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Prevalence and Causes of Work Disability among Working-Age U.S. Adults, 2011-2013, NHIS

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Abstract

Background: Chronic conditions are among the major causes of work disability (WD), which is associated with lower employment, less economic activity, and greater dependence on social programs, while limiting access to the benefits of employment participation.

Objective/Hypothesis: We estimated the overall prevalence of WD among working-age (18-64 years) U.S. adults and the most common causes of WD overall and by sex. Next, we estimated the prevalence and most common causes of WD among adults with 12 common chronic conditions by sex and age. We hypothesized that musculoskeletal conditions would be among the most common causes of WD overall and for individuals with other diagnosed chronic conditions.

Methods: Data were obtained from years 2011, 2012, and 2013 of the National Health Interview Survey. WD was defined by a "yes" response to one or both of: "Does a physical, mental, or emotional problem NOW keep you from working at a job or business?" and "Are you limited in the kind OR amount of work you can do because of a physical, mental or emotional problem?"

Results: Overall, 20.1 million adults (10.4% (95% CI=10.1-10.8) of the working-age population) reported WD. The top three most commonly reported causes of WD were back/neck problems 30.3% (95% CI=29.1-31.5), depression/anxiety/emotional problems 21.0% (19.9-22.0), and arthritis/rheumatism 18.6 (17.6-19.6). Musculoskeletal conditions were among the three most common causes of WD overall and by age- and sex-specific respondents across diagnosed chronic conditions.

Conclusions: Quantifying the prevalence and causes of work disability by age and sex can help prioritize interventions.

Keywords

work disability; chronic conditions; epidemiology; musculoskeletal conditions

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Introduction

Work disability is associated with lower employment, less economic activity, and greater dependence on social programs. [1] Employment participation provides important opportunities to contribute to society and remain financially independent [2, 3] and is often considered "central to identity, social roles, and social status." [4] Conversely, there is growing evidence that being outside the labor force may have a negative impact on a person's health. [2, 5]

There are additional important societal consequences of work disability, particularly in terms of economic losses; cost of disability benefits in some countries equal 4-5% of gross domestic product (GDP). [6] In the U.S., calendar year 2013 federal expenditures for cash payments made to enrollees in the Supplemental Security Income Program, which provides income supplements to qualifying people with disabilities and those who are aged or blind, were $53.4 billion, and these payments are projected to increase (in dollars adjusted to 2014 levels) by 0.5 percent per year over the next 25 years. [7] Importantly, despite misperceptions and continued stigma, decades of data indicate that most people with work disability want to work. [3, 8, 9] Work has deep and important meanings to most adults, including those with work disability, which can be motivating for returning to work and are associated with self-esteem and improvements in physical and mental health in appropriate jobs. [3]

Chronic conditions are among the major causes of work disability. [10, 11] For example, reduced employment among people with musculoskeletal (MSK) conditions of working-age (18-64 years) has been estimated to represent 10 percentage points lower employment and an earnings gap of US$98.2 billion compared with those without MSK conditions. [12] Also, MSK conditions are the most common causes of sick leave and health-related early retirement in Europe, [13] and the 2010 Global Burden of Disease Study reported that, taking death and disability into account, MSK conditions are the fourth (third in developed countries) greatest burden on the health of the world's population representing 6.7% of global disability-adjusted life years and responsible for 21% of global disability as measured in years lived with a disability. [14] In addition, findings from a population-based study indicate that approximately 1/3 of working-age (18-64 years) U.S adults with arthritis report arthritis-attributable work limitation (5% of the total working-age population). [15] However, while there is substantial evidence that arthritis and other MSK conditions account for an extensive proportion of work disability among adults, other prevalent conditions (e.g., heart disease) and less prevalent but more acutely disabling conditions (e.g., stroke) contribute considerably to work disability. [10]

Considering that half of U.S. adults have one or more chronic conditions, [16] quantifying the prevalence and proportion of work limitation among U.S. adults, particularly by identifying reported causes, will establish the current magnitude of the problem and help to identify target groups for intervention. Because chronic conditions are so often the cause of work disability, it is useful to know which and to what extent these conditions do actually result in work disability since the presence of most conditions does not, in itself, equate with work disability. [11] Existing interventions that can decrease, delay, or mitigate work limitations may be most effective when directed to specific groups.

In terms of patterns of chronic condition prevalence, there are important differences between men and women, overall and, in some cases, by age. [16] For example, the presence of multiple chronic conditions is higher in women and increases with age, including in the 18-44 and 45-64 year old age groups. [17] There are also known traditional and contemporary differences in male and female occupations and labor force trajectories (e.g., time away for childrearing) and participation by sex. [18] According to the Bureau of Labor Statistics, 57.7% of women were in the labor force in 2012 compared with 70.5% of men. [18] Given the established differences in chronic disease prevalence and labor force attachment between men and women, we felt it was important to examine causes of work disability stratified by sex.

We undertook to answer two sets of research questions. In Part 1 (overall prevalence and causes), we estimated the overall prevalence of work disability among working-age (18-64 years) U.S. adults and the most common causes of work disability overall and by sex. In Part 2 (causes among people with a chronic condition and work disability), we estimated the prevalence and most common causes of work disability among adults with 12 common chronic conditions by sex and two age groups.

