



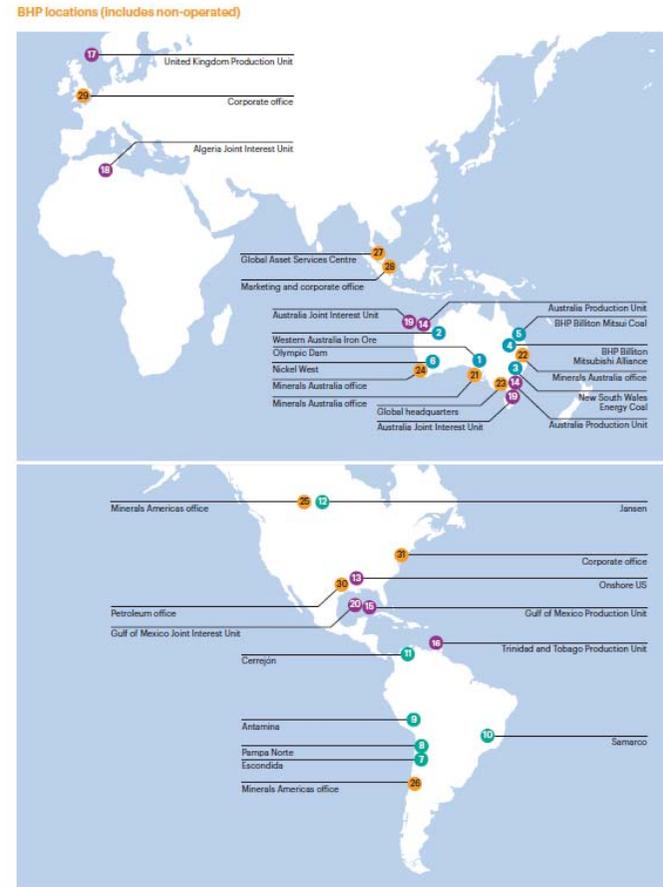
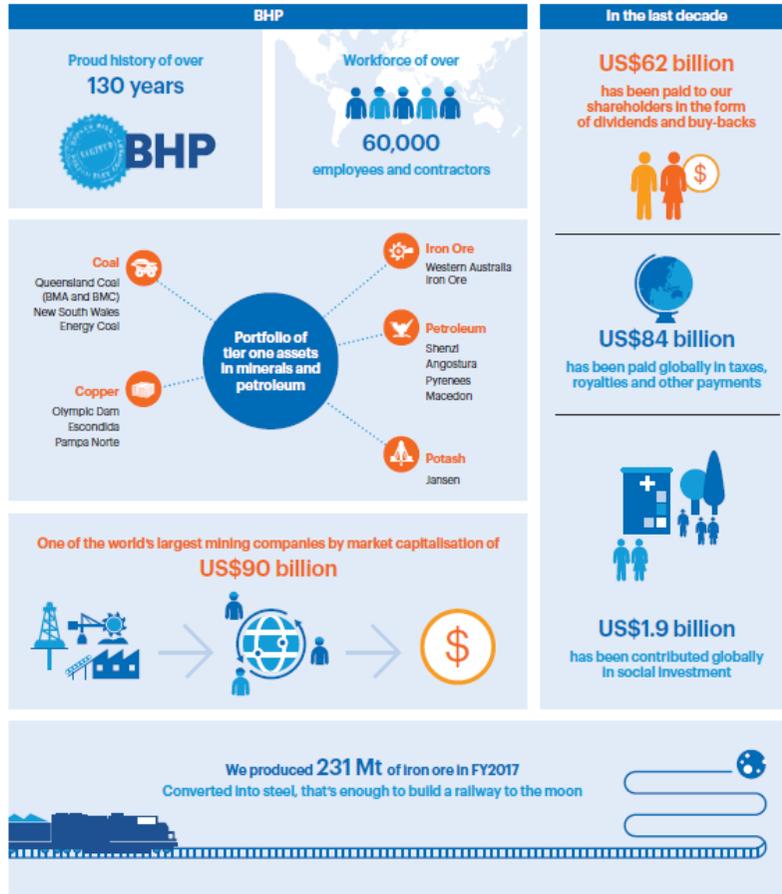
BHP

The Future of Work – Opportunities and Threats for Occupational Physicians

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BHP at a Glance



Overview

Workplace megatrends – Workplace safety futures*

1. The extending reach of (technology), automated systems and robotics.
2. The gig and entrepreneurial economy
3. Blurring the boundaries between work and home
4. Rising issue of workplace stress and mental health issues.
5. Rising screen time, sedentary behaviour and chronic illness
6. An ageing workforce

The Future of Mining (and other industries)

Implications for Occupational Physicians

Conclusion

*Horton J, Cameron A, Devaraj D, Hanson RT, Hajkovic SA (2018) Workplace Safety Futures: The impact of emerging technologies and platforms on work health and safety and workers' compensation over the next 20 years. CSIRO, Canberra.

