Economic Vulnerabilities of People with Disabilities
New Hampshire Occupational Health Surveillance Program
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Background
People with disabilities experience multiple economic barriers including physical and logistical accessibility, external attributes (stereotyping, misperceptions, stigma, prejudice, etc.), social barriers (support structures, education), and employment vulnerabilities[1]. This work outlines why disability status should be seen as an economically vulnerable demographic indicator – much like racial and ethnic minorities – when considering economic outcomes. Occupational health investigation may typically view disablement as an outcome to be avoided, therefore, rather being avoided (with potentially ableist inadvertent subtext), can be viewed as a valid and vulnerable group worthy of support and visibility within and beyond the occupational health context.

The US Current Population Survey - Basic Monthly Survey (CPS-BMS) 2019 data and Current Populations Survey - Annual Social and Economic Supplement (CPS-ASEC) 2019 data were analyzed to identify (1) how disability impacts various employment measurement, and (2) how the impacts compare to other typically vulnerable demographics (within gender, race, education level). The study indicates that disability should be included in the analysis of economic vulnerability and not exclusively as a health outcome metric. We think continuous inclusion of disability in important economic and occupational health metrics is a paramount first step driving the reduction of stereotypes and improvement of accommodations and infrastructures that meet the needs of the disability population for them to flourish and contribute to the economic landscape.

Methods
Statistical analyses were conducted using SAS (v. 9.4) and R version 4.1.2 (2021-11-03), with the following helper packages: butcher, R.utils, utils, dplyr, plyr, survey, dttools, svMisc, usethis, lubridate.

Employment measures: Labor force participation, employment/unemployment rate, unemployment rate, full-time and part-time work, wages and salary

Inferential Comparisons: Employment measure of workers with disabilities (Y_d) vs. workers without disabilities in other vulnerable populations (Y_f): Statistical Methods: (1) Proportions measures: relative risk H_k = Y_d / Y_f; (2) Mean: t-test (difference-in-mean), H_k = Y_d – Y_f – 0; (3) Median: Wilcoxon rank sum test (difference-in-media), H_k = Y_d – Y_f + 0; (4) Proportion of unemployed workers unemployed due to termination reason (Odds Ratio, OR = 1.18), 2) (5) unemployment rate (e.g. North Dakota OR_d = 1.7, Connecticut OR_d = 0.68), 2) employment to population ratio (e.g. North Dakota OR_d = 1.74, Connecticut OR_d = 0.72), 3) proportion of workers working full-time (e.g. Colorado OR_d = 1.44, Minnesota OR_d = 0.94), and 4) unemployment rate (e.g. Washington OR_d = 1.51, Colorado OR_d = 0.43).

State Specific Disability Diff. in Outcomes
The largest differences between states (determined using Chi-Square ANOVA) are seen within (1) labor force participation rate (e.g. North Dakota OR_d = 1.7, Connecticut OR_d = 0.68), (2) employment to population ratio (e.g. North Dakota OR_d = 1.74, Connecticut OR_d = 0.72), (3) proportion of workers working full-time (e.g. Colorado OR_d = 1.44, Minnesota OR_d = 0.94), and (4) unemployment rate (e.g. Washington OR_d = 1.51, Colorado OR_d = 0.43).

Inference: When controlling for state, sex, race, Hispanic origin, marital status, education level, and non-linear affect of age (using both a quadratic and cubic term) – disability status D_{I,x} has a significant (adverse) impact on most economic measures investigated (β : (1) labor force participation rate (Odds Ratio, OR_d = 0.17), (2) employment to population ratio (OR_d = 0.16), (3) proportion of workers working full-time (OR_d = 0.47), (4) proportion of full-time workers working 35+ (OR_d = 0.53), (5) proportion of full-time workers working 1 to 34 hours for any reason(OR_d = 1.74); (6) proportion of full-time workers not at work (OR = 1.66); (7) proportion of workers working part-time (OR_d = 2.14); (8) proportion of part-time workers working part-time due to economic reasons (OR_d = 0.73); (9) unemployment rate (OR_d = 2.12); (10) proportion of unemployed workers unemployed due to termination (OR_d = 0.64); (11) poverty rate (OR_d = 2.06); (12) duration of unemployment in weeks (d = 0.18); (13) total wages and salary (d = 0.22).

Conclusions
This analysis shows that there are significant barriers disabled workers experience in participating in the labor force - they are paid less, less likely to be full-time, more likely to be unemployed – even when controlling for traditionally vulnerable groups. However, they are also less likely to be terminated - showing potential positive impact of the ADA.

See our draft interactive dashboard at: https://unihod.shinyapps.io/DemographicProfiles/

References

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