We hypothesized that, due to their prevalent and disabling features, MSK conditions would be among the most common causes of work disability overall and for individuals with other diagnosed chronic conditions.

Methods

Data were obtained from years 2011, 2012, and 2013 of the National Health Interview Survey (NHIS), an ongoing in-person survey nationally representative of the civilian, non-institutionalized U.S. population, linking the Person File to the Sample Adult Core for each year (n=33,014; 34,525; and 34,557; response rate = 66.3%, 61.2%, and 61.2%, respectively). For the purposes of this study, work disability was defined by a “yes” response to one or both of: “Does a physical, mental, or emotional problem NOW keep you from working at a job or business?” and “Are you limited in the kind OR amount of work you can do because of a physical, mental or emotional problem?” and reflects both short- and long-term disability. Respondents who said “yes” to either were also asked the question “What conditions or health problems cause your limitations?” and identified all health problems causing their limitations from a 19-item flash card, including an “other” category. Answers to this question allowed the respondent to attribute their problems to all condition(s) that caused their work disability. Causes were not mutually exclusive or ranked by respondents. On average respondents reported 1.9 causes of work disability; men in the younger and older age groups (1.1 and 1.9, respectively) reported slightly fewer causes on average than women (1.5 and 2.2, respectively). The median and mode for number of reported causes was 1.0 overall and for each age and sex group. While we reported them separately, we considered “back or neck problem” or “arthritis/rheumatism” to be MSK conditions for discussing results of this study. The “musculoskeletal/connective tissue problem” category in the figures and tables represents NCHS-provided recodes of “other” cause nominations from respondents. Due to uncertainty about what this group represents, it is not included in our study definition of the MSK group.

All respondents were separately asked about the presence of chronic health conditions independent of work disability. We selected 12 of these based on existing literature documenting the prevalence, burden, and potential amenability to intervention of these conditions. [10, 19, 20] Arthritis was identified by "yes" to "Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?" The same question wording was used for cancer (excluding non-melanoma skin cancer), diabetes (non-gestational), hypertension, heart conditions (coronary heart disease, angina, heart attack, and any other kind of heart condition or disease), and stroke. The symptom or diagnosis period was "still have asthma" for current asthma, past 12 months for chronic bronchitis, and past 3 months for low back and/or neck pain (these last two were queried separately but combined for analysis). Serious psychological distress (SPD) was calculated using the Kessler-6 (K6) scale, with a recall period of 30 days. The K6 was developed to identify and monitor prevalence and trends in nonspecific SPD at the population-level using a six-question scale with items rated from 0 (none of the time) to 4 (all of the time) for feeling sad, worthless, nervous, restless, hopeless, and that everything was an effort. Reported values were summed to create a total score, and scores of ≥13 identified respondents with SPD. [21] Obesity was calculated from self-reported height and weight and classified as a body mass index (weight in kg/height in m^2) of ≥30.0. Vision trouble was identified by self-reported "trouble seeing, even when wearing glasses or contact lenses."

Statistical analyses

Data from years 2011, 2012, and 2013 of the NHIS were combined to create an analytic dataset for annualized estimates. Analyses for Part 1 (overall prevalence and causes) aims proceeded in two steps. To address our first aim we generated estimates of the prevalence of work disability among working-age U.S. adults with weighted proportions and 95% confidence intervals (CIs). We next calculated estimates of the frequency of reported causes of work disability, overall and by age and sex. In Part 1 analyses, the denominator was working-age adults, and we were able to estimate work disability by four subsets of the working-age population (18-24; 35-44; 45-54; and 55-64) as well as by sex.

To address our Part 2 (causes among people with a chronic condition and work disability) aims, we performed 12 separate analyses restricted to respondents with work disability who reported each of the 12 chronic conditions and generated estimates of the most common causes of work disability stratified by sex. For example, we restricted an analysis to respondents who reported arthritis and work disability and then generated estimates of the most commonly reported causes of this work disability. Identical analyses were performed for the remaining 11 chronic conditions. In Part 2 analyses, the denominator was working-age adults with self-reported work disability and one chronic condition (e.g., arthritis); this was done for each of the 12 chronic conditions. There were insufficient data to report age- and sex-specific cause of work disability by the four age groups used in Part 1, so Part 2 results are presented overall and for those 18-44 and 45-64 years of age.

Unadjusted proportions were estimated because they describe the actual occurrence of an event; and, therefore, are the appropriate measure for programmatic planning, policy

evaluation, and public health and clinical response. [22] We have, however, stratified our estimates by age and sex to account for potential differences in disability and chronic condition distributions. Statistically significant differences were conservatively defined as non-overlapping 95% CIs. [23] Missing data were excluded from all analyses.

SAS, version 9.3, survey procedures were used to conduct all analyses. [24] Sampling weights were applied to derive nationally representative estimates and to generate standard errors which accounted for the complex sample design. Estimates based on an unweighted denominator of ≤50 cases and/or with a relative standard error (RSE) of ≥30.0 were suppressed. Estimates with an RSE between 20.0 and 29.9 may be unstable and are flagged in tables and footnotes.

Results

Part 1 (overall prevalence and causes): Overall, 20.1 million adults (10.4% (95% CI=10.1-10.8) of the working-age population) reported work disability. Prevalence of work disability was lowest in younger adults (4.6% in 18-24 year olds) and highest in the oldest working-age adults (19.7% in 55-64 year olds) (Figure 1). Prevalence of self-reported work disability was virtually identical among men and women in each age group.

