CHRONIC CONDITIONS IN THE US WORKFORCE:

Prevalence, Trends, and Productivity Impacts (2021 vs 2023)

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Chronic Conditions in the US Workforce: Prevalence, Trends, and Productivity Impacts (2021 vs 2023)

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Rising Burden: 78.4% of employees have at least one chronic condition (+7.0% since 2021)

Multiplier Effect: Employees with 3+ conditions miss 7.8 days annually vs 2.2 days for those without

Access Crisis: 59.7% report skipping medications due to cost (+8% since 2021)

Paradox: Despite increasing condition prevalence, disability claims decreased significantly

This comprehensive investigation analyzed data from the National Health Interview Survey (47,450 respondents) alongside IBI Benchmarking disability claims data to provide a holistic view of chronic condition trends and impacts during the post-pandemic period (2021 vs 2023). The chronic conditions examined in this study were chronic obstructive pulmonary disease (COPD), migraine and chronic headache, anxiety and depression, diabetes, cardiovascular disease (specifically heart attack, obesity (BMI greater than or equal to 30), musculoskeletal conditions, stroke, and cancers.

Key Findings

Rising Chronic Condition Burden
The prevalence of employees with at least one chronic condition rose significantly from 73.3% to 78.4% between 2021 versus 2023. Most concerning was the 21% increase in employees with three or more chronic conditions.

Productivity Impact
Employees with chronic conditions miss 2.5 times more workdays than those without. This impact multiplies with condition count—employees with 3+ conditions miss 7.8 days annually compared to 2.2 days for those without chronic conditions.

Healthcare Access Barriers
Medication adherence is a concern, with 59.7% of employees reporting that they skip medications due to cost, an increase of 8% since 2021. Additionally, 14.6% of employees face unmet medical needs. These barriers disproportionately affect those with existing conditions, leading to a concerning cycle of deteriorating health.

Paradoxical Disability Outcomes

Despite increasing chronic condition prevalence, disability claims decreased significantly (STD claims -27%, LTD claims -21.1%). This suggests improved condition management strategies may be working, though high condition prevalence continues to drive substantial costs.

Strategic Recommendations

Our findings indicate that employers have significant opportunities to enhance workforce health while controlling costs through strategically designed interventions:

Address Unmet Healthcare Needs

Expand comprehensive benefits, implement financial wellness programs, enhance job security, and offer flexible work arrangements to reduce the 72% higher absenteeism among those with healthcare access barriers.

Manage Overtime Effectively

Limit excessive overtime (>48 hours weekly), monitor workload distribution, provide ergonomic support, and encourage adequate recovery time to mitigate the 17% higher chronic pain rates associated with excessive work hours.

Implement Condition-Specific Interventions

Develop targeted approaches for high-prevalence conditions, including mental health support (yielding 39.1% better return-to-work rates for anxiety and depression), pain management programs, and accommodations for migraine sufferers.

Adopt Data-Driven Wellness Strategies

Utilize workforce analytics to identify high-risk groups, develop targeted interventions, monitor outcomes, and continuously refine approaches. Organizations implementing data-driven programs demonstrate a 62.7% reduction in disability conversion rates.

Introduction

SECTION OVERVIEW

- Research addresses critical gaps in understanding post-pandemic chronic disease trends
- 2021-2023 timeframe captures significant healthcare access and treatment protocol adjustments
- Economic stakes are enormous with 90% of $4.1 trillion healthcare expenditure attributed to chronic conditions

This research responds directly to IBI members' continued interest in understanding these dynamics to develop more effective approaches to workforce health management.

Research highlights gaps in understanding chronic disease trends, healthcare access, and workforce impacts, especially post-pandemic [1]. The 2021-2023 period witnessed significant adjustments in healthcare access and treatment protocols following pandemic disruptions [2]. This timeframe is crucial for analyzing the evolution of the healthcare system and workforce health, particularly regarding chronic condition trends and their impacts (Figure 1).

Economic stakes are enormous, with 90% of the annual $4.1 trillion healthcare expenditure attributed to chronic diseases and mental health conditions [3]. These conditions affect productivity, disability claims, and overall business performance.

The challenge is substantial with 11.2% of US adults, representing over 29.3 million people, report having three or more chronic conditions [4]. Medication adherence is problematic, with 50% of patients not taking medications as prescribed, compromising condition management [5], [6].

Arthritis, depression, diabetes, cardiovascular disease, cancer, and COPD have shown persistent upward trends from 2014 to 2021, with some conditions exhibiting more volatility [7], [8]. This research addresses these dynamics, aiming to develop more effective workforce health management approaches for IBI members.

