Describing and Investigating Trends in Adolescent Disability, 1997-2010: The Role of Low Birth Weight, ADD/ADHD, and Autism

Julia A. Rivera Drew
Minnesota Population Center, University of Minnesota

BACKGROUND: EXISTING PREVALENCE ESTIMATES OF ADOLESCENT DISABILITY

Figure 1. Prevalence of Functional Limitations among Adolescents, 1970 and 1990

- Little and dated evidence on trends in youth disability
- Aged 65+ has declined substantially
- Little and dated evidence on trends in youth disability
- What does exist suggests that, counter to trends among the elderly, child and adolescent disability prevalence is increasing

MOTIVATION

- Between 1980 and now, disability prevalence among those aged 65+ has declined substantially
- Little and dated evidence on trends in youth disability
- What does exist suggests that, counter to trends among the elderly, child and adolescent disability prevalence is increasing

OBJECTIVES OF CURRENT STUDY

1. Produce population estimates of disability among adolescents over the 1997-2010 time period
2. Evaluate the contributions of low birth weight, ADD/ADHD, and autism to adolescent disability prevalence

RESULTS

1. Population Estimates of Disability among Adolescents Age 12-17

Figure 4. Population Estimates of Disability, LBW, ADD/ADHD, and Autism among Adolescents, Overall and by Sex

- Disability
- Low Birth Weight
- ADD/ADHD
- Autism

Table 2. Key Disability-Related Measures

<table>
<thead>
<tr>
<th>Key Measure</th>
<th>Survey Items</th>
</tr>
</thead>
</table>
| Disability           | • Has any activity limitation  
• Needs help with baths/shower (ADL)  
• Needs help in/our bed and chair (ADL)  
• Needs help dressing (ADL)  
• Needs help eating (ADL)  
• Needs help using the toilet (ADL)  
• Needs help getting around in home (ADL)  
• Difficulty walking without equipment  
• Need special equipment due to health problems  
• Impaired mobility  
• Activities limited by difficulty remembering  
• Receives special education or early intervention services  
• Limited in any (other) way |
| Low Birth Weight (LBW) | Birth weight <2,500 grams |
| ADD/ADHD              | • Activity limitation caused by Attention Deficit  
Ever told had ADHD/ADD (ADHD added in 2000) |
| Autism                | • Ever told had autism |

DISCUSSION & FUTURE DIRECTIONS

- Overall disability trend is relatively stable, but there are gender differences
  - For girls, trends in ADD/ADHD decreased the prevalence of disability by 1.2%, whereas LBW and autism decrease it by .11% and .33%, respectively
  - For boys, trends in autism decrease the prevalence of disability by 1.43%, whereas trends in ADD/ADHD and LBW increase it by -.05%
  - Future work will expand analyses to examine CSHCN, other chronic conditions, and obesity

DEMOGRAPHIC FACTORS

- Sex
- Race/Ethnicity: 1) Hispanic, 2) Non-Hispanic black, 3) Non-Hispanic other, 4) Non-Hispanic white
- Age

METHODS: DECOMPOSITION USING ANNUAL MICRODATA

A condition's total contribution to the change in disability (Kitagawa 1955, Freedman et al. 2007):

\[
\left( \frac{E(x) - E(x_0)}{E(x)} \right) \times \left( \frac{E(x_0) - E(x)}{E(x_0)} \right) \times \left( \frac{E(x) - E(x_0)}{E(x_0)} \right)
\]

Where

- \(E(x) - E(x_0)\) represents the contribution of a change in the prevalence of a given condition to aggregate change in disability, and
- \(E(x_0) - E(x)\) represents the contribution of a change in the probability of having disability given that condition