The top three most commonly reported causes of work disability overall were back/ neck problems 30.3% (95% CI=29.1-31.5), depression/anxiety/emotional problems 21.0% (19.9-22.0), and arthritis/rheumatism 18.6% (17.6-19.6) (Figure 2). These were also the three most commonly reported causes for men (30.9% (95% CI=29.1-32.7), 17.0% (15.5-18.6), 14.5% (95% CI=13.2-15.9)) and women (29.7% (95% CI=28.1-31.3), 24.7% (23.3-26.1), 22.5% (21.1-24.0)) (data not shown). Reports of other chronic conditions causing work disability were significantly less frequent overall. For example, reports of hearing, cancer, stroke, vision, heart problems, lung/breathing problems, hypertension, or diabetes causing work disability ranged from 3.4%-11.7% (Figure 2). Across all reported causes of work disability, not only were those identified as MSK conditions for this study among the top three, but two additional related conditions not otherwise included in our study definition of MSK also (musculoskeletal/connective tissue disorder and fracture or bone/joint injury) appeared in the top nine causes of work disability overall (Figure 2).

Part 2 (causes among people with a chronic condition and work disability): In terms of population prevalence, individuals with back or neck pain and arthritis reported the greatest number of respondents with work disability (13 and 9.9 million, respectively) (Table 1). These conditions were followed most closely by hypertension (9.7 million) and obesity (8.4 million), with work disability among each of the remaining chronic conditions reported by 5 million or less people (Table 1). In term of proportion, greater than 50% of respondents with stroke and SPD reported work disability (Table 1); however, due to the comparatively lower population prevalence of these conditions, their combined contribution to work disability in millions was still only about half of that among those with arthritis and about four tenths of that among those with back or neck pain.

While exact patterns differed slightly between men and women, when examined among respondents with chronic conditions reporting work disability, at least one MSK condition was among the top 3 reported causes of work disability for every chronic condition except cancer in 18-44 year old women (Table 2) and stroke in 45-64 year old men (Table 3). For example, among those with hypertension who report work disability, the predominate causes reported for that work disability are MSK conditions across the age and sex groups (Tables 2 and 3).

The frequent report of depression/anxiety/emotional problems as a cause of work disability in both men and women was somewhat concentrated among the younger adults. Depression/anxiety/emotional problems were reported in the top three causes for every chronic condition for young women and for 11 of the 12 conditions among young men (Table 2). However, while depression/anxiety/emotional problems were reported more frequently by women compared with men in the middle-age adults as well, this cause only appeared in the top three causes for four conditions in women and two conditions in men (Table 3).

For the younger adults, men and women reported the same top three causes (although not always in the same order) of work disability across eight of the twelve diagnosed conditions. For the 45-64 year old adults, men and women reported the same top three causes of work disability in only four of the twelve conditions. For some conditions (e.g., current asthma), the top three causes of work disability were the same for all age and sex groups. For other conditions, (e.g, cancer), there were differences in both age and sex. There were not always statistically significant differences in the proportions of the top three causes of work disability; statistically significant differences in the prevalence of reported causes was most often the case for men in both age groups and women ages 45-64. More important, however, was the consistent pattern of MSK conditions predominating as a cause of work disability across chronic conditions, age, and sex groups.

Discussion

Work disability is common, reported by 1-in-10 working-age adults. Among those with studied chronic conditions, both men and women consistently reported MSK conditions among the top three most common causes of work disability across age groups. Iezzoni et al. recently established that disability among U.S. adults, by seven different measures including work disability, rose significantly between 1998 and 2011, [25] and Martin and Schoeni demonstrated increases in sensory, physical function, instrumental activities of daily living, and activities of daily living limitations for adults ages 40-64 between 1997 and 2010. [26] In both manuscripts, the authors stressed the importance of matching policies and interventions to affected populations and highlighted the importance of employment outcomes in relation to disability. Our work builds on these studies by examining adults of younger ages who have longer potential “exposure” to work disability, describing sex differences which may be important for interventions, and by identifying the causes to which respondents specifically attribute their work disability. Consistent with our findings, Martin and Schoeni also reported MSK conditions as the most frequent cause of limitations, particularly physical function limitations, with “growing roles for depression and nervous system conditions.” [26]

MSK conditions (i.e., back/neck problems and arthritis/rheumatism in our study) were among the three most common causes of work disability overall, regardless of sex, and in age- and sex-specific analyses of respondents with a variety of diagnosed chronic conditions. While the appearance of MSK conditions as causes of work disability among respondents who reported other diagnosed conditions underscores the issue of multimorbidity among U.S. adults, [16, 27] the consistency of MSK conditions causing work disability across numerous conditions and age and sex groups provides robust evidence of the consequence of MSK conditions on work disability among working-age U.S. adults. Depression/Anxiety/Emotional problems were also frequently reported as causes of work disability. Given the known high prevalence of depression and anxiety among adults with MSK conditions, [28, 29] addressing back or neck problems, arthritis/rheumatism, and depression/anxiety/emotional problems in concert seems a promising way to reduce work disability among working-age U.S. adults. The predominance of MSK-related work disability, even among those with other diagnosed conditions, suggests that the identification and treatment of MSK conditions in adults of working-age should be a priority.

