EXECUTIVE SUMMARY

MINING MENTAL HEALTH

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OVERVIEW

Through a collaborative partnership between the Joint Occupational Health Committee (JOHC), the United Steelworkers (USW), the Canadian Guards Association, and the Centre for Research in Occupational Safety and Health (CROSH) at Laurentian University, a research project was undertaken to examine mental health in the workforce at Vale’s Ontario Operations. The purpose of the study was to gain important information to develop key strategies that promote the best possible mental health for these workers.

The “Mining Mental Health” research project examined the mental health and well-being of the Vale operations workforce in Ontario, while addressing the distinct and interrelated needs identified by the company and unions. The study is a first of its kind and demonstrated a significant commitment by Vale, USW, the Canadian Guards Association, and Laurentian University, to worker health and well-being. It also highlights the value of participative research whereby all stakeholders (researchers, front-line workers, union/industry leadership, and the community at large) are involved in the actual research process.

The current project addressed a number of distinct and interrelated needs at Vale:

1. What is the state of mental health and well-being of Vale employees?
2. What factors are most strongly related to the mental health and well-being of Vale employees?
3. What factors predict absence from work?
4. What factors are most involved in return to work following an absence?

Through the Joint Occupational Health Committee (JOHC), the Centre for Research in Occupational Safety and Health (CROSH) at Laurentian University has launched a three-year mental health study at Vale’s Ontario Operations (Sudbury and Port Colborne). In preparation for this large study, the research team conducted a pilot study in February 2016, a report of which was provided to the JOHC in March 2016. Subsequently, Phase I (quantitative) took place during the summer of 2016 ending October 2016, and phase II (qualitative) was undertaken in Q1 2017.
MINING MENTAL HEALTH EXECUTIVE SUMMARY

PROJECT TIMELINE

01.2015
Formulate research team, identify stakeholders, determine sampling strategy

07.2015
Official Study Launch

Pilot Study: Survey instrument, including focus group meetings and interviews, submission of technical report

05.2016
Finalize instruments

06.2016 - 10.2016
All staff survey (see complete list of instruments below)

06.2016 – 05.2017
Data entry, revision and cleaning Planning of qualitative research phase

01.2017 – 04.2018
Qualitative research recruitment and interviewing

05.2017 – 04.2018
Quantitative and qualitative data analysis

07.2017 - 06.2018
Dissemination, including JOHC Presentations and submission of technical reports

INSTRUMENTS

Demographics
PTSD Checklist for DSM-5
Beck Depression Inventory II
Beck Anxiety Inventory
Pittsburgh Sleep Quality Index

Fatigue Severity Scale
Alcohol Use Disorders Identification Test
Drug questionnaire and DAST-20
Copenhagen Burnout Inventory
Relationship Assessment Scale

Satisfaction with Work-Life Balance Scale
Perceived Stress Scale
Effort-Reward Imbalance Questionnaire
Job Insecurity Measure
NIOSH Generic Job Stress Questionnaire

Guarding Minds at Work
Stigma Scale
Recovery Experience Questionnaire
DEMOGRAPHIC OVERVIEW

- 2224 respondents
- 88.8% male, 10.9% female
- 17.2 years of mining experience
- 43.6 years of age
- 50.8% mine sites, 19.9% milling & smelting, 11.5% refining, 10.3% HR, corporate, Eng & OHS, 7.1% production services
- 5.5% aboriginal, métis or inuit, 93.6% caucasian, 1.7% all other ethnic minorities
- 25 worksites
- 10.9% French, 85.7% English

MINING MENTAL HEALTH EXECUTIVE SUMMARY
Q1. STATE OF MENTAL HEALTH

DEPRESSION

Depression is a mental illness characterized by overwhelming feelings of despair accompanied by various physical and emotional symptoms. It typically lasts for considerably lengthy periods of time and affects all aspects of a person’s life; depression can have important consequences on a person’s work, relationships, physical health, etc. (Canadian Mental Health Association, 2017a). The Beck Depression Inventory-II is one of the most widely used instruments for measuring the severity of depression symptoms over a period of two weeks prior to use and screening for possible depression in normal populations of adults (Beck, Steer, & Brown, 1996). Notably, 10.6% of respondents indicated that they have thoughts of suicide but would not carry them out. For complete results pertaining to depression, please refer to Chapter 25 of the Mining Mental Health Report.

