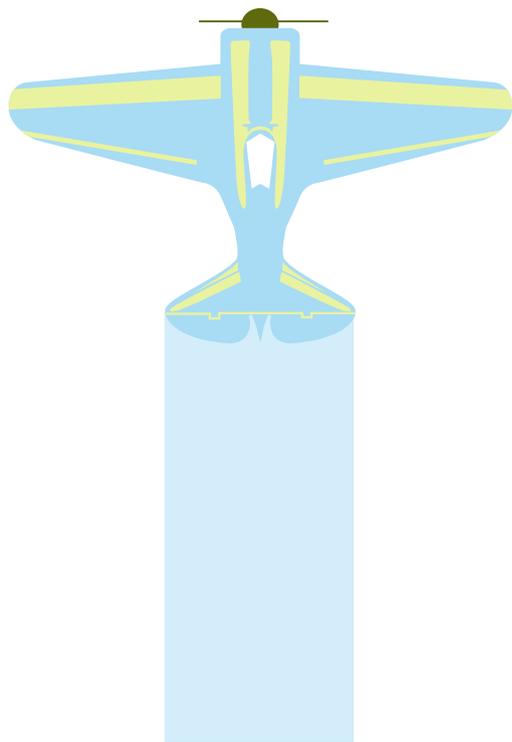
FACT: Fewer than 4% of Australians diets meet the requirements to be considered a healthy diet.

FACT: 21% eat lunch at their desks

Use the right fuel at the right time

- Optimal nutrition improves performance and exercise recovery.
- Carbohydrates and proteins replace energy stores and help muscles heal.
- Eating healthy foods lowers the chance of depression.
- Unhealthy, processed foods are linked with increased rates of depression and anxiety.
- Being overweight has been related to increases in musculoskeletal injury, illness and healthcare costs versus those with normal weight.
- Poor nutrition and obesity are linked with poor sleep quality.
- Caffeine within 6 hours of bedtime can impair sleep.

Training & Education



Fitness

FACT: 70% of Australian adults (12 million) are either sedentary or have low levels of physical activity

FACT: 29.7% of 18-64 year olds were insufficiently active (<150 minutes in the last week) while 14.8% were inactive.

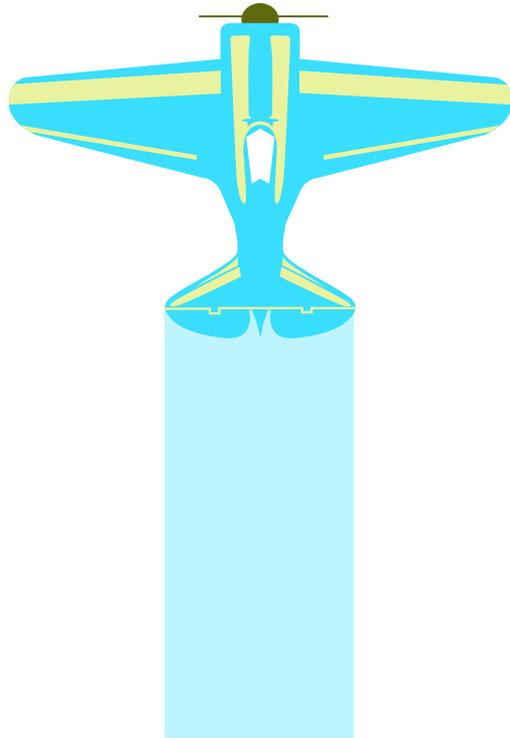
FACT: If all Australians did 15 minutes of brisk walking at least 5 days/week, the disease burden due to physical inactivity would reduce by 13%, at 30 minutes, the burden of disease could be reduced by 26%.

FACT: The 7 diseases most closely linked to physical inactivity are diabetes, bowel and uterine cancer, dementia, breast cancer, coronary heart diseases and stroke

Stronger, faster, fitter

- Inactivity, smoking, being overweight and a history of injury decrease performance by about 10%.
- Regular physical activity helps improve depression and anxiety. It can be as effective as medications for some people.
- Physical inactivity is linked to eating fewer fruits and vegetables, drinking more sodas, and eating unhealthy snacks.
- A small amount of caffeine can improve short-term muscular strength and make exercise seem less strenuous.
- Sitting more than 10 hours per day results in a 34% higher chance of dying. This is true even if you exercise regularly.
- Routine physical activity is linked with improved sleep.
- Watching too much television and excessive computer use is linked with poor sleep.

Training & Education



Sleep

FACT: Sleeping < 5 hours for 5 days (or 1 day without sleep) correlates with a 20% decrease in cognitive ability; the decrease in decision making and memory loss associated with being legally drunk.

FACT: About 25% of all motor vehicle accidents are fatigue-related.

FACT: Inadequate sleep and its consequences affect 33-45% of Australian adults.