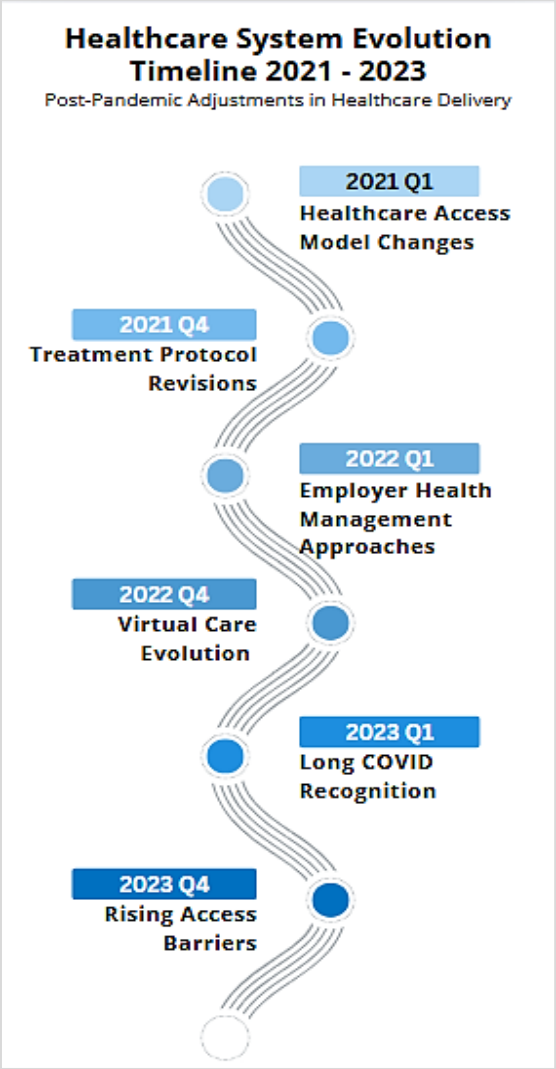


Figure 1: Timeline of healthcare system and workforce health evolution amidst pandemic disruptions

Methodology

Research Design

This study employed a multi-method quantitative research approach utilizing secondary data analysis to investigate the prevalence, trends, productivity losses, and disability claims associated with chronic conditions in the U.S. workforce in 2021 versus (vs.) 2023.

Research Aim

This study explored how chronic conditions in the U.S. workforce have changed over time, comparing trends from the early post-pandemic period in 2021 to two years later in 2023. The primary objective was to determine how the prevalence of chronic conditions shifted during this timeframe, with particular attention to identifying which conditions showed the most significant changes. Additionally, the research sought to quantify the productivity impact of these conditions by measuring absenteeism patterns across different conditions and combinations. A key component of the analysis focused on tracking changes in short-term and long-term disability claims related to chronic conditions during this period. The study also investigated how healthcare access barriers influenced both the prevalence of chronic conditions and workforce productivity. Finally, the research aimed to identify evidence-based strategies that employers could implement to effectively mitigate risks associated with chronic conditions in their workforce.

Data Sources

The study incorporated data from multiple sources, primarily the National Health Interview Survey (NHIS) from 2021 and 2023 [9]. This comprehensive survey provided extensive information on the prevalence of chronic conditions, demographic variables, and metrics related to healthcare access. The NHIS sample was nationally representative, including approximately 47,450 observations, and contained 291 variables encompassing health status, healthcare utilization, and socioeconomic indicators. The chronic conditions examined in this study were chronic obstructive pulmonary disease (COPD), migraine and chronic headache, anxiety and depression, diabetes, cardiovascular disease (specifically heart attack, obesity (BMI greater than or equal to 30), musculoskeletal conditions, stroke, and cancers.

Additionally, the Integrated Benefits Institute (IBI) Benchmarking Repository for the years 2021 and 2023 were used. These reports detailed short-term disability (STD) and long-term disability (LTD) claims associated with chronic conditions [10]. The data provided insights into claims incidence rates, duration, payment information, and return-to-work outcomes, which were crucial for understanding the impact of chronic conditions on workforce productivity.

Supplementary sources included literature and IBI's industry experts. This combined approach allowed for a thorough investigation into the prevalence, trends, productivity losses, and disability claims linked to chronic conditions within the U.S. workforce. Additional details on methodology in Appendix C.

Population Demographics

This study, which includes a sample of 47,450 participants, provides insights into demographic and occupational trends within the group. (Figure 2)

