ABSENTEEISM, HEALTH, AND DISABILITY IN A WORKING COHORT

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Background

- While changed employee incentives have resulted in longer work-life, disability claims are also rising at all ages

- Transitions into short and long-term disability is associated with:
  - Loss of lifetime earnings (Breslin et al. 1999)
  - Increased medical cost (Sears et al. 2012)
  - Family disruption (Eriksen 1999)
  - Psychological distress (Bultmann 2002)

- Absenteeism may be a precursor to eventual disability

- Absenteeism may be a replacement to disability
Research Questions

• What are the patterns of absenteeism in a working cohort?

• Are the patterns of absenteeism disease-specific?

• Are patterns of absenteeism predictive of subsequent disability events?

• If so, for what diseases?

• Do workers use absenteeism as a short-term or long-term substitute for disability events when opportunities for disability are unavailable or limited?
**Workplace Safety & Environment**
- Injury experience
- Hygenius workplace samples
- Job Demand Survey
- Production/Quantity & Quality by month
- Community Health Indices (Census/BRFSS)
- Employee Engagement Survey

**Financial**
- Payroll (hours)
- W-2’s
- 401K and Pension
- Housing Values
- Links to SSA-household earnings, life-work and disability

**Data Vault**

**Health**
- OHM: Cardiovascular data, PFTS, Audiometry, and Workplace Medical Surveillance Files
- Medical Claims Files
- EAP (roll-up by plant)
- Disability claims
- Injury Management System
- Medicare Claims linked to work-life claims
- Death - NDI
- Health Risk Scores

**Demographic Data**
- SSN – Childhood Locale
- Geocoded addresses
- **Human Resources**
- Dependent Information
Data and Definitions

Sample:
• Continuously employed workers from seven firms
• Hourly workers
• Jan. 1 2003 – Dec. 31 2008
• 9,738 workers

Absenteeism
• Hourly shift/Payroll Data
• “Unexcused” absence

Metrics:
• Ever Absent: 2+ Consecutive Days
• Total Absent Days
• Maximum Duration
• Total Absent Spells
Data and Definitions

**Disability**
- 7,396 employer-sponsored STD events
- 3,800 workers
- 40% of workers have at least one STD event
- Income coverage for disability insurance

**Health**
- Asthma, Arthritis, Diabetes, Depression, Ischemic Heart Disease, Hypertension
- ICD-9 codes
- New diagnoses
## Cohort Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
<th>With STD Event</th>
<th>Without STD Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>7.84%</td>
<td>9.49%</td>
<td>6.75%</td>
</tr>
<tr>
<td>White</td>
<td>79.69%</td>
<td>79.12%</td>
<td>80.06%</td>
</tr>
<tr>
<td>Age (at Baseline)</td>
<td>42</td>
<td>44.5</td>
<td>40.7</td>
</tr>
<tr>
<td>Ever Absent 2+ consecutive days</td>
<td>57.75%</td>
<td>75.15%</td>
<td>46.27%</td>
</tr>
<tr>
<td>Maximum Absent Duration (Mean)</td>
<td>1.99</td>
<td>2.36</td>
<td>1.59</td>
</tr>
<tr>
<td>Total Absent Days (Mean)</td>
<td>5.10</td>
<td>6.20</td>
<td>4.00</td>
</tr>
<tr>
<td>Has any disability insurance coverage</td>
<td>96.62%</td>
<td>99.51%</td>
<td>94.71%</td>
</tr>
<tr>
<td>Coverage&gt;=80%</td>
<td>10.93%</td>
<td>10.23%</td>
<td>11.88%</td>
</tr>
<tr>
<td>60%&lt;=Coverage&lt;80%</td>
<td>3.84%</td>
<td>4.24%</td>
<td>3.30%</td>
</tr>
<tr>
<td>40%&lt;=Coverage&lt;60%</td>
<td>74.32%</td>
<td>71.52%</td>
<td>78.09%</td>
</tr>
<tr>
<td>No Coverage</td>
<td>10.90%</td>
<td>14.02%</td>
<td>6.73%</td>
</tr>
<tr>
<td>Observations</td>
<td>9,738</td>
<td>3,888</td>
<td>5,850</td>
</tr>
</tbody>
</table>
Nearly a quarter of workers have at least one STD event in a given year
Many workers have more than one STD event

Percent of Workers with STD event (at least one STD event)

Number of STD events per worker with at least 1 STD event (2003-2008)
Conversion rates for new health diagnoses are high.