The extending reach of (technology) automated systems and robotics



The extending reach of (technology) automated systems and robotics



The extending reach of (technology) automated systems and robotics

Opportunities for occupational health:

- Real time hygiene monitors
- Fatigue detection technology
- Sleep diagnostics and support
- Ergonomic assessments
- Telehealth

Helmet-CAM respirable dust exposure monitoring

Goals

- Identification of areas/activities of elevated exposure.
- Design and control of engineering dust control technologies.



Portable webcam



Respirable cyclone with a real-time dust monitor

CHALLENGE

- Recognized inaccuracy of most real-time respirable dust monitors.
- Adjustment is needed dust by dust.
- Relative measurement is *OK*



Image courtesy of Dr. Emanuele Cauda, NIOSH Mining Program

Blurring the boundaries between work and home

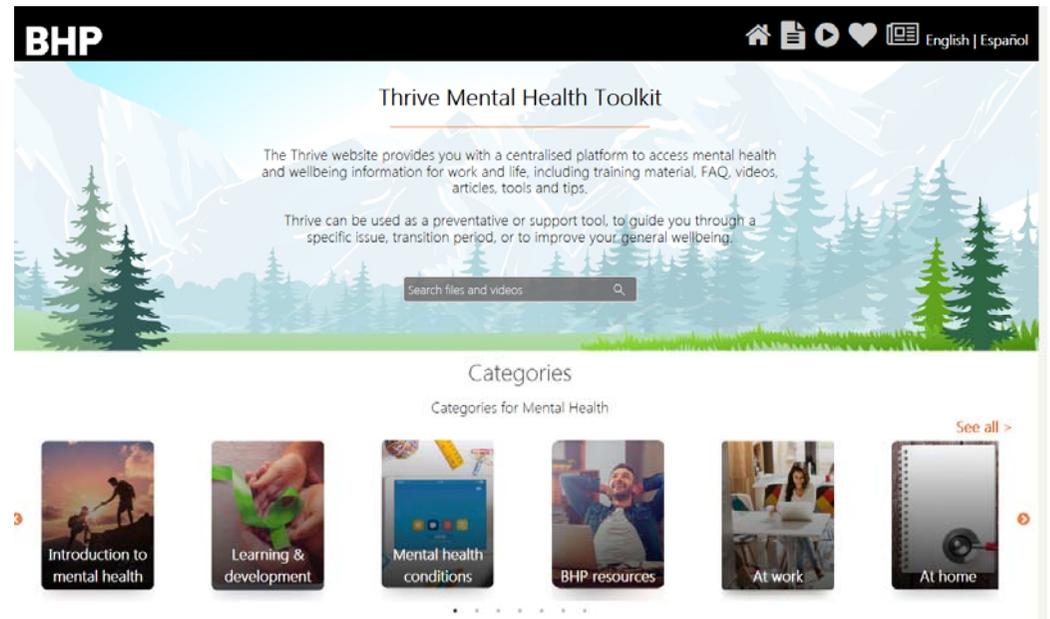
Potential positives	Potential negatives
Flexible work arrangement	Always connected
Greater autonomy	Isolation
Promotes deep functional expertise	Risk identification and management
Injury management and rehabilitation	Injury management and rehabilitation



Rising issue of workplace stress and mental health issues

- Mental health conditions are common and costs and associated disability is increasing
- Regulators are showing an increasing interest in workplace mental health
- Technological advances will have positive and negative impacts on workers mental health

Mental health framework



Rising screen time, sedentary behaviour and chronic illness AND ageing workforce



Conclusion

Technological advances and workplace change is happening fast

- Presents threats and opportunities

Occupational physicians need to evolve or become obsolete

- Understand and embrace new and emerging technology
- Increasing focus on cognitive performance and mental health
- Increasing focus on prevention and enhancing physical health than treating injuries and illnesses
- Opportunity to use health prevention and promotion as a key enabler of positive workplace culture

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