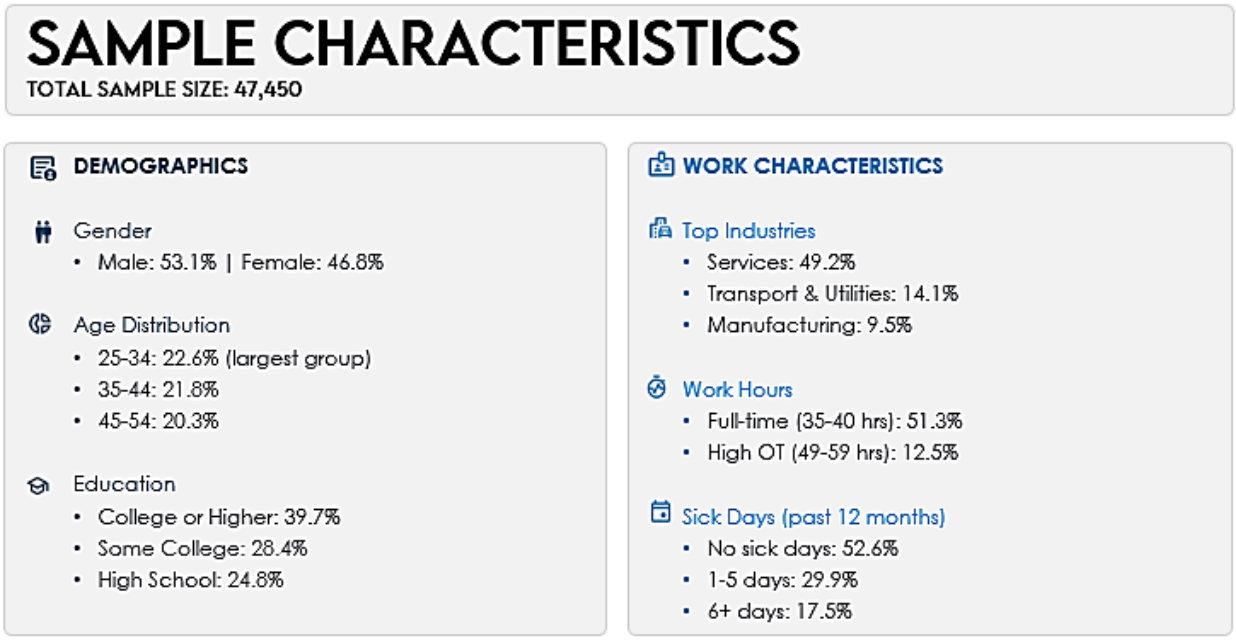


Figure 2: Sample Characteristics

The **gender distribution** of the sample is relatively balanced, with males comprising 53.1% and females accounting for 46.8%. Regarding **age distribution**, participants are predominantly within working-age groups, with 22.6% aged 25-34, 21.8% aged 35-44, 20.3% aged 45-54, 19.8% 55-64, and a small percentage – 8.9% in a growing population – aged 65 – 74. These groups are reflective of the U.S. Population.

In terms of **educational attainment**, 39.7% of participants reported completing college or higher education, 28.4% had some college education, and 24.8% were high school graduates, highlighting varying levels of academic achievement across the sample.

The **occupational profile** indicates that nearly half of the participants (49.2%) work in the services sector, followed by 14.1% in transport and utilities and 9.5% in manufacturing. These figures illustrate the workforce distribution across different industries.

As for **work hours**, the majority (51.3%) work full-time, averaging 35-40 hours per week. Additionally, 12.5% of respondents report working high overtime hours, ranging from 49 to 59 hours per week.

Overall, these characteristics provide a detailed overview of the demographic, educational, and occupational composition of the sample population, offering useful data for workforce analysis and planning. A detailed table of sample characteristics can be found in Appendix A.

RESULTS: THE GENERAL US WORKFORCE

SECTION HIGHLIGHTS

- Overall chronic condition prevalence increased 7.0% (2021 vs. 2023)
- 78.4% of workforce reported at least one chronic condition by 2023
- Musculoskeletal issues most prevalent (59.5%), followed by obesity (34.4%)
- Largest increases: stroke (+57.1%), chronic pain (+19%), migraine and headache (+16.6%)

Chronic Condition Prevalence and Trends

Chronic condition prevalence increased by 7.0% from 2021 to 2023, with 78.4% of the workforce reporting at least one chronic condition by 2023.

The most prevalent conditions include musculoskeletal issues, affecting 59.5% of the population, followed by obesity at 34.4%, and anxiety and depression at 22.5%. Additionally, conditions with the largest increases over this period were stroke, which saw a significant rise of 57.1%, chronic pain with a 19.0% increase, migraine and headache up by 16.6%, and anxiety and depression, which increased by 12.5%. (Figure 3)

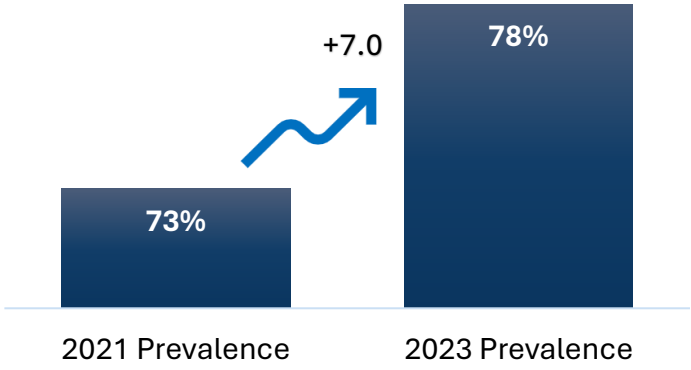


Figure 3: Chronic Condition Prevalence 2021 vs 2023

Table 1: Prevalence of Specific Chronic Conditions 2021 vs 2023 with Percent Change

