

University of New Hampshire

## University of New Hampshire Scholars' Repository

---

Institute on Disability

Research Institutes, Centers and Programs

---

4-9-2021

### Changes in the employment status of people with and without disabilities in the United States during the COVID-19 pandemic

Andrew J. Houtenville

*University of New Hampshire*, [andrew.houtenville@unh.edu](mailto:andrew.houtenville@unh.edu)

Shreya Paul

*University of New Hampshire*, [shreya.paul@unh.edu](mailto:shreya.paul@unh.edu)

Debra L. Brucker

*University of New Hampshire*, [debra.brucker@unh.edu](mailto:debra.brucker@unh.edu)

Follow this and additional works at: <https://scholars.unh.edu/iod>

---

#### Recommended Citation

Andrew J. Houtenville, Shreya Paul, Debra L. Brucker, Changes in the employment status of people with and without disabilities in the United States during the COVID-19 pandemic, *Archives of Physical Medicine and Rehabilitation*, 2021, <https://doi.org/10.1016/j.apmr.2021.03.019>.

This Article is brought to you for free and open access by the Research Institutes, Centers and Programs at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in Institute on Disability by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact [nicole.hentz@unh.edu](mailto:nicole.hentz@unh.edu).

## Journal Pre-proof

Changes in the employment status of people with and without disabilities in the United States during the COVID-19 pandemic

Andrew J. Houtenville PhD , Shreya Paul MPA ,  
Debra L. Brucker PhD

PII: S0003-9993(21)00300-2  
DOI: <https://doi.org/10.1016/j.apmr.2021.03.019>  
Reference: YAPMR 58192



To appear in: *Archives of Physical Medicine and Rehabilitation*

Received date: 1 March 2021  
Revised date: 29 March 2021  
Accepted date: 29 March 2021

Please cite this article as: Andrew J. Houtenville PhD , Shreya Paul MPA , Debra L. Brucker PhD , Changes in the employment status of people with and without disabilities in the United States during the COVID-19 pandemic, *Archives of Physical Medicine and Rehabilitation* (2021), doi: <https://doi.org/10.1016/j.apmr.2021.03.019>

This is a PDF file of an article that has undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but it is not yet the definitive version of record. This version will undergo additional copyediting, typesetting and review before it is published in its final form, but we are providing this version to give early visibility of the article. Please note that, during the production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

© 2021 Published by Elsevier Inc. on behalf of The American Congress of Rehabilitation Medicine.

**Changes in the employment status of people with and without disabilities in the United States during the COVID-19 pandemic**

**Andrew J. Houtenville, PhD**

**Shreya Paul, MPA**

**Debra L. Brucker, PhD**

**Disclosure of Interests**

There are no interests to disclose.

**Acknowledgement**

Funding for this study was provided by the Rehabilitation Research and Training Center on Employment Policy and Measurement at the University of New Hampshire, which is funded by the National Institute for Disability, Independent Living, and Rehabilitation Research (NIDILRR), in the Administration for Community Living, at the U.S. Department of Health and Human Services (DHHS) under grant number 9ORT5037-02-00. The contents do not necessarily represent the policy of DHHS, and you should not assume endorsement by the federal government (EDGAR, 75.620 (b)).

**Corresponding Author:**

Shreya Paul

10 W Edge Dr #101

Durham, NH 03878

Email – [shreya.paul@unh.edu](mailto:shreya.paul@unh.edu)

Contact – 812-606-9808

**Highlights:**

- From February 2020 to April 2020 –
  - The percentage employed drop from 31.1% to 26.4% for people with disabilities and from 74.8% to 63.2% for people without disabilities.
  - The percentage unemployed rose from 3.0% to 6.5% for persons with disabilities and 2.9% to 10.5% for people without disabilities.
  - An increase in the percentage not in the labor force was not detected for people with disabilities, while for people without disabilities it increased from 22.3% to 26.3%.
  - In the succeeding months, percentage employed increased for both groups.

**ABSTRACT**

Using data from the monthly Current Population Survey, this paper provides monthly employment and unemployment statistics for people with and without disabilities in the United States, before and during the COVID-19 pandemic to-date (January 2021). Estimates show that, like workers without disabilities, workers with disabilities experienced unemployment at the beginning of the pandemic and continued to remain engaged in the labor force. Our analysis finds that employment rates dropped from 74.8% to 63.2% for those without disabilities and from 31.1% to 26.4% for those with disabilities between February 2020 and April 2020 but gradually improved in the succeeding months. As the pandemic continued, the percentage of unemployed people with and without disabilities on temporary layoff decreased and those looking for work increased.