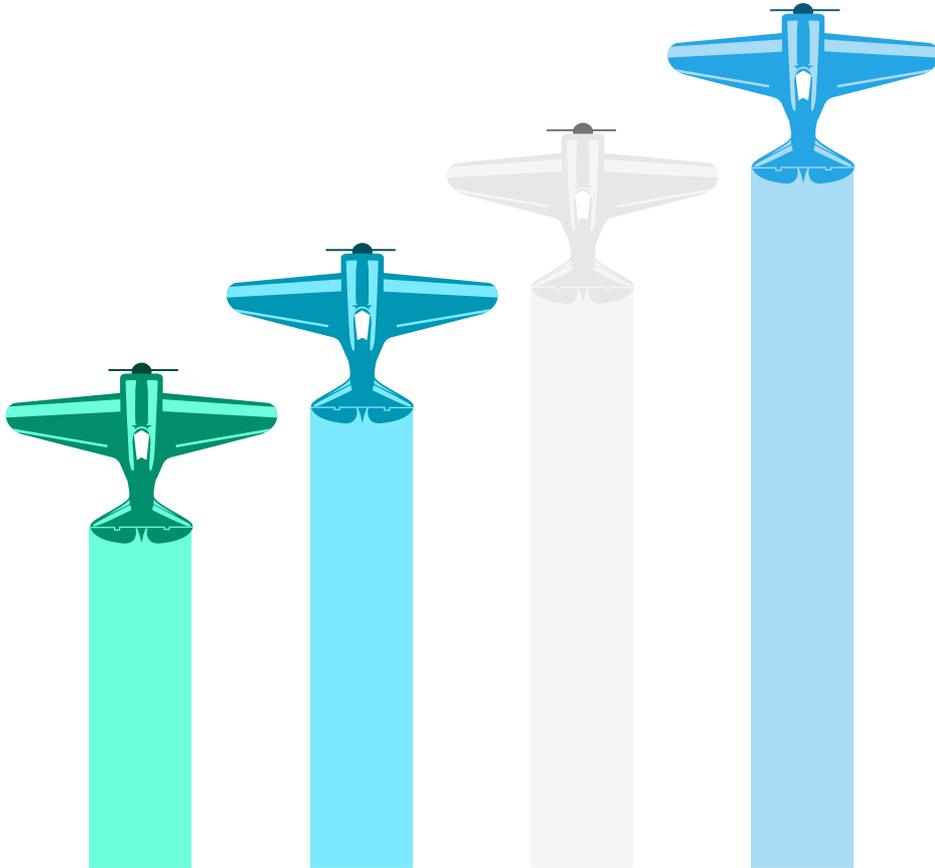
FACT: Short sleep duration (< 6 hours) is associated with new onset of mental health disorders, decreased physical endurance, and increased work-related injuries.

FACT: 26% of adults who use the internet most or every night of the week before bed have frequent sleep difficulties & daytime impairments

Countermeasures

- More sleep leads to quicker reaction times, better decision making and better targeting (9% improvement in free-throw and 3-point shooting accuracy).
- < 4 hours of sleep increases the chance of feeling depressed and is linked with making poor choices.
- Poor sleep and sleep loss can lead to accidents and injuries on the job.
- After 4 days of poor sleep, your max bench press decreases by 10 kgs.
- Sleep loss can lead to low motivation, less stamina, & binge drinking.
- Good sleep is linked with greater weight loss.
- Poor sleep is linked with eating more desserts & sweets.
- Poor sleep is linked with increased mental distress, obesity, heart disease, blood pressure, asthma, stroke & arthritis.

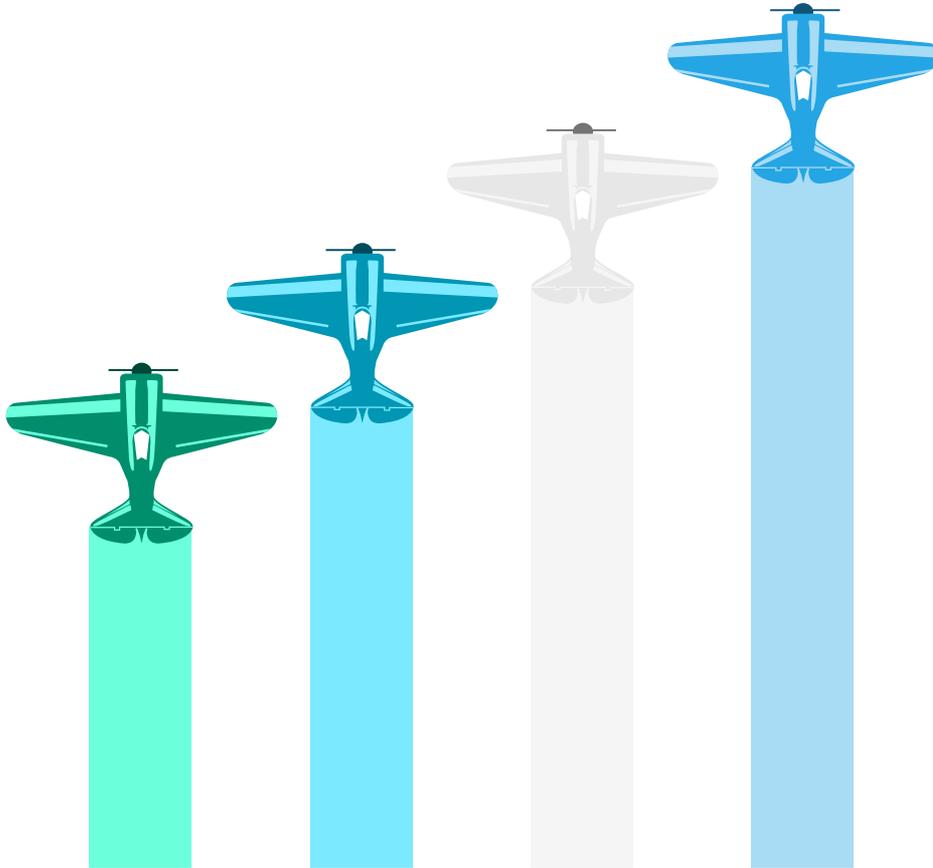
Scalability of FRMS



One Size Does Not Fit All



Future Collaborations



Ongoing Monitoring of Changes

- Commitment to Researching Changes to 48.1
- Seeking Collaboration for 2019 Fatigue Projects:
 - Aircrew
 - Cabin Crew
 - Maintenance
 - Air Services
 - Ground handlers
- IATA Fatigue Survey Items
- Focus Groups