The Future of Work – Opportunities and Threats for Occupational Physicians

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Vice President Health and Hygiene
BHP at a Glance

<table>
<thead>
<tr>
<th>BHP</th>
<th>In the last decade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proud history of over 130 years</td>
<td>US$62 billion has been paid to our shareholders in the form of dividends and buy-backs</td>
</tr>
<tr>
<td>Workforce of over 60,000 employees and contractors</td>
<td>US$84 billion has been paid globally in taxes, royalties and other payments</td>
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**Portfolio of key assets in minerals and petroleum**

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<th>BHP</th>
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<td>One of the world's largest mining companies by market capitalisation of US$90 billion</td>
<td>US$1.9 billion has been contributed globally in social investment</td>
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We produced 231 Mt of iron ore in FY2017
Converted into steel, that's enough to build a railway to the moon

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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

The extending reach of (technology) automated systems and robotics
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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.

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

<table>
<thead>
<tr>
<th>Potential positives</th>
<th>Potential negatives</th>
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<tbody>
<tr>
<td>Flexible work arrangement</td>
<td>Always connected</td>
</tr>
<tr>
<td>Greater autonomy</td>
<td>Isolation</td>
</tr>
<tr>
<td>Promotes deep functional expertise</td>
<td>Risk identification and management</td>
</tr>
<tr>
<td>Injury management and rehabilitation</td>
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</tbody>
</table>
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
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