There are important physical and mental health benefits of working when the job and worker are well-matched, as well as individual economic benefits. [3] From a societal perspective, reducing work disability creates at least two opportunities for greater economic prosperity —increased contribution to GDP and reduced reliance on the social support system. The United Nations Convention on the Rights of Persons with Disabilities specifically singled out work and employment as a priority area for policymaker and health care providers concerned with people with disabilities. Article 27 requires member states to “safeguard and promote the realization of the right to work,” “prohibit discrimination on the basis of disability” with regard to employment, “employ persons with disabilities in the public sector,” ensure reasonable accommodation in the workplace, and “promote vocational and professional rehabilitation, job retention and return-to-work programmes for persons with disabilities,” among other provisions. [30] One way to ensure that priority populations with work disability are targeted with interventions is first to identify the most common causes of work disability. We have extended the literature by quantifying the association of MSK conditions on work disability, not just overall, but among adults with a variety of chronic conditions, which provides evidence that work disability interventions should address MSK, regardless of other diagnosed conditions.

The substantial proportions of work disability reported by the younger adults examined in our study highlight the importance of policy interventions to address “aging with disability” and developing best practices to counteract potential negative effects. [31] As described by Wilke and Pransky, “work loss does not need to be a frequent consequence of a musculoskeletal disorder or disability.” [32] Regarding work disability interventions, a recent Cochrane review found moderate quality evidence that workplace interventions for individuals with MSK conditions were effective for work disability (i.e., return to work) but did not find evidence for improved general health outcomes. [33] The evidence for workplace interventions resulting in return to work is encouraging, but the authors also describe a need for additional research on interventions that will also improve health outcomes and describe a three-part interaction between the health care system, work environment, and financial compensation system. [33] Additionally, a systematic review of cohort studies found that

disease-attributable limitations, heavy manual work, age, and female sex were predictive of work disability among currently employed adults with rheumatoid arthritis, asthma, chronic obstructive pulmonary disease, diabetes, and ischemic heart disease. [34] A more recent UK cohort study found that male sex, pain interference with function, and low co-worker support were predictive of premature work loss among patients with osteoarthritis. [35] Our findings of similar causes of work disability in men and women seem to reconcile existing reports in the literature regarding sex and underscore the importance of offering interventions to all individuals of working age. Beyond workplace-specific interventions, it is possible that evidence-based physical activity and self-management education programs proven to improve physical function and delay and reduce disability may have benefits which extend to mitigating work disability. [36, 37]

Our study has at least three limitations. First, all data were obtained by self-report. For the arthritis case-finding question, acceptable sensitivity (77%) and specificity (59%) for public health research have been documented. [38] For work disability, social desirability bias suggests that, if anything, our estimates may be underestimated if respondents avoided reporting work disability for fear of stigma. On the other hand, our case-finding questions for work disability reflect both short- and long-term disability and so may result in different estimates from those of long-term or permanent disability. To contextualize, our estimate of 20.1 million working-age adults reporting work disability is higher than the number (8.15 million as of January 2014) receiving Federal SSI benefit payments monthly, but this is expected given the stringent eligibility criteria to qualify for SSI, which is the highest bar for identifying those with a disability, requires a minimum number of eligible credible quarters of work, and does not correspond to eligibility for accommodation under the Americans with Disabilities Act.[7] On the other hand, our estimate of work disability is within range of a U.S. Census Bureau report indicating that 24.0 million individuals ages 21-64 report disability-related problems with working at job, including 22.4 million limited in the kind or amount of work they can do.[39] Second, our analysis does not categorically examine people with multiple chronic conditions, a situation affecting 26% of U.S. adults. [16, 17] The number of health conditions people have, as well as disability, increases with age, and, in some cases, differs by sex. [16] Examining work disability by the number and/or specific clusters (dyads or triads) of diagnosed chronic conditions is an important next step in better understanding the distribution and causes of work disability. Finally, our data are cross-sectional, which generally limits the validity of drawing conclusions regarding causal relationships due to the often uncertain temporal sequencing in cross-sectional study designs. However, questions like the ones we used that require respondents to attribute a cause to their reported limitations overcome this uncertainty to some degree and allow for increased confidence in suggesting probable causative effects. At the very least, the respondents in our study believe that the conditions they nominated are the cause of their work disability, which makes them important targets for amelioration by clinical and public health professionals.

Our study also has important strengths. Quantifying the magnitude (in number and proportion) of MSK impact on work disability in the context of other chronic conditions had not been done, and our findings provide good evidence for the importance of considering MSK conditions in work disability in all age-, sex-, and chronic condition groups among

working-age adults. We also used a population-based data source, which extends what is known in the literature from clinic and cohort studies. Finally, by combining three years of NHIS data, we were able to generate estimates with good precision even for comparatively low prevalence conditions (e.g., cancer, bronchitis, vision trouble).

Conclusions

In conclusion, work disability is common, reported by 1-in-10 working-age adults. Both men and women consistently reported MSK conditions among the top three most common causes of work disability across age groups and despite various diagnosed chronic conditions. Efforts to reduce work disability should consider MSK conditions among all working-age U.S. adults.

