Alabama/Arkansas

Unemployment Claims Resource Planning Dashboard
DOL ETA Applied Data Analytics Project
Final Presentation
The Goal

Inform workforce boards for timely and effective allocation of limited resources in a dynamic environment.
The Proposed Solution

- **UI Strategy Context**
  - Informed by WIOA barriers and workforce board strategies and resources

- **Longitudinal Metrics Relative to Claimant Benefit Year**
  - For additional context on claimant population
  - For informing risk of exhaustion
Resource Planning Strategy

Claim

Risk

Spell Length

Both / And

Cohort-Tailored Resourcing (WIOA Barriers)

Job Search Assistance

Job Matching

Business Outreach

Resumes

Youth

Veterans

SCSEP

Title I

Retraining Existing Programs

OJT

Apprenticeship

Business Outreach

Future Fit

Add In Demand Programs

Qualitative Business Outreach

Employer-Driven Strategies

Pipeline

|= 18 Weeks

< 18 Weeks
Exhaustion Rates As Indicator of Risks

Exhaustion Rates by All Sector All Education All Ages All Income

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Education Level</th>
<th>Age</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation and Food Services</td>
<td>High School or Less</td>
<td>Youth</td>
<td>&gt; $22,000</td>
</tr>
<tr>
<td>Agriculture, Forestry, Fishing, and Hunting</td>
<td>Some College or Associate</td>
<td>Youth or Adult</td>
<td>$22,000</td>
</tr>
<tr>
<td>Arts, Entertainment, and recreation</td>
<td>Bachelor or Above</td>
<td>Adult</td>
<td>$22,000</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td></td>
<td>Senior</td>
<td>&lt; $22,000</td>
</tr>
<tr>
<td>Real Estate and Rental and Leasing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, Scientific and Technical Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Services (Except Public Administration)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative and Waste Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation and Warehousing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Administration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Retail Trade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Management of Companies and Enterprises</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Services</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Active Claimant Dashboard

- Looking at active claims per cumulative claims within the Accommodations Industry, we see the bulk of claimants are long-term with growing bands of high-risk

Typical All Sector All Sub-Group Trend
Risk by Age Groups and Weeks

Low Risk Claimants by Age Group

Risk Group
- (All)
- Low Risk
- Medium Risk
- High Risk

Cumulative Weeks
- 2
- 16

Claimants
- 66
- 66,340

Cumulative Weeks
- 15
- 26

Claimants
- 4,888
- 33,517
## Risk by Subgroup

### Exhaustion Rate by Subgroups

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Employment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation and Food Services - Adult - Bachelor Degree or Above</td>
<td>N</td>
</tr>
<tr>
<td>Accommodation and Food Services - Adult - Some College or Associate</td>
<td>N</td>
</tr>
<tr>
<td>Accommodation and Food Services - Senior - Some College or Associate</td>
<td>N</td>
</tr>
<tr>
<td>Accommodation and Food Services - Senior - High School or Less</td>
<td>N</td>
</tr>
<tr>
<td>Arts, Entertainment, and recreation - Senior - Bachelor Degree or Above</td>
<td>N</td>
</tr>
<tr>
<td>Accommodation and Food Services - Adult - High School or Less</td>
<td>N</td>
</tr>
<tr>
<td>Accommodation and Food Services - Senior - Bachelor Degree or Above</td>
<td>N</td>
</tr>
<tr>
<td>Accommodation and Food Services - Senior - Some College or Associate</td>
<td>Y</td>
</tr>
<tr>
<td>Information - Adult - High School or Less</td>
<td>Y</td>
</tr>
<tr>
<td>Accommodation and Food Services - Adult - Some College or Associate</td>
<td>Y</td>
</tr>
<tr>
<td>Arts, Entertainment, and recreation - Senior - High School or Less</td>
<td>Y</td>
</tr>
<tr>
<td>Accommodation and Food Services - Senior - Bachelor Degree or Above</td>
<td>Y</td>
</tr>
<tr>
<td>Accommodation and Food Services - Senior - High School or Less</td>
<td>Y</td>
</tr>
<tr>
<td>Accommodation and Food Services - Senior - High School or Less</td>
<td>N</td>
</tr>
<tr>
<td>Public Administration - Adult - High School or Less</td>
<td>Y</td>
</tr>
<tr>
<td>Arts, Entertainment, and recreation - Adult - High School or Less</td>
<td>Y</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Services - Senior - High School or Less</td>
<td>N</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Services - Adult - High School or Less</td>
<td>N</td>
</tr>
</tbody>
</table>
Strategy

