Challenges for LMI Innovation in Maine

JOHN DORRER, DIRECTOR
CENTER FOR WORKFORCE RESEARCH AND INFORMATION
MAINE DEPARTMENT OF LABOR
State-Level Labor Market Information Systems Under Stress

- Disruptive and Discontinuous Change in State and Regional Economies and Labor Markets
- Limited Portfolio of Tools, Data Systems and Staff Capabilities
- Organizational Cultures and Systems Not Built for Innovation
- Long Term Funding Declines and Limited Funding Sources
Long Term Challenges-New Tools and Systems

- **Workforce Demographics/Skills Replacement**
  - Local Employment Dynamics
  - Projections Development/Improvement

- **Sector and Cluster Strategies for Economic Development**
  - Quarterly Census of Employment and Wages-Longitudinal

- **Aligning Education and the Economy**
  - IPEDS
  - Internet Job Postings
  - Skills/Qualifications Parsing
  - SLDS
Maine’s Most Educated and Skilled Workers are Heading towards the Exits

Industry Focus: Workforce Characteristics Results

Employee Distribution by Age and Sex
State=Maine, Statewide
Industry=54 Professional, Scientific, and Technical Services
Date=2009Q1, Private Firms Only

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-18</td>
<td>0.35%</td>
<td>0.3%</td>
</tr>
<tr>
<td>19-21</td>
<td>1.25%</td>
<td>0.95%</td>
</tr>
<tr>
<td>22-24</td>
<td>2.74%</td>
<td>2.08%</td>
</tr>
<tr>
<td>25-34</td>
<td>11.41%</td>
<td>9.99%</td>
</tr>
<tr>
<td>35-44</td>
<td>13.36%</td>
<td>11.61%</td>
</tr>
<tr>
<td>45-54</td>
<td>14.01%</td>
<td>11.45%</td>
</tr>
<tr>
<td>55-64</td>
<td>7.95%</td>
<td>8.45%</td>
</tr>
<tr>
<td>65-99</td>
<td>1.63%</td>
<td>2.27%</td>
</tr>
</tbody>
</table>

What do you want to find out about the workforce?
Key Industries Are Disproportionately Impacted

Demographics of Maine’s Manufacturing Workforce 1997 and 2007
Openings in Maine Occupations will be fueled by replacement demand rather than by growth in all occupations except one.
### Responding to New Projections Methodologies

#### Job Openings by Education Level, 2008 through 2018

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Net New Jobs</th>
<th>Replacement Jobs due to Retirement and Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master’s and above</td>
<td>1,770,850</td>
<td>2,929,235</td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>3,610,321</td>
<td>7,261,923</td>
</tr>
<tr>
<td>Associate</td>
<td>1,844,892</td>
<td>3,801,605</td>
</tr>
<tr>
<td>Some college</td>
<td>2,433,519</td>
<td>5,804,714</td>
</tr>
<tr>
<td>High school or less</td>
<td>4,741,249</td>
<td>12,613,287</td>
</tr>
</tbody>
</table>

Source: Center on Education and the Workforce forecasts of education demand to 2018
Growing Demand to Support Sector and Cluster Studies
Using the QCEW for Longitudinal Tracking of Newly Forming Businesses

Over the year, the number of new businesses started in 2005 decreased by 259, yielding a survival rate of 85%. At the same time, employment increased by 7 percent.
New Business Units by industry

- Professional, Scientific and Tech Services: 20%
- Retail Trade: 12%
- Food Services and Drinking Places: 12%
- Administrative and Support Svcs.: 10%
## Aligning UMS Educational Output and Labor Market Demands

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Business and Management</td>
<td>39,240</td>
<td>44,209</td>
<td>514 / 449</td>
<td>527 / 450</td>
<td>531 / 442</td>
<td>475 / 397</td>
</tr>
<tr>
<td>Education</td>
<td>20,970</td>
<td>20,751</td>
<td>686 / 198</td>
<td>786 / 350</td>
<td>689 / 261</td>
<td>644 / 228</td>
</tr>
<tr>
<td>Engineering</td>
<td>18,260</td>
<td>19,244</td>
<td>290 / 254</td>
<td>244 / 208</td>
<td>269 / 211</td>
<td>291 / 259</td>
</tr>
<tr>
<td>Health Professions</td>
<td>16,610</td>
<td>19,463</td>
<td>448 / 383</td>
<td>508 / 431</td>
<td>538 / 478</td>
<td>542 / 456</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>5,740</td>
<td>5,474</td>
<td>456 / 443</td>
<td>445 / 428</td>
<td>483 / 474</td>
<td>460 / 442</td>
</tr>
<tr>
<td>Total</td>
<td>100,820</td>
<td>109,141</td>
<td>2394 / 1727</td>
<td>2510 / 1867</td>
<td>2510 / 1866</td>
<td>2412 / 1782</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Business and Management</td>
<td>1.13%</td>
<td>16,024</td>
<td>18,551</td>
<td>16,962</td>
<td>13,180</td>
<td>$53,388</td>
</tr>
<tr>
<td>Education</td>
<td>1.24%</td>
<td>1,062</td>
<td>1,852</td>
<td>1,706</td>
<td>1,246</td>
<td>$41,668</td>
</tr>
<tr>
<td>Engineering</td>
<td>1.16%</td>
<td>9,051</td>
<td>11,100</td>
<td>11,346</td>
<td>8,311</td>
<td>$58,988</td>
</tr>
<tr>
<td>Health Professions</td>
<td>2.88%</td>
<td>17,429</td>
<td>30,336</td>
<td>26,980</td>
<td>19,524</td>
<td>$59,779</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>8.26%</td>
<td>2,159</td>
<td>2,494</td>
<td>2,961</td>
<td>1,965</td>
<td>$41,762</td>
</tr>
<tr>
<td>Total</td>
<td>1.85%</td>
<td>45,725</td>
<td>64,333</td>
<td>59,955</td>
<td>44,226</td>
<td>-</td>
</tr>
</tbody>
</table>
Education and Economy Alignment – Research/Analysis/Support