**KEY WORDS**

Disability, employment, unemployment, temporary layoffs, looking for work, COVID-19

**ABBREVIATIONS**

CPS – Current Population Survey

CDC – Centers for Disease Control and Prevention

BLS – Bureau of Labor Statistics

Journal Pre-proof

On January 21, 2020, the Centers for Disease Control and Prevention (CDC) confirmed the first case of COVID-19 in the United States.<sup>1</sup> In response, the CDC issued a guidance on ensuring hand hygiene, avoiding large gatherings, and practicing social distancing. In March, April, and May, 42 states and territories issued mandatory stay-at-home orders, which resulted in a significant increase in unemployment across the country.<sup>2</sup> Analyzing employment trends during the pandemic is important not only to understand the economic impact of the pandemic on persons with disabilities but also for providing information that employment service providers, social insurance programs, and income support programs can use to better serve this population in the months and years to come.

The employment-to-population ratio of people with disabilities is historically lower than that of their counterparts without disabilities.<sup>3</sup> The employment effects of the Great Recession of 2007-2009 were deeper and longer lasting for people with disabilities.<sup>4-6</sup> In February 2020, the employment-to-population ratio of working-age people with disabilities was 31% and for civilians without disabilities was 75%.<sup>7</sup> At that time, there was some optimism but concern about the pandemic. “The labor market’s continuing strength should be reassuring for workers with disabilities. The consecutive gains over the last three months in the employment-to-population ratio is positive news for people with disabilities. However, there’s great uncertainty regarding the COVID-19 epidemic, and its potential to disrupt labor markets,” according to John O’Neill, PhD.<sup>7</sup> The impact of the COVID-19 pandemic on employment participation rates became evident with the release of April 2020 unemployment data, with employment-to-population ratios dropping to 26% for people with disabilities and to 63% for people without disabilities.<sup>8</sup>

As the pandemic relents and the economy adjusts and recovers, there is concern that the employment of people with disabilities will take longer to recover than for people without

disabilities, like the Great Recession. This paper examines monthly trends in employment status (i.e., employed, unemployed, and not in the labor force) and unemployment status (i.e., temporary layoff and job seeking) of people with and without disabilities to get a sense of how people with disabilities are faring so far.

## **METHODS**

### **Data**

Estimates are derived from the monthly public-use microdata files of the Current Population Survey (CPS). Due to the nature of the study and the publicly available de-identified data IRB approval was not required and the need for informed consent was waived.

The CPS is the source of the official monthly unemployment rate of the US and is conducted by the US Census Bureau on behalf of the US Bureau of Labor Statistics. Data is collected from a nationally representative, multi-stage stratified random sample of approximately 60,000 households, with responses from all household members ages 15 and older.<sup>9</sup> To be consistent with publicly released BLS statistics, our sample is restricted to civilians ages 16-64, not living in group quarters (such as small group homes).

### **Measures**

Consistent with BLS practices, disability status is identified using a sequence of six disability-related questions relating to hearing, vision, cognitive, ambulatory, self-care, and independent living difficulty. A person is coded as having a disability, if they have any of these six difficulties.<sup>9</sup>

Employment status is coded by the BLS using a series of over 40 questions, and has three general categories: employed, unemployed, and not in the labor force. A person is employed, if

they had a paid job in the survey reference week (the week containing the 12<sup>th</sup> day of the month). A person is considered unemployed if they are on temporary layoff or actively looking for work in the last four weeks. If not employed nor unemployed, a person is considered not in the labor force.<sup>9</sup> Persons are considered unemployed if they are on temporary layoff or actively looking for work. They are considered to be on temporary layoff, if they were terminated but are expecting to be recalled. They are considered looking for work if they are not on temporary layoff and are actively looking for work in the last four weeks. If not employed nor unemployed, a person is considered not in the labor force.<sup>9</sup>

### **Analytical approach**

Percentage distributions across employment statuses (employed, unemployed, and not in labor force) are estimated by disability status and for each month from February 2020 and January 2021. Percentage distributions across unemployment statuses (on temporary layoff and looking for work) are also estimated by disability status and for each month in the same period. To examine changes over time, difference-in-percentages tests were performed with February 2020 as the reference month. To adjust for the CPS complex sample design, sample weights were used to adjust estimated percentages and standard errors, and generalized variance function parameters, provided by the BLS, were also used to further adjust the standard errors.<sup>9</sup>