ANXIETY

By definition, anxiety is an emotion which is expressed through feelings of worry and tension, and which can also result in physical symptoms such as an increase in a person’s blood pressure, dizziness, sweating, etc. Anxiety disorders are therefore characterized by crippling anxiety which can lead to avoidance behaviours (American Psychological Association, 2017) and have numerous consequences on a person’s personal and professional life. The Beck Anxiety Inventory is a self-report inventory that is used for measuring the severity of an individual’s anxiety over the week prior to completion (Beck, Epstein, Brown, & Steer, 1988). It has been designed to distinguish between behavioral, emotional and physiological symptoms of individuals with depression and anxiety (Leyfer, Ruberg, & Woodruff-Borden, 2006). For complete results pertaining to anxiety, please refer to Chapter 26 of the Mining Mental Health Report.

POST-TRAUMATIC STRESS DISORDER (PTSD)

PTSD is a mental illness affecting people who have experienced trauma. Trauma can take many shapes and includes things like abuse, accidents, crimes, natural disasters, etc. PTSD is therefore a condition characterized by recurring symptoms that are intrusive and remind the person of the trauma they have faced. Examples of such symptoms include flashbacks and vivid nightmares. This in turn can lead to irritability, nervousness, and sleep problems (Canadian Mental Health Association, 2017b). The PCL-5 is a 20-item questionnaire, corresponding to the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition) symptom criteria over a one month period for PTSD (American Psychiatric Association, 2013). For complete results pertaining to PTSD, please refer to Chapter 24 of the Mining Mental Health Report.

10.5% OF RESPONDENTS SHOULD BE SCREENED FOR POST-TRAUMATIC STRESS DISORDER
Q1. STATE OF MENTAL HEALTH

SLEEP

Assessing sleep quality is important because better sleep quality has been demonstrated to be associated with better quality of life, which includes better physical health, better psychological health, and better social relationships (Shao, Chou, Yeh, & Tzeng, 2010). Unfortunately, shift workers are susceptible to having poorer sleep quality, and therefore both their physical and mental health can suffer as a result. The Pittsburgh Sleep Quality Index (PSQI) is a self-rated questionnaire which assesses sleep quality and disturbances over a 1-month time interval (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989). For complete results pertaining to sleep, please refer to Chapter 27 of the Mining Mental Health Report.

FATIGUE

Fatigue could be defined as a self-determined state in which a person feels overwhelmingly exhausted, both physically and mentally, and is unable to relieve this feeling of exhaustion, even with rest (Hossain et al., 2003). The Fatigue Severity Scale is a clinical and research application that measures fatigue severity over a period of a week prior to completion of the scale (Krupp et al., 1989). For complete results pertaining to fatigue, please refer to Chapter 28 of the Mining Mental Health Report.

BURNOUT

Maslach, Schaufeli and Leiter (2001) define burnout as “a psychological syndrome in response to chronic interpersonal stressors on the job”, which they state is characterized by the following three dimensions: 1) “overwhelming exhaustion”, 2) “feelings of cynicism and detachment from the job”, and 3) “a sense of ineffectiveness and lack of accomplishment” (Maslach et al., 2001). The Copenhagen Burnout Inventory (CBI) is a 19-question instrument comprised of three scales measuring 1) personal burnout, 2) work-related burnout, and 3) client-related burnout (Kristensen, Borritz, Villadsen & Christensen, 2005). For complete results pertaining to burnout, please refer to Chapter 32 of the Mining Mental Health Report.
Q1. STATE OF MENTAL HEALTH

ALCOHOL CONSUMPTION & SMOKING

The Alcohol Use Disorders Identification Test (AUDIT) was developed to screen for excessive drinking over a one year time period and to help practitioners identify people who would benefit from reducing or ceasing drinking (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). It is a six-country World Health Organization collaborative effort that consists of 10 items that encapsulate drinking behaviour, alcohol consumption and alcohol-related issues (Saunders, Aasland, Babor, De la Fuente, Juan R, & Grant, 1993). 22.9% of respondents screened positively for hazardous levels of alcohol consumption. For complete results pertaining to alcohol consumption, please refer to Chapter 29 of the Mining Mental Health Report.