Condition	2021 (%)	2023 (%)	Relative Change (%)
Musculoskeletal	**54.2**	**59.5**	+9.7*
Obesity	**32.6**	**34.4**	+5.5*
Anxiety/Depression	**20.0**	**22.5**	**+12.5***
Chronic Pain	**15.8**	**18.7**	**+19.0***
Migraine and Headache	**15.7**	**18.3**	**+16.6***
Long COVID	-	8.6	New since 2021
Diabetes	5.9	6.1	+2.4*
Cancers	5.5	5.4	-1.6
Cardiovascular	2.4	2.4	+2.1
COPD	2.0	1.9	-7.2*
Stroke	0.7	1.1	**+57.1***

*Note: *statistically significant. Top column values in bold*

Multiple Condition Burden

The prevalence of individuals reporting multiple health conditions has increased significantly (Table 2), particularly among those with three or more conditions (+21% since 2021).

Table 2: Multiple Condition Distribution

Number of Conditions	2021 (%)	2023 (%)	Change (%)
None	26.7%	21.6%	-19.1%
One	**28.5%**	27.0%	-5.3%
Two	20.3%	21.8%	+7.4%
Three or more	24.4%	**29.6%**	**+21.3%**

*Note: Highest contributor for column in **bold***

Differences Across Demographic

Analysis reveals several significant health disparities across different population segments:

Gender Patterns

- Women experience anxiety/depression at rates 91% higher than men (30.2% vs. 15.8%)
- Migraine prevalence is more than twice as high in women compared to men (25.0% vs. 11.9%)
- Musculoskeletal conditions appear at similar rates across genders (61.4% women vs. 57.8% men)
- Men show higher rates of cardiovascular conditions than women (3.1% vs. 1.7%)

Racial/Ethnic Disparities

- Anxiety/depression rates vary significantly across racial groups, ranging from 8.6% (Asian) to 30.8% (Multiracial)
- Musculoskeletal condition prevalence ranges from 45.9% (Hispanic) to 64.6% (Non-Hispanic White)
- Diabetes shows consistently higher rates in minority populations compared to non-Hispanic White groups

Age-Related Trends

- Cancer prevalence increases dramatically with age: 0.6% (ages 18-24) to 18.1% (ages 65-75)
- Musculoskeletal conditions show similar age-related increases: 44.3% (ages 18-24) to 74.3% (ages 65-75)
- Both anxiety/depression and migraine conditions tend to decrease in prevalence with increasing age

Educational Patterns

- Diabetes rates decline with educational attainment: 9.3% (less than high school) to 4.5% (college degree or higher)
- Anxiety/depression rates increase alongside higher levels of education

- Musculoskeletal conditions become more prevalent with increasing educational attainment

Income-Related Patterns

- Cancer prevalence is consistently higher among upper income groups
- Anxiety/depression rates remain relatively consistent across all income levels
- Stroke affects 2.4% of those in deep poverty compared to 1.0% in upper middle-income groups

Comorbidity Patterns

- Multiple concurrent health conditions occur frequently in older age demographics
- Complex health needs increase with age, requiring comprehensive care approaches

Absenteeism Impact

SECTION HIGHLIGHTS

- Employees with chronic conditions miss 2.5× more days than those without
- Impact multiplies with condition count: 3+ conditions average 7.8 missed days annually
- Highest impact conditions: COPD (11.1 days), Stroke (10.8 days), Chronic Pain (9.2 days)
- Healthcare access barriers associated with 72% higher absenteeism

Condition-Specific Absenteeism

Employees with chronic conditions miss significantly more days than those without, averaging 5.5 days compared to 2.2 days.

Figure 4 shows the average days missed from work due to chronic health conditions versus no chronic condition. Grey bars represent baseline absenteeism (4.4 days) for individuals without the specified condition, while blue bars show increased absenteeism for those with each condition. COPD has the highest impact (11.1 days), followed by Stroke (10.8 days) and Chronic Pain (9.2 days). On average, individuals with at least one chronic condition miss 5.5 days, compared to 2.2 days for those without any chronic condition under examination in this study.

Individuals without a specific condition still miss more days (3.4-5.2) than the overall average for those without any conditions (2.2 days). This suggests many individuals in the have other chronic conditions contributing to higher absenteeism.