Percent of Workers with New Diagnosis and Conversion Rate to STD for Six Diseases, 2003-2008

- Hypertension: 8%
- Diabetes: 3%
- Depression: 1%
- Asthma/COPD: 1%
- Ischemic Heart Disease: 6%
- Arthritis: 8%

Percent of new diagnoses that convert to STD between 2003-2008.
What are the patterns of absenteeism in this working cohort?

<table>
<thead>
<tr>
<th></th>
<th>(1) Full Sample</th>
<th>(2) With STD Event</th>
<th>(3) Without STD Event</th>
<th>(4) With 2+ days consecutive absence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever Absent 2+ consecutive days</td>
<td>57.75%</td>
<td>75.15%</td>
<td>46.27%</td>
<td>100%</td>
</tr>
<tr>
<td>Total Absent Days (Mean)</td>
<td>5.10</td>
<td>6.20</td>
<td>4.00</td>
<td>6.6</td>
</tr>
<tr>
<td>Median Absent Days</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Number of absence spells</td>
<td>2.62</td>
<td>2.98</td>
<td>2.23</td>
<td>3.19</td>
</tr>
<tr>
<td>Maximum Absent Duration (Mean)</td>
<td>1.99</td>
<td>2.36</td>
<td>1.59</td>
<td>2.51</td>
</tr>
<tr>
<td>Observations (Person-Years)</td>
<td>33,161</td>
<td>17,319</td>
<td>15,842</td>
<td>24,051</td>
</tr>
<tr>
<td>Observations (Person)</td>
<td>9,738</td>
<td>3,888</td>
<td>5,896</td>
<td></td>
</tr>
</tbody>
</table>
• Are the patterns of absenteeism disease-specific?

Mean Absent Days 6 months prior and after diagnosis

- Hypertension
- Diabetes
- Depression
- Asthma
- Heart Disease
- Arthritis
Are patterns of absenteeism predictive of subsequent disability events?
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<table>
<thead>
<tr>
<th></th>
<th>(1) Time to First STD</th>
<th>(2) Time to Any STD (Multiple Failures)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ever Absent (2+ days)</strong></td>
<td>1.67***</td>
<td>1.81***</td>
</tr>
<tr>
<td><strong>Maximum Duration of Absence</strong></td>
<td>1.03***</td>
<td>1.02***</td>
</tr>
<tr>
<td><strong>Number of Spells</strong></td>
<td>1.004***</td>
<td>1.006***</td>
</tr>
<tr>
<td><strong>Have Disability Insurance</strong></td>
<td>1.853***</td>
<td>1.94***</td>
</tr>
<tr>
<td><strong>Person Observations</strong></td>
<td>9,738</td>
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</tr>
</tbody>
</table>
If so, for what diseases?
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<table>
<thead>
<tr>
<th></th>
<th>All Diseases</th>
<th>Arthritis</th>
<th>Hypertension</th>
<th>Diabetes</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever Absent (2+ days)</td>
<td>1.2968***</td>
<td>1.215</td>
<td>1.663***</td>
<td>1.454</td>
<td>1.621</td>
</tr>
<tr>
<td>Maximum Duration of Absence</td>
<td>1.0262**</td>
<td>1.02***</td>
<td>1.019**</td>
<td>1.080***</td>
<td>1.04</td>
</tr>
<tr>
<td>Number of Absenteeism Spells</td>
<td>1.002</td>
<td>1.009***</td>
<td>1.002</td>
<td>0.987</td>
<td>1.019**</td>
</tr>
<tr>
<td>Insurance Coverage</td>
<td>1.638***</td>
<td>2.191</td>
<td>1.332</td>
<td>1.171</td>
<td>0.316</td>
</tr>
<tr>
<td>Number of Person-Year Observations</td>
<td>13,655</td>
<td>4,891</td>
<td>8,174</td>
<td>2,409</td>
<td>939</td>
</tr>
<tr>
<td>Number of Unique Workers</td>
<td>1,593</td>
<td>710</td>
<td>818</td>
<td>275</td>
<td>121</td>
</tr>
</tbody>
</table>
Do workers use absenteeism as a substitute for disability?

Mean Number of Missing Days Absent for Workers with a Denied Short-Term Disability Claim in 2004

- Workers Denied a STD claim
- Non-denied with 2+ absence
- Non-Denied with or without absence
Conclusions

- Clear differences in absenteeism for those workers with STD events
- Absenteeism is predictive of subsequent disability events
- There is limited evidence of differences in disease-specific patterns
- Absenteeism may be a substitute when disability leave is not available
Thank you!

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