### **RESULTS**

Table 1 provides the estimated percentage distributions across employment statuses, by month, and disability status. From February 2020 to April 2020, the percentage employed drop from 31.1% to 26.4% for people with disabilities (a relative reduction of 15.1%) and from 74.8% to 63.2% for people without disabilities (a relative reduction of 15.5%). The percentage



unemployed rose from 3.0% to 6.5% for persons with disabilities and 2.9% to 10.5% for people without disabilities. An increase in the percentage not in the labor force was not detected for people with disabilities, while for people without disabilities an increase from 22.3% to 26.3% was detected. In the succeeding months, percentage employed generally increased, while the percentage unemployed decreased for both people with and without disabilities but are yet to recover to their February 2020 proportions (Table 1).

Table 2 provides the estimated percentage distributions of unemployment statuses, by month, and disability status. From February 2020 to April 2020, the percentage on temporary layoff increased from 9.1% to 72.9% for unemployed people with disabilities and from 17.1% to 79.2% for unemployed people without disabilities. The percentage actively looking for work decreased from 90.9% to 27.1% for unemployed persons with disabilities and from 82.9% to 21.0% for unemployed people without disabilities. In the succeeding months, the percentage on temporary layoff decreased, while the percentage looking for work increased, for both unemployed people with and without disabilities but have yet to recover to their February 2020 proportions (Table 2).

## **DISCUSSION**

The initial impact of the pandemic and corresponding restrictions to economic activities had a devastating effect on the employment status of people with and without disabilities. Both groups experienced a dramatic increase in unemployment, dominated by temporary layoffs. As unemployment declined in subsequent months, there was a shift in the proportion of unemployed persons to actively looking for work. This may reflect people on temporary layoff returning to

their jobs and/or transitioning to permanent layoff (i.e., termination)—for people without disabilities this may also reflect people returning to the labor force by actively looking for work.

While we find statistically significant change in the percentage not in labor force for people without disabilities, there is a lack of a detectible change in the percentage not in the labor force for people with disabilities. Though not definitive evidence, this is suggestive of people with disabilities staying engaged in the labor force during the pandemic. This maybe because workers with disabilities are more likely than those without disabilities both to work primarily from home and to do any work at home<sup>10</sup>. Additional analysis on the industry and occupation of the working age population is needed to gain a deeper understanding of the impact of COVID-19 on the employment status of people with and without disabilities.

## LIMITATIONS

When the CPS asks about employment status, a person that was employed but absent from work in the reference week is asked whether the absence was due to vacation, illness, bad weather, job training, childcare problems, and other reasons.<sup>9</sup> In April 2020, the number reporting other reasons increased well beyond prior months. The BLS suspects that in the early months of the pandemic (April-June) some respondents who were classified as absent from work for other reasons may have been misclassified and that the percentage on temporary layoff (and thus the percentage unemployed) may be underestimated.<sup>12</sup>

Skip patterns in the CPS survey instrument do not allow for the identification of people engaged in multiple employment-related activities, such as (a) employed people who are also looking for work or (b) unemployed people on temporary layoff that are also looking for work. A further limitation is that time trends independent from the pandemic are not considered in the analysis.

## CONCLUSIONS

Consistently tracking employment changes for persons with disabilities as the economy reacts to COVID-19 will be important in the coming months and perhaps years. Trends in the monthly employment status of people with and without disabilities appears to be improving since the spring of 2020. Whether the economic impacts of COVID-19 persist for workers with disabilities points to a need for continued surveillance of these data points as the findings have implications for persons with disabilities as well as for the programs and policies that support people with disabilities and their families.