○ Engage industries with low exhaustion rates—Manufacturing and Healthcare to determine their immediate needs

○ Adult and Dislocated Worker programs work with the business service teams to develop solutions
  ■ The most at risk are Highschool level or lower—possible Adult Education, Adult, and Dislocated Worker partnership focused on outreach and training programs
  ■ Some potential to add SCSEP as a partner

○ Youth appear to be lower risk of exhaustion and should be analyzed with a shorter intervention window

○ Risk subgroups identify next rounds of risk analysis
Next Steps

- Additional research or validations that we identified but did not include in the project scope
- Longitudinal and multi-dimensional risk scoring combined with machine learning to improve accuracy
  - Ability to watch risk bands move into strategic intervention window
- Demand analysis to improve business outreach strategies-
  - Changes in job posting data to inform current changes in LMI Projections
- Include asset mapping for non-profits and Federal programs that focus on specific subgroups
- Additional view to support co-enrollment strategies
  - Matrix of potential partners for each risk subgroup
- Add underserved population indicators
- Add geographic risk
Appendices
Duration of nonemployment spell is strongly associated with earning losses

Exhausters appear to be more likely to leave the labor force

Many individuals leave the unemployment system when their benefits expire without returning to work
Surveyed Arkansas Workforce Boards for Needs

Agreed that:

- Comparing existing workforce experience to more current demand projections would be beneficial
- Analyzing the work history and demographics of the most vulnerable cohort would be helpful in resource planning
- Analyzing both together would help establish local pipelines, business outreach strategies, and resource planning

Added

- The importance of realtime skills gaps analysis
- Metro/city level data
- Mapping of local programs and services to push the analysis towards additional resources
**Project Design**

**Il_des_promis** (raw claims) → **Data Preparation and Modeling** → **Claims Dimensional Model** (clean, fast, easy, enriched)

- **Active Claimants** (Inform resource planning)
- **Exhaustees** (Inform needs and risk factors)
- **Non-Exhausted Exiters** (Inform potential demand, recovery, and risk reduction factors)

**Drop Down Filters Aligned with Workforce Board Resources** (Slice and dice on regions, industries, or program/strategy drivers)

- **Claimants by Weeks Claimed and Risk** (See changes in claimant volume relative to programs and strategies coming in advance to inform planning)
- **Top Subcohorts by % Exhaustion** (Highlight highest risk subpopulations)
- **Top/Bottom Subcohorts by % Increase** (Highlight emerging/decreasing exhaustion risk to inform planning)
- **Top/Bottom Subcohorts by % Increase** (Highlight emerging/decreasing reattachment/recovery areas to inform resource planning)
- **Claimants by Industry and Risk** (Seeing industries hardest hit)
- **Top/Bottom Subcohorts by % Increase** (Highlight emerging/decreasing reattachment/recovery areas to inform resource planning)
- **Top Subcohorts by Weeks Remaining + Weeks Since Last Exit** (Highlight highest reattachment groups that may indicate demand to inform business outreach and reskilling strategies)
Dimensional Model
Longitudinal Analysis

1) Select claimants by activity or remaining benefits in week

2) Calculate longitudinal metrics and variables based on benefit year start

- Claim
- Exit
- Exhaustion
We are inferring reemployment based on pre-exhaustion exit, which requires additional literature review and validation.

A DOL ETA UI Reemployment Pilot found

- Exhaustion rates are not a good proxy for Q+1 reemployment rates
- Exhaustion rates are a good proxy for Q+2 reemployment rates
- It appears that in general exhaustion rates for the second quarter probably understate reemployment rates by at least 10 percent

https://oui.doleta.gov/unemploy/reemploypilot.asp