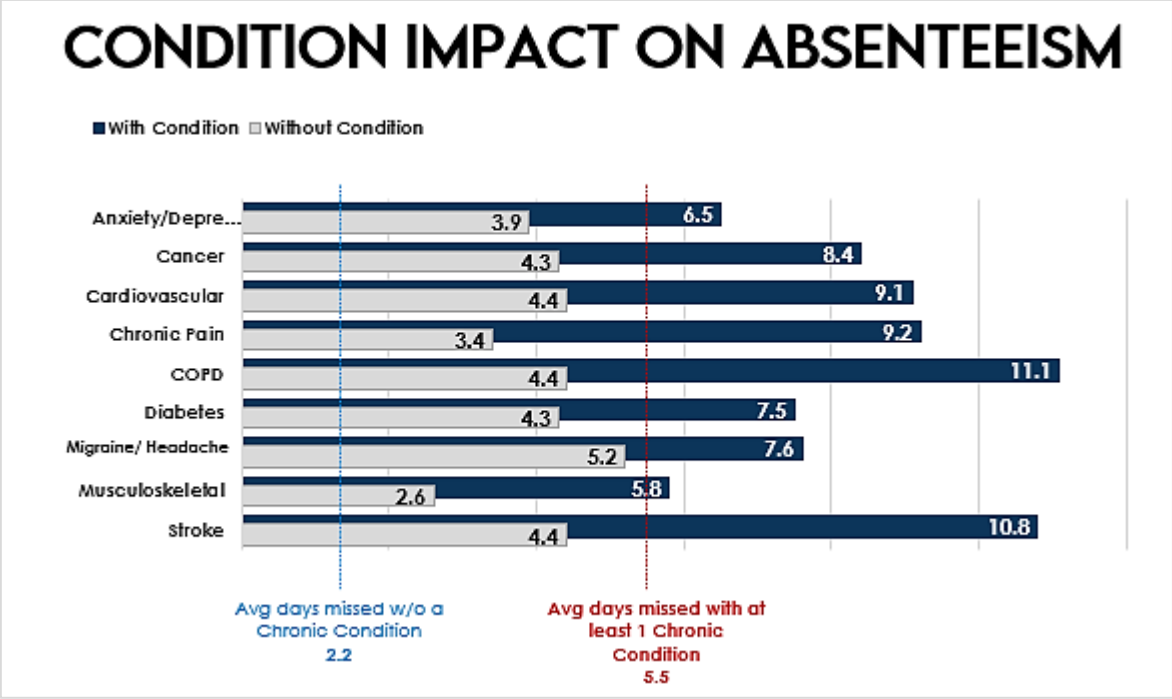


Figure 4: Average Days Missed by Condition Type vs Employees Without Condition

Work Loss Days by Number of Chronic Conditions (2023)

Employees with chronic conditions miss 5.5 days on average compared to 2.2 days for those without any chronic condition. The impact increases with the number of conditions. Figure 5 illustrates a clear and striking relationship between the number of chronic conditions an employee has and their lost workdays. A strong "dose-response" relationship exists between the number of chronic conditions an employee has and their lost workdays. Employees with no chronic conditions miss 2.2 days annually, those with one condition miss 3.3 days (an increase of 50%), with two conditions miss 4.4 days (+123%), and with three or more conditions miss 7.8 days (+294%).

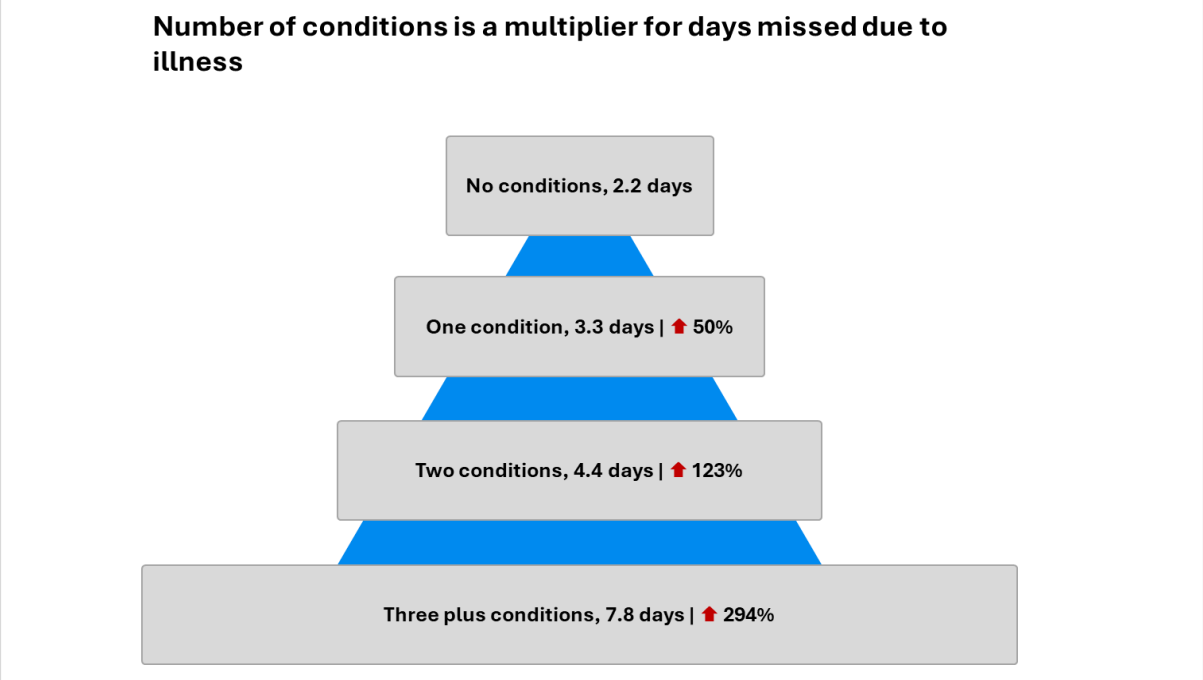


Figure 5: Multiplier Effect of Multiple Conditions
Note: All differences are highly statistically significant ($p < 0.001$)

