Introduction

• Recent research shows that people with disabilities have a greater prevalence (1) and more complex mix of comorbidities and multiple chronic conditions (MCCs) (2) than people without disabilities. Yet, little is understood about the epidemiology of common comorbidities among people with disabilities.

• An important next step in disability surveillance research (3) and MCC research (4) is to disaggregate data into disability subgroups to better identify risk factors for targeted interventions and outcomes. Additionally, disaggregating data is important to better understanding the relationship between those with MCC and disparities in access to health care (5), and resulting health status.

• For this presentation (4) (describes the prevalence of common chronic illness in the disability subgroups, (5) describes common comorbidities of chronic disease across disability subgroups, and (6) compares and contrast these findings to those with no disabilities.

Methods

• We used the Medical Expenditures Panel Survey (MEPS) data for this project. This nationally representative panel survey includes thorough demographic, health care expenditure and utilization information on individuals and families, as well as their health care providers, employers and types of health care coverage for non-institutionalized people (5).

• For sufficient disability subgroups sample size we pooled five years of data for 2004–2008. We identified adults aged 18–64, residing in an unweighted sample of 88,613 (weighted sample = 929,377,370).

• We constructed mutually exclusive groups from our sample: physical disability, cognitive limitation, hearing impairment, visual impairment, multiple disabilities, and no disability.

• Cognitive limitation: responding “yes” to one or more in a list of questions for confusion or memory loss, having problems making decisions, or requiring supervision for their own safety.

• Physical disability: any limitation in performing the activities listed in Table 1. Many respondents answered yes to more than one of the seven questions. If yes, we determined type of disability and coded as a specific condition, multiple disabilities or no disability.

• Hearing impairments = responding “yes” to even hearing aids: “moderate impairment,” “major impairment” or “deaf.”

• Visual impairments = responding “yes” to even glasses/contact lenses: “difficulty seeing,” “tired of reading,” “hard to read” or “blind.”

• Multiple disabilities = those who screened “yes” to any two of the above four disabilities categories (cognitive limitation, physical disability, hearing impairment, visual impairment).

• No disability = those who were not reporting any type of disability.

• Multiple chronic conditions: having two or more of the following chronic conditions: heart disease, high blood pressure, stroke, emphysema, childhood diabetes, arthritis, asthma, or anemia.

• We describe analyses across subgroups to compare race prevalence per 100,000 and confidence interval at all mean measured factors. Additionally we used weighted logistic regression analyses to assess associations between disability type and multiple chronic conditions, with adjustment for socio-demographic variables and health status.

Results

Demographic Characteristics of Those With Multiple Chronic Conditions

• When standardized for age, working age adults with no disability had a much smaller rate of MCC compared to all five disability groups (Figure A).

• Among those with MCC, age differed little across groups, with a mean age of 51 years, overall.

• Sex: With the exception of the visual impairments group, all disability groups were comprised of more women than men; overall, and to a greater extent than those with no disabilities. For each disability group a fewer number were male than those without disabilities.

• Race: All disability groups except those with hearing impairments had a greater proportion of Blacks, and the highest prevalence of Hispanics was among people with cognitive limitations or visual impairments.

• Education: Vanderbilt and within education. Although a moderate proportion (19.2% to 31.4%) of the sample had not graduated high school, regardless of disability type, a greater proportion of adults with MCC and hearing impairments (30.2%) than other disability groups had obtained more education, and a greater proportion of adults with physical disabilities had graduated high school. All disability groups had lower educational attainments than the no disability group.

• Income: Although the majority of people in the sample had an income above the poverty level in all disability groups, a greater proportion reported a “poor” income (6%–10%) in all disability groups. Poverty rate for low-disability group were more than twice those of more than three times higher than those without disabilities, in people with multiple disabilities and physical disabilities.

• Mental Health Status: Among those with MCC, 10% and 23% having four or more chronic conditions. The rates for four or more conditions were substantially lower among those with visual impairments and hearing impairments.