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Disclaimer:

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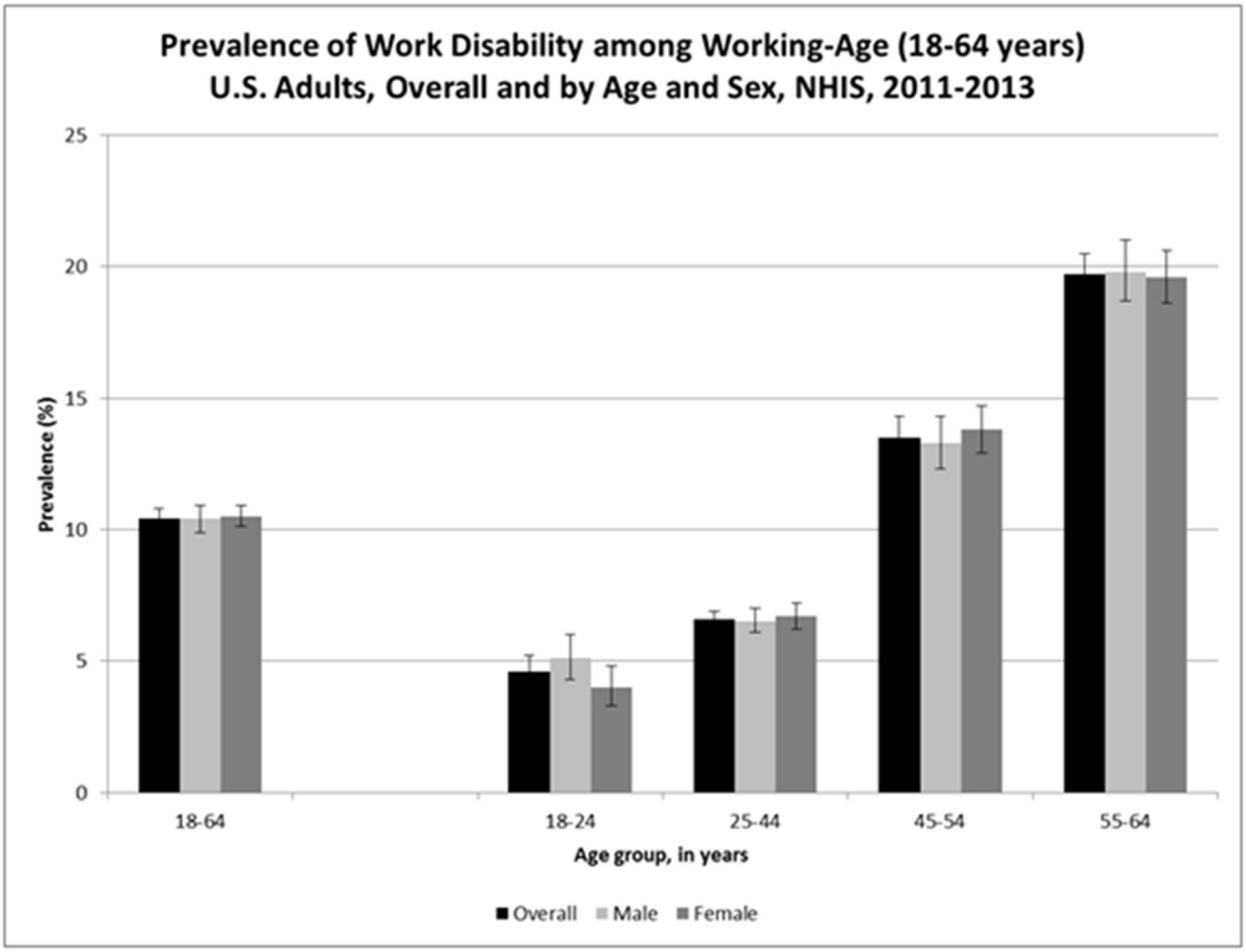