These differences are highly statistically significant ($p < 0.001$), indicating they are not due to random chance. Additionally, the impact is multiplicative; having multiple conditions creates a compounding effect on absenteeism, with the jump from two to three or more conditions being particularly pronounced (from 4.4 to 7.8 days).

These findings indicate that employees with multiple chronic conditions should be prioritized for workplace health interventions due to the significant increase in absenteeism. A comprehensive approach to health management is necessary, addressing multiple conditions together rather than individually, as their combined effects on absenteeism are substantial.

Healthcare Access and Utilization

SECTION HIGHLIGHTS

Employees reporting healthcare access barriers experience substantially higher absenteeism:

- 59.7% of employees report skipping medications due to cost (+8.0% since 2021)
- 14.6% report persistent unmet medical needs
- Emergency department utilization increased 11.7%
- Barriers are associated with 72% higher absenteeism and elevated disability risk
- Access challenges disproportionately affect those with existing conditions

Healthcare Utilization Trends

Our analysis reveals significant shifts in healthcare utilization patterns from 2021 to 2023. This data reveals a concerning shift in how employees access healthcare post-pandemic. While regular primary care remained stable, there has been a significant decline in virtual care use (-24.1%). We also observe substantial increases in higher-acuity settings like emergency departments (+11.7%) and urgent care (+16.3%). This pattern suggests employees may be delaying care until conditions worsen, requiring more intensive intervention. The increase in mental health care utilization (+26.4%) reflects growing recognition of psychological needs, though likely still falls short of addressing the full scope of workforce mental health challenges (Table 3).

Table 3: Healthcare Utilization Trends 2021-2023

Utilization Metric	2021 (%)	2023 (%)	Change (%)
Regular Source of Care	87.4	87.4	0%
Virtual Care Use	34.5	26.2	**-24.1%**
Mental Health Care	11.0	13.9	**+26.4%**
Emergency Department Visits	15.4	17.2	**+11.7%**
Urgent Care - No Visits	71.2	66.5	**-6.6%**
Urgent Care - 1+ Visits	28.8	33.5	**+16.3%**

**Statistically significant at p<0.05; †Statistically significant at p<.001*

These patterns suggest a healthcare landscape where employees are increasingly seeking care in higher-acuity, higher-cost settings, potentially indicating both access challenges with traditional care pathways and the progression of undertreated chronic conditions requiring more urgent intervention.

Healthcare Access Barriers

Building on the concerning utilization patterns, substantial barriers to healthcare access could possibly be driving the shift toward higher-acuity care settings (Table 4). These findings highlight

persistent and worsening barriers to healthcare access among employees. The significant increase in medication non-adherence due to cost (+8.0%) is particularly troubling, as it directly impacts chronic condition management. The rise in care delays for non-financial reasons (+20.6%) suggests systemic access issues beyond affordability, such as appointment availability, transportation, or time constraints. The alarming increase in unmet mental health needs (+18.4%) indicates that despite growing awareness, mental health services remain insufficient or inaccessible for many employees, potentially contributing to productivity losses and disability claims.

Table 4: Healthcare Access Barriers 2021-2023

Barrier	2021 (%)	2023 (%)	Change (%)	Significance
Skipped Medications Due to Cost	55.3	59.7	**+8.0%**	***
Could Not Afford Prescriptions	4.7	4.8	+2.0%	NS
Delayed Care Due to Cost	7.5	7.8	+4.0%	NS
Delayed Care (Other Reasons)	3.4	4.1	**+20.6%**	***
Unmet Medical Needs	14.4	14.6	+1.0%	NS
Unmet Mental Health Needs	4.9	5.8	**+18.4%**	***

*Note: *** = statistically significant at p<0.001, NS = not statistically significant*

Disparities in Healthcare Access

The data in Table 5 underscores how healthcare access barriers disproportionately burden those already managing chronic conditions. Employees with chronic conditions are 77% more likely to skip medications due to cost and face triple the rate of prescription affordability challenges compared to their healthier counterparts. The substantially higher emergency department utilization (+71%) among those with chronic conditions likely reflects both condition exacerbations and limited access to regular care. This creates a troubling cycle where those most in need of consistent healthcare face the greatest barriers, potentially exacerbating condition severity and driving higher healthcare costs for both employers and employees.