REPORTED HAZARDOUS LEVELS OF DRINKING: ♂ 7.4% ♂ 24.9%

Smoking status was assessed into one of four categories: a never smoker; a daily smoker; an occasional smoked, and a former smoker. Nearly half of respondents reported never smoking, whereas 23% report smoking either daily or occasionally.

DAILY SMOKER vs. OCCASIONAL 15.8% vs. 7.2%

FORMER SMOKER 27.1%

NEVER SMOKED 49.0%

DRUG USE

To assess drug use behaviours, we developed a modified drug questionnaire to address the specific needs of this workforce and employer based on existing measures including the CAGE-AID questionnaire (Kitchens, 1994; Mayfield, McLeod, & Hall, 1974). We also adapted certain items from the AUDIT (Babor et al., 2001) to reflect drug use habits rather than alcohol consumption. Each of the items that make up this modified drug questionnaire were scored as individual items. In addition to our modified generic drug behaviours questionnaire, we included the Drug Abuse Screening Test (DAST-20) which provides a brief and practical self-reported method for identifying individuals who are abusing drugs. It also reports a quantitative index score of the degree of problems related to drug use (Skinner, 1982). For complete results pertaining to drug use, please refer to Chapter 30 & 31 of the Mining Mental Health Report.
Q1. STATE OF MENTAL HEALTH

PSYCHOSOCIAL RISK FACTORS

Guarding Minds @ Work is a 68-item measure geared to protecting and promoting psychological health and safety in the workplace (Samra, Gilbert, Shain, & Bilsker, 2012). It measures 13 psychosocial factors related to organizational health, the health of individual workers, and the financial resources of the organization (Samra et al, 2012). These factors include aspects of the work itself, such as workload and time pressure, as well as aspects of the work environment, such as the interactions between workers (Samra et al, 2012). Workplaces who are proactive in addressing each of these psychosocial risks are rewarded with better productivity from happier and healthier employees (Samra et al., 2012). Guarding Minds @ Work is the recommended assessment tool in the National Standard of Canada – Psychological Health and Safety in the Workplace – Prevention, promotion and guidance to staged implementation (CAN/CSA-Z1003-13/BNQ 9700-803/2013). For complete results pertaining to psychosocial risk factors, please refer to Chapters 42 through 48 of the Mining Mental Health Report.

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Q1. STATE OF MENTAL HEALTH

PSYCHOSOCIAL RISK FACTORS

- Significant Concerns
- Minimal Concerns
- Relative Strength
- MMH Result

PF1. Psychological Support
PF2. Organizational Culture
PF3. Clear Leadership & Expectations
PF4. Civility & Respect
PF5. Psychological Competencies
PF6. Growth & Development
PF7. Recognition & Reward
PF8. Involvement & Influence
PF9. Workload Management
PF10. Engagement
PF11. Balance
PF12. Psychological Protection
PF13. Protection of Physical Safety
Seven key variables were identified for further analysis: depression, anxiety, post-traumatic stress disorder, sleep, fatigue, alcohol consumption and drug use. In total, we sought to understand the influence of 92 explanatory variables on each of our identified variables. All participants with less than five missing values across all measures were included in the analyses (N=1913). Multiple linear regression analyses were conducted for depression, anxiety, post-traumatic stress disorder, sleep and fatigue. Logistic regression modeling was utilized to understand predictors of alcohol consumption and drug use. Depicted visually over subsequent pages are statistically significant predictors of the target variable. Yellow variables joined by black arrows indicate a positive relationship, as one score increases, so does the other. Grey variables joined by red arrows indicate a negative relationship, as one score rises the other falls. For complete results pertaining to regression modeling, please refer to Chapter 52 of the Mining Mental Health Report.
Q2. PREDICTING MENTAL HEALTH