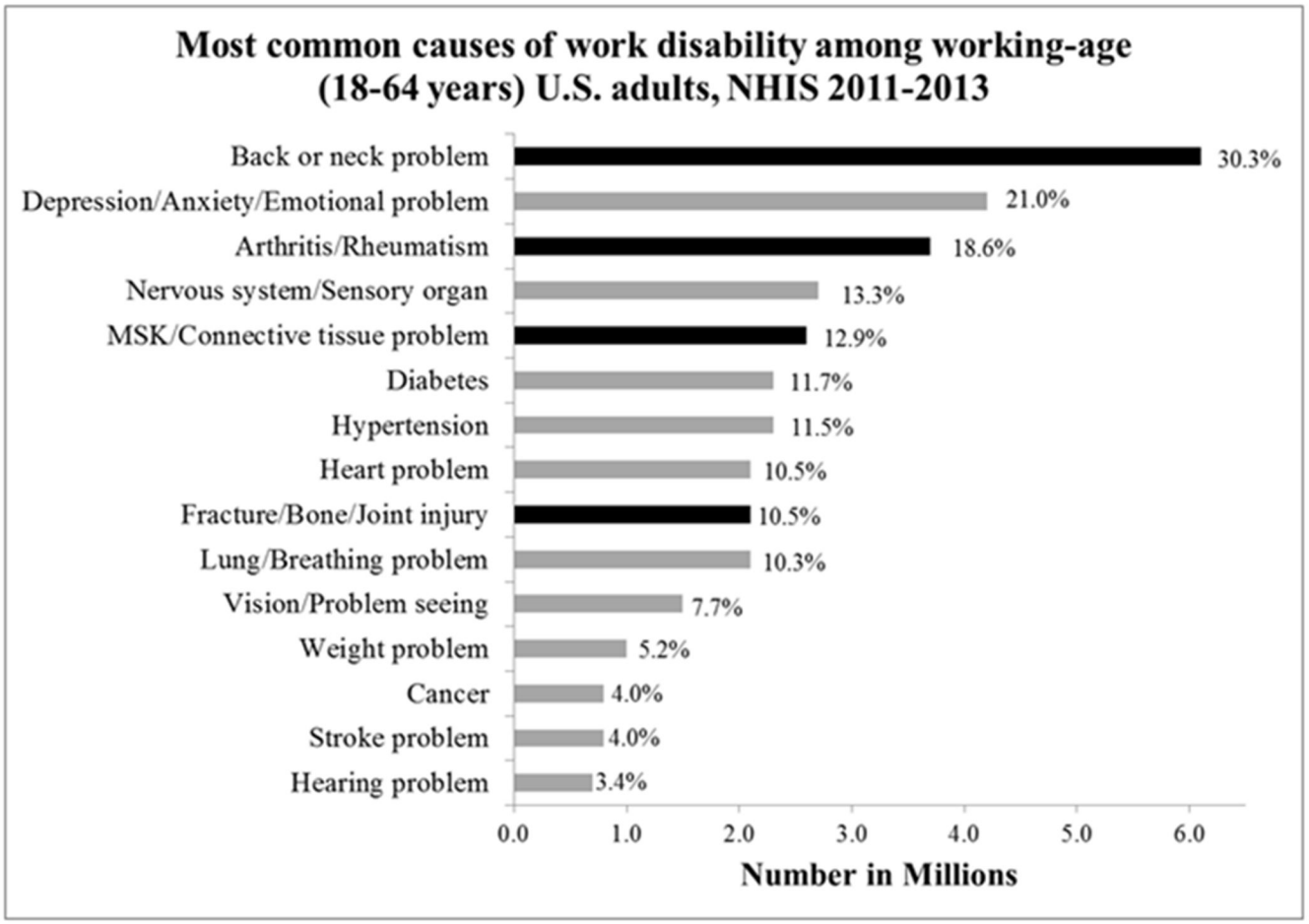

MSK=Musculoskeletal; Note, the “musculoskeletal/connective tissue problem” category represents NCHS-provided recodes of “other” cause nominations from respondents and is not included in our study definition of the MSK group.

Table 1

Unweighted and Weighted Prevalence of Work Disability among 18-64 Year Old U.S. Adults with Selected Chronic Conditions, NHIS 2011-2013 Part 2 (causes among people with a chronic condition and work disability).

	Unweighted n	Weighted N in 1,000s	%	95% CI*
Back or neck pain	6,449	13,021	21.1	(20.4-21.9)
Arthritis	4,845	9,908	30.2	(29.0-31.4)
Hypertension	4,890	9,681	22.0	(21.2-22.8)
Obesity	4,059	8,378	15.5	(14.8-16.1)
Vision trouble	2,521	4,999	32.3	(30.8-33.8)
Heart conditions	2,403	4,932	34.8	(33.2-36.5)
Diabetes	2,123	4,261	33.3	(31.6-35.0)
SPD	1,815	3,702	54.0	(51.6-56.5)
Current asthma	1,789	3,654	24.1	(22.8-25.4)
Bronchitis	1,217	2,489	36.2	(33.7-38.6)
Cancer	948	1,931	28.3	(26.3-30.4)
Stroke	801	1,628	56.6	(53.4-59.8)

*95% Confidence interval

Table 2.

Top Three Causes of Self-Reported Work Disability among U.S. Adults 18-44 Years with Selected Chronic Conditions, by Sex, National Health Interview Survey, 2011-2013

Men				Women			
	Weighted N in 1,000s	**Weighted proportion (%)**	**95% CI***		**Weighted N in 1,000s**	**Weighted proportion (%)**	**95% CI**
Arthritis	**770**				**1,257**		
Back or neck problem	332	43.1	(36.3-50.0)	Back or neck problem	464	36.9	(31.9-42.0)
Depression/anxiety/ emotional problem	196	25.5	(18.7-32.2)	Arthritis/rheumatism	354	28.1	(23.5-32.7)
Arthritis/rheumatism	158	20.5	(15.1-26.0)	Depression/anxiety/ emotional problem	339	26.9	(22.5-31.3)
Back or neck pain	**1,606**				**2,128**		
Back or neck problem	741	46.1	(41.4-50.9)	Back or neck problem	740	34.8	(31.2-38.3)
Depression/anxiety/ emotional problem	326	20.3	(16.6-24.1)	Depression/anxiety/ emotional problem	662	31.1	(27.7-34.5)
Nervous system/ sensory organ	217	13.4	(10.2-16.5)	Nervous system/ sensory organ	397	18.6	(15.4-21.8)
Bronchitis	**182**				**443**		
Depression/anxiety/ emotional problem	57	31.6†	(18.2-44.9)	Depression/anxiety/ emotional problem	157	35.5	(27.2-43.9)
Back or neck problem	45	24.9†	(12.6-37.2)	Back or neck problem	143	32.3	(24.7-40.0)
Hypertension	25	‡	‡	Lung/breathing problem	104	23.5	(16.3-30.8)
Cancer	**80**				**284**		
Cancer	36	45.3†	(26.4-64.2)	Cancer	83	29.3	(17.8-40.7)
Depression/anxiety/ emotional problem	14	‡	‡	Depression/anxiety/ emotional problem	76	26.8	(19.0-34.6)
Arthritis/rheumatism	10	‡	‡	Nervous system/ sensory organ	65	22.5†	(12.2-32.9)
Current asthma	**451**				**821**		
Lung/breathing problem	113	25.0	(15.9-34.2)	Depression/anxiety/ emotional problem	263	32.1	(25.9-38.3)
Depression/anxiety/ emotional problem	102	22.5	(15.1-30.0)	Back or neck problem	231	28.1	(21.8-34.4)
Back or neck problem	96	21.3	(13.9-28.8)	Lung/breathing problem	205	25.0	(19.6-30.4)
Diabetes	**269**				**376**		
Diabetes	131	48.7	(37.6-59.8)	Diabetes	150	39.7	(29.5-49.9)
Back or neck problem	59	22.1†	(13.4-30.8)	Depression/anxiety/ emotional problem	106	28.1	(18.1-38.1)
Depression/anxiety/ emotional problem	46	16.9†	(10.1-23.7)	Back or neck problem	83	22.0	(14.3-29.8)