Journal Pre-proof

**REFERENCES**

1. Centers for Disease Control and Prevention COVID-19 Response Team, Jorden M, Rudman S, et al. Public health response to the initiation and spread of pandemic COVID-19 in the United States, February 24-April 21, 2020. *MMWR* 2021;69:551-6.
2. Moreland A, Herhihy C, Tynan M, et al. Timing of state and territorial COVID-19 stay-at-home orders and changes in population movement in the United States, March 1-May 31, 2020. *MMWR* 2021;69:1198-203.
3. Houtenville A, Rafal M. Annual Report on People with Disabilities in America [WWW document]. URL. <https://disabilitycompendium.org/>. (Accessed 23 February 2021).
4. Livermore G, Honeycutt T. Employment and economic well-being of people with and without disabilities before and after the great recession. *J Disabil Policy Stud*, 2015;26:70-9.
5. McAlpine D, Alang S. Employment and economic outcomes of persons with mental illness and disability: the impact of the great recession in the United States. *Psychiatr Rehabil J*, 2020; <http://dx.doi.org/10.1037/prj0000458>.
6. Kessler Foundation and Institute on Disability at the University of New Hampshire. nTIDE lunch & learn webinar series, Friday May 8, 2020. [Power Point slides]. URL. <https://researchondisability.org/home/ntide/>. (Accessed 23 February 2021).
7. Kessler Foundation and Institute on Disability at the University of New Hampshire. National trends in disability and employment: February 2020 jobs report: third month of job gains for Americans with disabilities. [WWW document]. URL. <https://researchondisability.org/home/ntide/>. (Accessed 23 February 2021).

8. Kessler Foundation and Institute on Disability at the University of New Hampshire. National trends in disability and employment: April 2020 jobs report: COVID recession hits workers with disabilities harder. [WWW document]. URL. <https://researchondisability.org/home/ntide/>. (Accessed 23 February 2021).
9. US Census Bureau, US Bureau of Labor Statistics. Design and methodology, Current Population Survey, technical paper 77. [WWW document]. URL. <https://www2.census.gov/programs-surveys/cps/methodology/>. (Accessed 23 February 2021).
10. Schur L, Ameri M, Kruse D. Telework after COVID: A “silver lining” for workers with disabilities? *J Occup Rehabil*, 2020;30:521-536; <https://doi.org/10.1007/s10926-020-09936-5>
11. US Bureau of Labor Statistics. Labor force characteristics from the Current Population Survey. [WWW document]. URL. <https://www.bls.gov/cps/definitions.htm>. (Accessed 23 February 2021).

**Table 1****Estimated monthly percentage distribution across employment statuses, by disability status**

Year	Month	Disability			No disability		
		Employed	Unemployed	Not in labor force	Employed	Unemployed	Not in labor force
2020	Feb.	31.1	3.0	66.0	74.8	2.9	22.3
2020	Mar.	31.7	3.3	65.0	73.4*	3.5*	23.1*
2020	Apr.	26.4*	6.5*	67.1	63.2*	10.5*	26.3*
2020	May	27.8*	6.5*	65.7	65.1*	9.6*	25.3*
2020	Jun.	28.6*	5.9*	65.5	67.8*	8.4*	23.8*
2020	Jul.	28.4*	4.9*	66.7	68.8*	7.9*	23.3*
2020	Aug.	29.1*	4.7*	66.2	69.9*	6.3*	23.8*
2020	Sept.	28.7*	4.4*	66.9	70.2*	5.7*	24.1*
2020	Oct.	29.6	4.0*	66.4	71.5*	4.9*	23.5*
2020	Nov.	29.3	4.5*	66.2	71.3*	4.7*	24.0*
2020	Dec.	29.6	3.7*	66.7	71.1*	4.8*	24.0*
2021	Jan.	28.9*	4.2*	66.9	70.6*	5.1*	24.3*

Asterisk (\*) indicates statistically significance decreases or increase from February 2020 at 0.05 significance level and a one-tailed difference-in-percentages test.

Table 2

**Estimated monthly percentage distribution of unemployment statuses, by disability status**

Year	Month	Disability		No disability	
		Temporary layoff	Looking for work	Temporary layoff	Looking for work
2020	Feb.	9.1	90.9	17.1	82.9
2020	Mar.	21.8*	78.2*	30.0*	70.0*
2020	Apr.	72.9*	27.1*	79.0*	21.0*
2020	May	68.9*	31.1*	72.5*	27.5*
2020	Jun.	49.7*	50.3*	57.8*	42.2*
2020	Jul.	46.5*	53.5*	55.7*	44.3*
2020	Aug.	33.0*	67.0*	44.6*	55.4*
2020	Sept.	24.0*	76.0*	34.3*	65.7*
2020	Oct.	20.8*	79.2*	26.9*	73.1*
2020	Nov.	23.1*	76.9*	24.4*	75.6*
2020	Dec.	19.6*	80.4*	30.0*	70.0*
2021	Jan.	20.9*	79.1*	29.4*	70.6*

Asterisk (\*) indicates statistically significance decrease or increase from February 2020 at 0.05 significance level and a one-tailed difference-in- percentages test.