**ANXIETY**

- **Post-Traumatic Stress Disorder (PTSD) Score** reflects the quantity of symptoms for the criteria of PTSD, with higher scores meaning experience of more symptoms.
- **BDI Score** reflects the severity of depressive symptoms, higher score indicates higher level of depressive symptoms.
- **Perceived Stress Score** reflects an individual’s perception of stress in the month preceding survey; higher scores indicate more stress.
- **Work Absence (Physical)** indicates missing work due to physical injury or illness over the year prior to survey.
- **Previous Mental Health** related diagnosis relates to increased BAI Score.
- **Pain** indicates the presence of significant pain that interfered with sleep over the previous month.
- **Any Physical Disease** indicates presence of any chronic physical disease in the past 12 months related to BAI Score.
- **Social Support (Friends/Family)** assesses support levels from family and friends; higher level of support indicates decreased BAI Score.
- **Drug Abuse Screening Test (DAST-20) Score** indicates level of drug use, higher scores indicate greater number of problems related to drug use.
- **Skill Underutilization** reflects underuse of skill, knowledge, and training at work, high levels of skill underutilization predict lower PTSD scores.
- **Absenteeism** indicates being absent from work for any reason indicated lower scores for PTSD.
- **Worksite** indicates working in any mine site were protective factors and associated with lower scores of PTSD symptoms.
- **Age** inversely related to BAI Score, older individuals display lower levels of anxiety.
- **Care for Elderly** indicates having responsibility for the care of an elderly person predicted higher values on PTSD score.
- **Recent Mental Health** indicates being diagnosed with mental health related issues over the previous year was predictive risk factor for higher PTSD score.
- **Personal Burnout Score** reflects exhaustion level of individual, regardless of occupational status, higher scores indicate higher level of burnout symptoms.
- **Any Physical Disease** indicates presence of any chronic physical disease in the past 12 months related to BAI Score.
- **Mental Health Treatment** indicates experience of discrimination in the workplace predicted higher score of PTSD symptoms.

**POST TRAUMATIC STRESS DISORDER**

- **Post-Traumatic Stress Disorder (PTSD) Score** reflects the quantity of symptoms for the criteria of PTSD, with higher scores meaning experience of more symptoms.
- **BDI Score** reflects the severity of depressive symptoms, higher score indicates higher level of depressive symptoms.
- **Perceived Stress Score** reflects an individual’s perception of stress in the month preceding survey; higher scores indicate more stress.
- **Work Absence (Physical)** indicates missing work due to physical injury or illness over the year prior to survey.
- **Previous Mental Health** related diagnosis relates to increased BAI Score.
- **Pain** indicates the presence of significant pain that interfered with sleep over the previous month.
- **Any Physical Disease** indicates presence of any chronic physical disease in the past 12 months related to BAI Score.
- **Social Support (Friends/Family)** assesses support levels from family and friends; higher level of support indicates decreased BAI Score.
- **Drug Abuse Screening Test (DAST-20) Score** indicates level of drug use, higher scores indicate greater number of problems related to drug use.
- **Skill Underutilization** reflects underuse of skill, knowledge, and training at work, high levels of skill underutilization predict lower PTSD scores.
- **Absenteeism** indicates being absent from work for any reason indicated lower scores for PTSD.
- **Worksite** indicates working in any mine site were protective factors and associated with lower scores of PTSD symptoms.
- **Age** inversely related to BAI Score, older individuals display lower levels of anxiety.
- **Care for Elderly** indicates having responsibility for the care of an elderly person predicted higher values on PTSD score.
- **Recent Mental Health** indicates being diagnosed with mental health related issues over the previous year was predictive risk factor for higher PTSD score.