Men				Women			
	Weighted N in 1,000s	Weighted proportion (%)	95% CI*		Weighted N in 1,000s	Weighted proportion (%)	95% CI
Heart disease	**421**				**453**		
Heart problem	127	30.1	(21.5-38.7)	Depression/anxiety/ emotional problem	170	37.5	(28.9-46.2)
Depression/anxiety/ emotional problem	86	20.5†	(11.0-29.9)	Back or neck problem	134	29.5	(22.5-36.6)
Back or neck problem	77	18.2†	(11.2-25.2)	Heart problem	132	29.1	(20.9-37.3)
Hypertension	**967**				**823**		
Back or neck problem	308	31.8	(25.9-37.8)	Back or neck problem	259	31.5	(25.0-37.9)
Depression/anxiety/ emotional problem	223	23.0	(17.9-28.1)	Depression/anxiety/ emotional problem	227	27.5	(21.9-33.1)
Hypertension	151	15.6	(10.9-20.3)	Hypertension	183	22.2	(16.9-27.4)
Obesity	**1,137**				**1,423**		
Back or neck problem	319	28.1	(23.0-33.2)	Depression/anxiety/ emotional problem	423	29.8	(25.3-34.2)
Depression/anxiety/ emotional problem	247	21.7	(16.8-26.6)	Back or neck problem	381	26.8	(22.4-31.2)
Stroke	102	9.0‡	(5.3-12.6)	Arthritis/rheumatism	212	14.9	(11.6-18.3)
Serious Psychological Distress	**570**				**732**		
Depression/anxiety/ emotional problem	277	48.6	(39.0-58.2)	Depression/anxiety/ emotional problem	409	56.0	(49.3-62.7)
Back or neck problem	182	31.9	(23.8-40.0)	Back or neck problem	207	28.3	(21.9-34.8)
Nervous system/ sensory organ	61	10.6†	(5.8-15.4)	Nervous system/ sensory organ	152	20.7	(15.2-26.1)
Stroke	**139**				**120**		
Stroke	43	30.9†	(15.2-46.5)	Stroke	56	‡	‡
Back or neck problem	22	‡	‡	Depression/anxiety/ emotional problem	38	‡	‡
Heart problem	19	‡	‡	Back or neck problem	26	‡	‡
Vision trouble	**504**				**704**		
Vision/problem seeing	123	24.3	(16.2-32.4)	Depression/anxiety/ emotional problem	273	38.7	(32.2-45.2)
Depression/anxiety/ emotional problem	113	22.4	(15.5-29.3)	Back or neck problem	201	28.5	(22.4-34.7)
Back or neck problem	102	20.3	(13.3-27.3)	Vision/problem seeing	152	21.6	(15.5-27.7)

*95% Confidence interval;

†Relative Standard Error (RSE) between 20.0 and 29.9;

‡RSE ≥30.0

‖Derived from the Kessler-6 Serious Psychological Distress scale

NOTE: Denominator for each age-sex-condition row is the number of people 18-44 with the bolded chronic condition who reported work disability; the numerator is the number among them who reported each respective cause of their work disability; Respondents could report more than one cause.

Table 3.

Top Three Causes of Self-Reported Work Disability among U.S. Adults 45-64 Years with Selected Chronic Conditions, by Sex, National Health Interview Survey, 2011-2013