• More than 14% of those with cognitive limitations, visual impairments and hearing impairments had the highest rates of MCC, a substantially greater proportion compared to both the physical disabilities group and one-third of the multiple disability groups.

• The greater the number of health conditions, the more chronic conditions among people with multiple disabilities or physical disabilities, with nearly 10% and 23% having four or more chronic conditions. The rates for four or more conditions were substantially lower among those with visual impairments and hearing impairments.

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Factors Associated With Chronic Conditions

• Those with no disability and MCC were all significantly more likely to have 2+ chronic conditions; if they were old, unemployed, uninsured, had a high school education or less, lived in the Midwest or South region, lived in rural areas, reported “fair/poor” health, had an unhealthy weight (BMI < 18.5 or > 30) or had back problems (Table 2). In addition, among those with no disability and MCC, Hispanics and those without a usual source of care were less likely to have MCC.

• For all disability groups, older age predicted that a person had two or more chronic conditions, and in every disability group except hearing impairments, those who reported their health as fair/poor, had a usual source of care, and were uninsured had more than twice as many chronic conditions.

• Among those with cognitive limitations or physical disabilities, bringing in the Midwest or South region of a greater likelihood to have multiple chronic conditions, but being male was predictive of having less than two chronic conditions.

• For those with physical disability, visual impairment or multiple disabilities, having a usual source of care was predictive of having MCC.

• In addition to the already established associations with those with physical disability living in the Northeast predicted greater likelihood of having more than two chronic conditions. Among those with cognitive limitations, being white (vs. other) predicted having few chronic conditions. For those with visual and hearing impairments, living in the Southeast was predictive of fewer than two chronic conditions.

• Among those with MCC, and no disability reported average yearly medical expenditures 1.9 and 2.5 times higher, with the exception of the visual impairments group, all disability groups were substantially greater than those without disabilities, with people in the cognitive limitations or multiple disabilities group having the largest proportion.

• More than 54% of those with cognitive limitations, visual impairments and hearing impairments were more likely to be employed in any age. However, employment varied widely across the disabil- ity groups but increased with age in every group. Those with cognitive limi- tations or physical disabilities were least likely to be employed.

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Discussion

• Disability subgroups of working age adults experience multiple chronic con- ditions at higher rates than those with no disabilities, with highest rates among those with physical disability (41%) or multiple disabilities (44%). Moreover, a substantially greater proportion within each of the disability sub- groups with MCC had a larger number of chronic conditions than those with no disability.

• Confirming previous work, older age, unhealthy weight and access to usual source of care were all predictors of MCC regardless of disability sta- tus. However, people with disabilities and MCC were more likely to report being uninsured, unemployed, and to have unhealthy weight. Additionally, there are important differences in specific disability subgroups that have implications for health care policy and practice.

• This study adds to the literature on multiple chronic conditions (2)(5) by sub- dividing the population into five disability subgroups, comparing and con- trasting each of those with no disabilities to provide empirical evi- dence that can help lead to more focused approaches to address the unique health care needs of each disability group.

• This study also adds to the health disparities literature that demonstrates that people with disabilities have worse chronic disease prevalence rates that are substanti- ally higher than those for those without disabilities, providing empiri- cal evidence that people with disabilities also have higher rates of chronic conditions.

Limitations

• Like all data, MEPS data have important limitations:

• Responses are self-reported, creating potential for recall, social desirability, and non-responses may be more likely to have MCC.

• Responses and for those with cognitive limitations may be more likely to have MCC, given questions that are more difficult to answer and MCC may be more difficult to report.

• In addition, there are factors that need to identify and define cognitive limitations are broad, thereby including a wide range of disability from intellectual disability to cognitive impairment.

• MEPS does not capture comorbidities for non-disability, thus some unreported disabilities may be underreported.

References


• Bickel KA, Renaud JD, Woodson, K, Lee J. Multiple Chronic Conditions and Health Disparities Among People with Disabilities Compared to People without Disabilities

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• Multiple Chronic Conditions and Health Disparities Among People with Disabilities Compared to People without Disabilities

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