**Assessment:**
- **Risk Factors**:
  - *Post-Traumatic Stress Disorder (PTSD) Score*
  - *BDI Score*
  - *Perceived Stress Score*
  - *Work Absence (Physical)*
  - *Previous Mental Health* related diagnosis
  - *Pain*
  - *Any Physical Disease*
  - *Social Support (Friends/Family)*
  - *Drug Abuse Screening Test (DAST-20) Score*
  - *Skill Underutilization*
  - *Absenteeism*
  - *Worksite*
- **Protective Factors**:
  - *Working in any mine site*
  - *Age*
  - *Care for Elderly*
  - *Recent Mental Health*

**Notes:**
- The presence of significant pain that interfered with sleep over the previous month indicates higher scores on BAI.
- Presence of any chronic physical disease in the past 12 months related to BAI.
- Assessing support levels from family and friends; higher level of support indicates decreased BAI.
- Assessing skill underutilization predict lower PTSD scores.
- Assessing absenteeism for any reason indicated lower scores for PTSD.
- Working in any mine site were protective factors and associated with lower scores of PTSD symptoms.
Q2. PREDICTING MENTAL HEALTH

SLEEP

- **COMMUTE**
  - Commute time more than one hour
- **PAIN**
  - Experience of pain symptoms
- **SATISFIED SHIFT**
  - Lack of satisfaction with shift
- **WORK ABSENCE**
  - Non-work related physical cause
- **TIME SITTING**
  - More time sitting, increased PSQI

**PTSD SCORE**
- Report of PTSD symptoms

**BDI SCORE**
- Report of depressive symptoms

**OVERTIME HOURS**
- More overtime predicts sleep problems.

**PHYSICAL ACTIVITY**
- More activity associated with higher PSQI score and poor sleep quality

**PERSONAL BURNOUT SCORE**
- Burnout associated with poor sleep

**FATIGUE SCORE**
- Increases in fatigue score resulting in poor sleep

**PERCEIVED STRESS SCORE**
- Higher stress predicts lower PSQI score

**WORKLIFE BALANCE SCORE**
- Satisfaction with work-life balance

FATIGUE

- **Job Insecurity Score**
  - Job insecurity increases fatigue scores

- **PF1 Psychological Support**
  - Job Insecurity Score

- **PSQI Score**
  - Higher scores indicate difficulty with paying bills

- **FATIGUE SCORE**
  - Reflects the severity of depressive symptoms, higher score indicates higher level of depressive symptoms

  Pittsburgh Sleep Quality Index assesses sleep quality and disturbances, higher scores indicate poorer sleep

  - Higher scores indicate environment that recognizes need for balance between work and personal life

  - Environment supportive of employees’ mental health concerns

  - Reflects exhaustion level of individual, regardless of occupational status, higher scores indicate higher level of burnout symptoms

  - Presence of suicidal thought in two weeks prior to survey completion indicated lower fatigue scores

  - Employees who have others under their direct report experienced lower fatigue levels

  - Higher scores indicate individuals who do no alter sleep routine while on vacation

  - Higher scores reflect experience of more PTSD symptoms

- **Hours of Sleep**
  - Higher hours of sleep indicative of higher fatigue score

  - Reflects ability to accomplish tasks within time available.

- **Paying Bills**
  - Higher scores indicate difficulty with paying bills

- **Sleep Routine**
  - Higher scores indicate individuals who do no alter sleep routine while on vacation

- **PTSD Score**
  - Presence of suicidal thought in two weeks prior to survey completion indicated lower fatigue scores
Q2. PREDICTING MENTAL HEALTH

ALCOHOL

There is a direct, reciprocal relationship between drug and alcohol use. Higher scores on AUDIT is a strong indicator for higher DAST-20 scores.