Table 5: Healthcare Access by Chronic Condition Status

Access Metric	Without Conditions (%)	With Conditions (%)	Relative Difference
Skipped Medications Due to Cost	37.2	65.9	+77*
Could Not Afford Prescriptions	1.6	6.4	+300*
Delayed Care Due to Cost	3.9	8.9	+128*
Unmet Medical Needs	10.8	15.6	+44*
Emergency Department Visits	11.1	19.0	+71*

**Statistically significant at p<0.05*

Condition-Specific Access Challenges

The condition-specific patterns in Table 6 reveal important nuances in healthcare access challenges. COPD and migraine sufferers face the highest rates of cost-related delays (16.5% and

15.8% respectively) despite relatively high rates of having a usual care provider, suggesting financial barriers override care availability. Notably, even conditions requiring vigilant monitoring like diabetes and cardiovascular disease show substantial rates of unmet needs (21.0% and 20.0%). Cancer patients demonstrate the best overall access metrics, potentially reflecting comprehensive care coordination typically provided through oncology services, while mental health conditions face particular barriers despite their impact on care-seeking behaviors. These variations highlight the need for condition-specific approaches to improving healthcare access.

Table 6: Access barriers by condition

Condition	Has Usual Care (%)	Delayed Care (%)	Unmet Needs (%)	Cost-Related Delay (%)
COPD	93.2	13.2	23.5	16.5
Migraine and Headache	89.3	10.0	22.3	15.8
Anxiety/Depression	91.7	8.6	19.0	13.4
Diabetes	96.5	10.8	21.0	9.2
Cardiovascular	95.1	7.6	20.0	9.1
Obesity	90.8	6.3	17.6	11.2
Musculoskeletal	89.6	5.6	16.7	10.0
Stroke	93.7	10.6	21.8	14.6
Cancer	96.4	4.6	11.9	6.6

This analysis reveals several important patterns:

High-Need Conditions: COPD patients face the highest barriers across most categories, with 23.5% reporting unmet needs despite 93.2% having a usual source of care

Care Continuity: Cancer and diabetes patients show the highest rates of having a usual care provider (>96%), yet significant proportions still report unmet needs

Cost Barriers: Cost-related delays are highest for COPD (16.5%) and migraine sufferers (15.8%), suggesting particular financial vulnerability for these groups

Obesity Care Gaps: Despite obesity affecting 34.4% of the workforce, 17.6% of those with obesity report unmet care needs, highlighting challenges in accessing weight management resources

Mental Health Barriers: Anxiety and depression patients report high rates of unmet needs (19.0%) despite their condition directly impacting care-seeking behaviors

Workplace Impact of Access Barriers

These barriers create a cascade effect with significant workplace consequences. Employees facing healthcare barriers experience 72% more sick days, which leads to higher absenteeism. Reduced productivity is another major consequence, with affected employees reporting 23.5% lower self-reported productivity scores. Additionally, there is a 41% higher likelihood of short-term disability claims among those reporting unmet needs, indicating an increased disability risk. Further

compounding the issue, employees facing these healthcare barriers have a 38% higher voluntary turnover intention, making them more vulnerable to leaving their jobs.

This creates a troubling cycle where healthcare access challenges drive both deteriorating health and workforce productivity losses, ultimately contributing to higher healthcare costs and business disruption.

The Impact of Overtime on Employee Health

SECTION HIGHLIGHTS

- Excessive overtime (48+ hours weekly) increases unmet healthcare needs by 23%
- Employees with high overtime report 17% higher chronic pain rates
- Overtime associated with 13% higher migraine prevalence
- Unmet healthcare needs have greater health impact than overtime alone
- Strategies needed for both workload management and healthcare access