Educational Requirements for Maine Job Vacancies for Healthcare Practitioners

- Bachelor’s degree, 30%
- Associate’s degree, 10%
- Advanced degree, 15%
- Vocational or technical training, 28%
- High school or GED, 4%
- No education required, 3%
- Not specified, 7%
Using Internet Job Postings To Track Supply & Demand by Occupation Group

Data from Burning Glass Technologies:

- Shortage
- Surplus

- Resumes
- Openings
Parsing Internet Job Postings with AI Software
Data from Burning Glass Technologies:

Greatest Skill Shortages

- object oriented design
- management
- directing
- netscape enterprise server
- self motivated
- .net
- public relations
- verbal communication skills
- analytical skills
- java
- sql
- organizational skills
- communication skills
Hear Employers Speak: Skills-Level Data on What They Are Asking For

Skill Requirements for IT jobs

- Accountancy
- Advertising
- C++
- Networking
- Attention To Detail
- Design
- Java
- Leadership
- Business Process
- Consulting
- Customer Service
- Customer Relations
- Computer Hardware
- Database Administration
- Communication Skills

Total Openings
A Quick Note on Internet Job Postings

Total Job Postings, Jan-June 2010

- **Burning Glass**: 43,768
- **HWOL**: 65,811

- **New Ads with duplicates**: 108,582
- **New Ads without duplicates**: 37,140
Jan-June 2010 Job Postings, New ads without duplicates by month, by source

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burning Glass</td>
<td>1328</td>
<td>7853</td>
<td>7353</td>
<td>6119</td>
<td>8802</td>
<td>5685</td>
</tr>
<tr>
<td>HWOL</td>
<td>8221</td>
<td>8903</td>
<td>11607</td>
<td>12266</td>
<td>12077</td>
<td>12737</td>
</tr>
</tbody>
</table>
Distribution of Occupations, percent of total coded job postings
January 2010 - June 2010
(excluding military related occupations)
Add Labor Market Context to State Longitudinal Data Systems

JMG Graduating Class of 2000: Wage Comparison
Average QUARTERLY WAGE

<table>
<thead>
<tr>
<th>Year</th>
<th>JMG 2000 Workers (UI)</th>
<th>Age Cohort</th>
<th>Maine Workers (LEHD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>2,000.00</td>
<td>4,000.00</td>
<td>6,000.00</td>
</tr>
<tr>
<td>2002</td>
<td>2,200.00</td>
<td>4,200.00</td>
<td>6,200.00</td>
</tr>
<tr>
<td>2003</td>
<td>2,400.00</td>
<td>4,400.00</td>
<td>6,400.00</td>
</tr>
<tr>
<td>2004</td>
<td>2,600.00</td>
<td>4,600.00</td>
<td>6,600.00</td>
</tr>
<tr>
<td>2005</td>
<td>2,800.00</td>
<td>4,800.00</td>
<td>6,800.00</td>
</tr>
<tr>
<td>2006</td>
<td>3,000.00</td>
<td>5,000.00</td>
<td>7,000.00</td>
</tr>
<tr>
<td>2007</td>
<td>3,200.00</td>
<td>5,200.00</td>
<td>7,200.00</td>
</tr>
<tr>
<td>2008</td>
<td>3,400.00</td>
<td>5,400.00</td>
<td>7,400.00</td>
</tr>
</tbody>
</table>
Contextualization of Longitudinal Data

**JMG Graduating Class of 2000: Rate of Change Wages**

![Graph showing the rate of change in wages for different groups over quarters from 2003 to 2008. The graph includes lines for Female, Male, Both, and State.](image)
Summary

- Being Responsive Means Broadening Scope of LMI Shop

- Expanded Scope Requires Added Resources and New Talent

- LMI Shops Need Strategic Partners/New Business Model
  - University-Based Researchers
  - Private Consultants
  - Project Based