- Higher PTSD symptom experience associated with higher AUDIT score
- Difficulty paying bills associated with higher AUDIT Score
- Drug use associated with alcohol-related issues
- Working at a mine site was an indicator of higher AUDIT Score
- Being male is indicated as increased risk for alcohol score
- Individuals with presence of chronic physical health problems had lower AUDIT scores
- Those who stayed connected to their work indicated less alcohol use
- Employees who have others under their direct report experienced reported less use of drugs

DRUG USE

- Having previously ever received mental health treatment indicative of higher DAST-20 scores
- Drug use associated with alcohol-related issues
- Reporting many or above average relationship problems positively related to drug use
- Employees who have others under their direct report experienced reported less use of drugs
Q3. PREDICTING ABSENTEEISM

Logistic regression modeling was conducted to understand predictors of absenteeism, disability leave and presenteeism. In total, we sought to understand the influence of 162 explanatory variables on nine absenteeism-related variables (N=1998). With respect to predictors of disability leave, we included 125 explanatory variables for 8 target variables (N=857). Finally, in modelling predictors of presenteeism, we included 123 explanatory variables for one outcome variable (N=1266). Depicted visually over subsequent pages are statistically significant predictors of the target variable. Variables displayed in yellow indicate a positive relationship with the target variable. Those displayed in gray indicate a negative relationship. For complete results pertaining to regression modeling, please refer to Chapter 53 of the Mining Mental Health Report.

MENTAL HEALTH RELATED ABSENCE

Absent from work due to mental health related problem

BAI Score
Higher scores indicate more severe levels of anxiety over the previous week

Dicrimination at work
Having been discriminated against in the workplace is an indicator for absenteeism

Worksite
Working at a mine site increases likelihood of mental health related absenteeism

Shift Length
Working shifts in excess of eight hours in length indicated higher likelihood of absenteeism

Commute
More than one hour of commute was considered a risk indicator

Mental health treatment
Having previously received mental health treatment associated with absenteeism

Mental health diagnosis
Any previous mental health diagnosis associated with absenteeism

Personal Burnout Score
Higher levels of burnout related to higher reported absenteeism levels

Hazardous Work
Presence of physical and psychological hazards indicated higher prevalence of absenteeism

Vacation
Not being able to take desired vacation demonstrated inverse relationship

Employment Status
Being on contract or casual work decreased prevalence of absenteeism

Decide Myself
A lack of control over recovery decision-making when off work related to absenteeism

PF10 Engagement
Higher levels of engagement inversely related to absenteeism due to mental health related problems

Forget Work
Staying connected to work indicated less absenteeism due to mental health related problems

Years in Mining
More years in mining indicates less chance of absenteeism due to mental health

Working shifts in excess of eight hours in length indicated higher likelihood of absenteeism

Having previously received mental health treatment associated with absenteeism

Presence of physical and psychological hazards indicated higher prevalence of absenteeism

Not being able to take desired vacation demonstrated inverse relationship

Higher levels of engagement inversely related to absenteeism due to mental health related problems

More years in mining indicates less chance of absenteeism due to mental health

Higher levels of burnout related to higher reported absenteeism levels

Working at a mine site increases likelihood of mental health related absenteeism

Having been discriminated against in the workplace is an indicator for absenteeism

Working shifts in excess of eight hours in length indicated higher likelihood of absenteeism

Having previously received mental health treatment associated with absenteeism

Presence of physical and psychological hazards indicated higher prevalence of absenteeism

Not being able to take desired vacation demonstrated inverse relationship

Higher levels of engagement inversely related to absenteeism due to mental health related problems

More years in mining indicates less chance of absenteeism due to mental health

Higher levels of burnout related to higher reported absenteeism levels

Working at a mine site increases likelihood of mental health related absenteeism

Having been discriminated against in the workplace is an indicator for absenteeism

Working shifts in excess of eight hours in length indicated higher likelihood of absenteeism

Having previously received mental health treatment associated with absenteeism

Presence of physical and psychological hazards indicated higher prevalence of absenteeism

Not being able to take desired vacation demonstrated inverse relationship

Higher levels of engagement inversely related to absenteeism due to mental health related problems

More years in mining indicates less chance of absenteeism due to mental health
Q3a. PREDICTING ABSENTEEISM

