Opportunities for Maryland’s Neuro-Diverse Workforce

Michael Siers
Senior Economist, Regional Economic Studies Institute
Presentation for the Maryland Workforce Outlook Forum
May 17, 2017
What is Neuro-Diversity?

- Neuro-diversity reflects the fact that our population has a variety of neurological ability levels and conditions.

- Some neurological conditions included in neuro-diversity include:
  - Dyspraxia
  - Dyslexia
  - Attention Deficit Hyperactivity Disorder (ADHD)
  - Autism Spectrum Disorder (ASD)
  - Tourette Syndrome
  - Individuals with a mental illness
Creating a Neuro-Diverse Workforce

- Our population is already neuro-diverse
  - 1 in five students has a language-based learning disability, the most common of which is dyslexia.
  - The CDC estimates up to 11 percent of children have ADHD
  - Estimated that 1 in 68 children nationwide have ASD
    - Maryland: 1 in 122 children have ASD
Creating a Neuro-Diverse Workforce

- Our workforce is not as neuro-diverse.
  - Up to 80% unemployment rate for individuals with ASD
  - Roughly 45% unemployment rate for dyslexic individuals

- Creating a neuro-diverse workforce means recognizing that workers have a variety of different skillsets and strengths.

- Applying one-size fits all solutions to Maryland’s workforce misses individuals with atypical needs.
  - Individuals with attention deficit disorders benefit from multi-tasking instead of focusing on one task at a time.
  - Individuals with dyslexia are often visual learners, so redesigning trainings may increase familiarity with office procedures.
ASD: An Increasingly Common Condition

- ASD encompasses a wide range of individuals, many of whom need extra support to enter the workforce and become independent.

- ASD is a developmental disorder which typically appears in early childhood.

- ASD impacts the ability to develop social and communication skills.

- Primarily affects males

- Rates have been increasing, primarily due to better detection.

- As just one example of neuro-diversity, what opportunities exist in Maryland’s workforce for individuals with ASD?
ASD in the Workforce

- Individuals with ASD have a harder time entering the workforce, but that’s not due to a lack of skills.
- Individuals with ASD have many skills employers need:
  - They’re smart, diligent, detail oriented, and creative
- Growth of initiatives at large businesses:
  - “Autism at Work” by Microsoft, SAP, HP, and Ernst & Young
  - Efforts at Google, Salesforce, Best Buy, Deloitte, and many others
- Many smaller businesses hire exclusively individuals with ASD
  - Rising Tide Car Wash company in Florida
- Self-employment and sales over the internet
Identifying Opportunities in Maryland for an ASD Workforce

To forecast employment opportunities for workers with ASD, RESI recreated work done by Stephanie Good at Willamette University in December 2016.

Good used O*NET Online’s Computerized Interest Profiler (CIP) to identify occupations best suited for individuals with ASD.

The CIP is a 180-question survey which asks respondents their interest in various work activities

- EX: Would you like to design artwork for magazines?
- EX: Would you like to assist doctors in treating patients?

After completing the CIP, O*NET provides the respondent with the most appropriate jobs.
Identifying Opportunities in Maryland for an ASD Workforce

- Good created a profile for an average high-functioning person with ASD and ran it through CIP.

<table>
<thead>
<tr>
<th>Prompt</th>
<th>Like</th>
<th>?</th>
<th>Dislike</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build kitchen cabinets</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guard money in an armored car</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Study space travel</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make a map of the bottom of an ocean</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct a symphony orchestra</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Write stories or articles for magazines</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teach an individual an exercise routine</td>
<td></td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Identifying Opportunities in Maryland for an ASD Workforce

- O*NET categorizes responses in 6 categories:
  1. Realistic (practical, hands-on)
  2. Investigative (work with ideas and thinking)
  3. Artistic (creative work)
  4. Social (work involving others)
  5. Enterprising (starting up and carrying out projects)
  6. Conventional (work follows set procedures)

- According to Good’s profile and O*NET’s methodologies, individuals with ASD are oftentimes most interested in realistic, investigative, and conventional work, though creative work is frequently interesting too.

- This profile only examines one type of individual with ASD
Identifying Opportunities in Maryland for an ASD Workforce

- Good’s methodology results in 24 occupations requiring little to medium preparation.

- Examples include:
  - Production Inspectors
  - Medical and Clinical Lab Technicians
  - Statistical Assistants
  - City Planning Aides
  - Mapping Technicians

- Good vetted these results against several SMEs who replied it seemed appropriate for a generic profile
Identifying Opportunities in Maryland for an ASD Workforce

- RESI mapped these 24 occupations to our proprietary PROM tool, which produces occupational-level employment forecasts.
  - RESI aggregated these to 19 occupations to provide more accurate results

- Each year between 2017 and 2019, RESI predicts there will be 2,463 job openings in the 19 occupations from the CIP.

- Individuals with ASD are often excluded from the workforce, and focusing recruitment efforts on individuals with ASD may be a low-cost way to fill staffing needs.

- RESI’s estimate is low, since individuals with ASD can and do support a variety of other roles.
Identifying Opportunities in Maryland for an ASD Workforce

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Average Annual Job Openings 2017-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance officers</td>
<td>366</td>
</tr>
<tr>
<td>Pharmacy technicians</td>
<td>342</td>
</tr>
<tr>
<td>Data entry keyers</td>
<td>333</td>
</tr>
<tr>
<td>Construction and building inspectors</td>
<td>319</td>
</tr>
<tr>
<td>Medical and clinical laboratory technicians</td>
<td>277</td>
</tr>
<tr>
<td>Mail clerks and mail machine operators, except postal service</td>
<td>209</td>
</tr>
<tr>
<td>Biological technicians</td>
<td>172</td>
</tr>
<tr>
<td>Inspectors, testers, sorters, samplers, and weighers</td>
<td>159</td>
</tr>
<tr>
<td>Architectural and civil drafters</td>
<td>72</td>
</tr>
<tr>
<td>Social science research assistants</td>
<td>44</td>
</tr>
</tbody>
</table>
How can we train a neuro-diverse workforce to be prepared for these jobs?

RESI identified key certifications through its PROM tool which would help prepare individuals for growth jobs suited for individuals with ASD. Examples include:

<table>
<thead>
<tr>
<th>Certification</th>
<th>Average Annual Number of Openings Using Certification, 2017-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Field Testing Technician - Grade I</td>
<td>517</td>
</tr>
<tr>
<td>Bridge Safety Inspection - Level I</td>
<td>478</td>
</tr>
<tr>
<td>Certified Pharmacy Technician</td>
<td>342</td>
</tr>
</tbody>
</table>
Maryland Resources

- There are various groups in Maryland working to provide assistance for individuals with ASD.

- If your business is hiring, consider meeting with one of these groups to learn more about how you can meet staffing needs through a neuro-diverse workforce.
  - Itineris
  - Madison House
  - DORS (Maryland State Division of Education Division of Rehabilitation Services)
  - Alliance Inc
  - CSAAC (Community Services for Autistic Adults and Children)
  - Towson University Hussman Center for Adults with Autism
  - One World Center for Autism
Any Questions?