	Men				Women		
	Weighted N in 1,000s	**Weighted proportion (%)**	**95% CI***		**Weighted N in 1,000s**	**Weighted proportion (%)**	**95% CI**
Arthritis	**3,329**				**4,518**		
Back or neck problem	1,444	43.4	(40.2-46.6)	Arthritis/ rheumatism	1,816	40.2	(37.6-42.8)
Arthritis/rheumatism	1,112	33.4	(30.6-36.2)	Back or neck problem	1,721	38.1	(35.5-40.7)
Hypertension	652	19.6	(17.1-22.1)	MSK†/connective tissue problem	1,166	25.8	(23.7-27.9)
Back or neck pain	**4,183**				**5,040**		
Back or neck problem	2,059	49.2	(46.5-52.0)	Back or neck problem	2,113	41.9	(39.4-44.5)
Arthritis/rheumatism	964	23.0	(20.8-25.3)	Arthritis/ rheumatism	1,566	31.1	(28.8-33.3)
Depression/anxiety/ emotional problem	688	16.5	(14.5-18.4)	Depression/anxiety/ emotional problem	1,195	23.7	(21.6-25.8)
Bronchitis	**693**				**1,164**		
Lung/breathing problem	306	44.2	(36.0-52.3)	Back or neck problem	453	38.9	(33.9-44.0)
Back or neck problem	230	33.2	(26.5-40.0)	Arthritis/ rheumatism	418	35.9	(31.1-40.6)
Heart problem	163	23.5	(16.9-30.1)	Lung/breathing problem	384	33.0	(28.7-37.3)
Cancer	**666**				**896**		
Cancer	352	52.8	(46.3-59.3)	Back or neck problem	277	31.0	(25.4-36.5)
Back or neck problem	220	33.1	(26.5-39.6)	Cancer	270	30.2	(25.3-35.1)
Hypertension	132	19.8	(14.2-25.4)	Arthritis/ rheumatism	236	26.4	(21.7-31.1)
Current asthma	**807**				**1,669**		
Lung/breathing problem	347	43.1	(35.6-50.5)	Arthritis/ rheumatism	590	37.6	(33.4-41.8)
Back or neck problem	286	35.5	(29.2-41.8)	Back or neck problem	588	37.5	(32.8-42.1)
Arthritis/rheumatism	201	24.9	(18.7-31.0)	Lung/breathing problem	548	34.9	(30.7-39.1)
Diabetes	**1,893**				**1,707**		
Diabetes	969	51.2	(46.9-55.4)	Diabetes	981	57.5	(53.3-61.6)
Back or neck problem	545	28.8	(24.7-32.9)	Arthritis/ rheumatism	583	34.2	(30.4-38.0)
Hypertension	481	25.4	(21.5-29.2)	Back or neck problem	533	31.2	(27.0-35.4)

Men				Women			
	Weighted N in 1,000s	Weighted proportion (%)	95% CI*		Weighted N in 1,000s	Weighted proportion (%)	95% CI
Heart disease	**2,109**				**1,942**		
Heart problem	965	45.8	(41.5-50.1)	Heart problem	765	39.4	(35.1-43.6)
Back or neck problem	675	32.0	(28.0-36.0)	Arthritis/ rheumatism	622	32.0	(28.4-35.6)
Diabetes	461	21.8	(18.5-25.1)	Back or neck problem	610	31.4	(27.5-35.3)
Hypertension	**4,007**				**3,838**		
Back or neck problem	1,424	35.5	(33.0-38.1)	Back or neck problem	1,266	33.0	(30.2-35.7)
Hypertension	933	23.3	(20.8-25.8)	Arthritis/ rheumatism	1,245	32.4	(29.9-34.9)
Arthritis/rheumatism	842	21.0	(18.7-23.4)	Hypertension	1,000	26.0	(23.5-28.6)
Obesity	**2,675**				**3,101**		
Back or neck problem	984	36.8	(33.3-40.2)	Arthritis/ rheumatism	1,058	34.1	(31.1-37.1)
Arthritis/rheumatism	651	24.3	(21.3-27.4)	Back or neck problem	1,049	33.8	(30.9-36.8)
Diabetes	599	22.4	(19.4-25.3)	Depression/anxiety/ emotional problem	738	23.8	(21.1-26.5)
Serious Psychological Distress‡	**1,038**				**1,351**		
Depression/anxiety/ emotional problem	377	36.3	(30.3-42.3)	Depression/anxiety/ emotional problem	641	47.4	(42.6-52.2)
Back or neck problem	372	35.9	(30.4-41.3)	Back or neck problem	544	40.3	(35.9-44.7)
Arthritis/rheumatism	246	23.7	(18.7-28.7)	Arthritis/ rheumatism	422	31.2	(27.0-35.4)
Stroke	**655**				**711**		
Stroke	350	53.4	(46.4-60.5)	Stroke	323	45.4	(38.3-52.5)
Hypertension	167	25.5	(19.6-31.3)	Diabetes	164	23.1	(17.9-28.3)
Heart problem	163	24.9	(19.0-30.8)	Arthritis/ rheumatism	164	23.0	(17.8-28.2)
Vision trouble	**1,741**				**2,034**		
Back or neck problem	616	35.4	(31.4-39.4)	Arthritis/ rheumatism	715	35.1	(31.3-38.9)
Diabetes	417	24.0	(19.9-28.1)	Back or neck problem	684	33.6	(30.2-37.0)
Arthritis/rheumatism	396	22.7	(19.2-26.3)	Depression/anxiety/ emotional problem	561	27.6	(24.5-30.7)

* 95% Confidence interval

[†]MSK=Musculoskeletal; Note, the “musculoskeletal/connective tissue problem” category represents NCHS-provided recodes of “other” cause nominations from respondents and is not included in our study definition of the MSK group.

[‡]Derived from the Kessler-6 Serious Psychological Distress scale

NOTE: Denominator for each age-sex-condition row is the number of people 45-64 with the bolded chronic condition who reported work disability; the numerator is the number among them who reported each respective cause of their work disability; Respondents could report more than one cause.