MENTAL HEALTH RELATED DISABILITY LEAVE

- Presence of any chronic physical disease in past 12 months was an indicator of MH disability leave prevalence.
- Older individuals reported higher prevalence of MH related disability leave.
- Not being able to take vacation when desired placed at increased risk of MH disability leave.
- Having experienced discrimination at work increased likelihood of MH disability leave.
- Having received treatment for mental health issues was related to MH disability leave.
- Higher scores indicate higher levels of activity throughout their work/leisure time.
- Higher scores indicate higher PTSD symptom severity, however lower risk of MH disability leave.
- Taking medication for physical health issues lowered chance of MH related disability leave.
- Too high or too low humidity levels decreased chance of MH related disability leave.
- Higher scores indicate poorer sleep quality and associated with increased risk of disability leave.
Q3b. PREDICTING PRESENTEEISM

PRESENTEEISM

- Reporting others expect more work from you positively related to presenteeism rate
- Feeling like no guarantee of keeping your job indicative of higher presenteeism
- Being diagnosed with any sleep disorder indicated higher risk of presenteeism
- Higher levels of reported dizziness increases risk of presenteeism
- Higher levels indicate higher prevalence of presenteeism
- Losing interest in previously interesting activities results in presenteeism
- Experience of pain is an indicator of presenteeism
- Non-salaried workers more likely to have higher presenteeism
- Higher incidence of injury indicates higher levels of presenteeism
- Presence of chronic physical disease in past 12 months associated with higher presenteeism
- Additional years in mining lowers chance of presenteeism
- Higher job security results in lower risk of presenteeism
- Freedom from overtime pressure decreased risk of presenteeism
- Higher probability of layoff decreases risk of presenteeism
- The more laborious the work, lower presenteeism level
- The more time they have to complete work, lower presenteeism
- The more an employee is informed about change, lower rates of presenteeism
- Those caring for elderly person indicated higher level of presenteeism
- Non-salaried workers more likely to have higher presenteeism
- Experience of pain is an indicator of presenteeism
- Higher incidence of injury indicates higher levels of presenteeism
- Presence of chronic physical disease in past 12 months associated with higher presenteeism

MINING MENTAL HEALTH EXECUTIVE SUMMARY
Q4. FACILITATING RETURN TO WORK

Of the 2224 respondents to participate in the study, 734 indicated that they had previously experienced a disability-related absence from work and subsequently made a successful return to work. Respondents were then asked to identify facilitators and barriers to a return to work. For complete results pertaining to facilitators and barriers of a successful return to work, please refer to Chapter 54 & 55 of the Mining Mental Health Report.

<table>
<thead>
<tr>
<th>FACILITATORS</th>
<th>BARRIERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>66.4% Good medical support from my health care provider(s)</td>
<td>I did not feel ready, but financially I had no other choice but to return to work 41.3%</td>
</tr>
<tr>
<td>59.0% I received appropriate and timely medical treatment for my condition</td>
<td>I did not receive support and assistance from Vale Occupational Medicine 26.1%</td>
</tr>
<tr>
<td>44.8% My family supported my return to work</td>
<td>My employer did not offer suitable modified work 23.7%</td>
</tr>
<tr>
<td>44.3% My employer offered suitable modified work</td>
<td>I did not receive appropriate and timely medical treatment for my condition 20.5%</td>
</tr>
<tr>
<td>40.6% My supervisor supported my return to work</td>
<td>I did not receive good mental health services 16.0%</td>
</tr>
<tr>
<td>37.9% I received support and assistance from Vale Occupational Medicine</td>
<td>Lack of medical support from my health care provider(s) 14.1%</td>
</tr>
<tr>
<td>36.5% Financially, I had no other choice</td>
<td>My supervisor did not support my return to work 14.1%</td>
</tr>
<tr>
<td>31.8% My coworkers supported my return to work</td>
<td>My treatment providers did not encourage me to return to work 12.0%</td>
</tr>
<tr>
<td>31.5% My treatment providers encouraged me to return to work</td>
<td>My coworkers did not support my return to work 8.3%</td>
</tr>
<tr>
<td>27.3% My friends supported my return to work</td>
<td>My family did not support my return to work 5.0%</td>
</tr>
<tr>
<td>19.5% I received good mental health services</td>
<td>My friends did not support my return to work 3.7%</td>
</tr>
</tbody>
</table>
### Q4. FACILITATING RETURN TO WORK

<table>
<thead>
<tr>
<th>FACILITATORS</th>
<th>BARRIERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>64.7% Good medical support from my health care provider(s)</td>
<td>17.3% Lack of medical support from my health care provider</td>
</tr>
<tr>
<td>30.0% My treatment providers encouraged me to return to work</td>
<td>42.5% I did not feel ready, but financially I had no other choice but to return to work</td>
</tr>
<tr>
<td>34.5% I received support and assistance from Vale Occupational Medicine</td>
<td>20.1% My employer did not offer suitable modified work</td>
</tr>
<tr>
<td>41.8% My family supported my return to work</td>
<td>11.4% My supervisor did not support my return to work</td>
</tr>
<tr>
<td>38.2% Financially, I had no other choice</td>
<td>5.9% My coworkers did not support my return to work</td>
</tr>
<tr>
<td>30.0% My coworkers supported my return to work</td>
<td>21.3% I did not receive appropriate and timely medical treatment for my condition</td>
</tr>
</tbody>
</table>

**MINE SITES ONLY**

**ALL OTHER SITES**

## Q4. FACILITATING RETURN TO WORK

<table>
<thead>
<tr>
<th>Facilitators</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Females</strong></td>
<td><strong>Males</strong></td>
</tr>
<tr>
<td>28.9%</td>
<td>45.7%</td>
</tr>
<tr>
<td>50.0%</td>
<td>44.0%</td>
</tr>
<tr>
<td>47.4%</td>
<td>39.9%</td>
</tr>
<tr>
<td>39.5%</td>
<td>26.0%</td>
</tr>
<tr>
<td>37.9%</td>
<td>22.4%</td>
</tr>
<tr>
<td>38.5%</td>
<td>32.9%</td>
</tr>
</tbody>
</table>
SUMMARY

Through Vale’s Joint Occupational Health Committee (JOHC) and in partnership with the United Steelworkers (USW), the Centre for Research in Occupational Safety and Health (CROSH) completed the three-year “Mining Mental Health” study at Vale’s Ontario Operations in Sudbury and Port Colborne. Four key questions were developed and subsequently guided the study:

1. What is the state of mental health and wellbeing of Vale employees?
2. What factors are most strongly related to the mental health and wellbeing of Vale employees?
3. What factors predict absence from work?
4. What factors are most involved in return to work following an absence?

Through a collaborative process, the teams at CROSH, Vale and USW developed a survey instrument to address all four questions. The instrument was piloted with a representative sample of workers and refined through a process of feedback with all parties. In total, 2224 individuals, or 56% of the organization’s total workforce participated, completing the instrument between June and October 2016.

The result of our effort is a comprehensive description of the mental health and wellbeing of employees in the mining industry. Through the detailed analysis of over 800 variables and a representative cross-section of the workforce, we have deepened our understanding of constructs such as depression, anxiety, post-traumatic stress disorder, sleep, fatigue, substance and alcohol use. Further, we have reliably established several predictive models and identified salient predictors of mental health of those working in mining.

With respect to absenteeism, the current study laid considerable groundwork for identifying factors be associated with experiencing an absence from work. It is evident that absenteeism, regardless of cause, is incredibly complex and that the current study is only the starting point to furthering our knowledge in this regard. Further, the multifaceted nature of the return to work process following a workplace absence is equally complex. Notwithstanding these challenges, the results pertaining to facilitators and barriers of a successful return to work provide valuable insight for future prospective research and will both guide and inform intervention development and evaluation processes and content moving forward.

In conclusion, the authors of the current report applaud the willingness and courage of members of the JOHC, USW and Vale for championing a truly remarkable effort to undertake an unbiased and comprehensive evaluation of the mental health of their workforce. We are indebted to the efforts of all CROSH members and volunteers who supported the efforts of the project throughout its entirety. Finally, we would be remiss to not reserve our deepest gratitude to the workers who in sharing their stories and experiences with our research team will help shape the experiences of those within their organization and industry for years to come.
REFERENCES