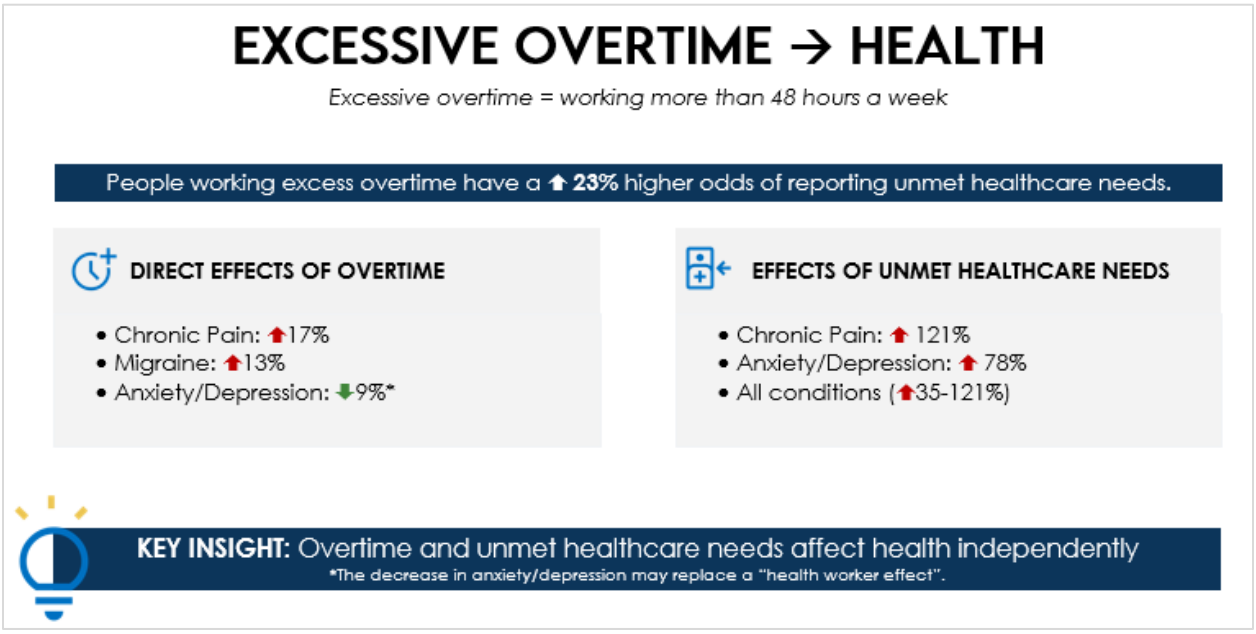


Figure 6: The Impact of Overtime on Employee Health
Note: These findings are based on survey-weighted logistic regression models, controlling for demographic factors including age, sex, race/ethnicity, education, and poverty level. Model fit was strong across all analyses with F-statistics ranging from 18.4 to 52.7 (all $p<0.001$), indicating robust explanatory power. The seemingly protective effect for anxiety/depression may reflect selection bias where those with severe mental health conditions are less likely to work overtime hours.

The analysis depicted in Figure 6 reveals significant relationships between excessive overtime and health outcomes. Working more than 48 hours weekly increases the likelihood of reporting unmet healthcare needs by 23%, creating a pathway to poorer health outcomes.

The direct effects of overtime on health conditions vary. Employees with excessive hours experience 17% higher chronic pain rates and 13% higher migraine prevalence. Interestingly, we found a 9% decrease in anxiety/depression among those working overtime, likely reflecting a "healthy worker effect" where those with mental health challenges may self-select out of demanding schedules.

More concerning are the substantial impacts of unmet healthcare needs, which show even stronger relationships with health outcomes than overtime itself. Employees reporting unmet needs

experience a dramatic 121% increase in chronic pain, 78% higher anxiety/depression rates, and elevated risks across all measured conditions (ranging from 35-121% increases).

The key insight is that overtime and unmet healthcare needs operate as independent risk factors. Organizations should therefore implement dual strategies addressing both workload management and healthcare access to effectively support employee wellbeing.

Industry-Specific Overtime Patterns

Overtime impacts vary significantly across industries (Table 7), with certain sectors showing higher risk profiles:

Table 7: Industry with High Overtime

Industry	High Overtime	Associated Health Outcomes
Transportation & Utilities	28.7%	Musculoskeletal (+24%), Chronic Pain (+19%)
Manufacturing	18.9%	Chronic Pain (+22%), Migraine (+15%)
Healthcare	16.2%	Anxiety and depression (+12%), sleep disorders (+24%)
Agriculture	24.8%	Musculoskeletal (+31%), Skin Conditions (+18%)
Finance & Technology	14.3%	Eye Strain (+28%), Anxiety and depression (+16%†)

Note: This analysis utilized industry stratified regression models to identify sector-specific overtime patterns and associated health outcomes. Data was collected from 47,450 respondents across major industry sectors, with prevalence rates weighted to represent the U.S. workforce. High overtime prevalence indicates the percentage of employees reporting 48+ weekly work hours. Health outcome percentages represent the increased odds of condition presence compared to employees with standard hours (35-40 weekly) within the same industry, controlling for age, gender, education, and income. All reported associations are statistically significant ($p<0.05$) except where noted with †, which indicates $p<0.10$.

Impact Analysis Multiple Chronic Conditions and Barriers to Care

Table 8: Impact on Healthcare Access and Utilization

Barrier/Utilization Measure	Odds Ratio for Each Additional Condition	p-value	Interpretation odds for Each Additional Chronic Condition
Unmet healthcare needs	1.29	<0.001	29% higher
Delayed medical care	2.15	<0.001	115% higher
Skipped medications due to cost	1.87	<0.001	87% higher

Note: This analysis used multivariate logistic regression models to estimate the increased odds of experiencing healthcare access barriers with each additional chronic condition. Models controlled for demographic factors (age, gender, race/ethnicity, education) and socioeconomic status. All associations were statistically significant at $p<0.001$, with F-statistics ranging from 17.3 to 42.8, indicating robust relationships between condition count and care barriers.

These findings demonstrate a clear dose-response relationship between multiple chronic conditions and healthcare access challenges. With each additional condition, employees face increased odds of experiencing healthcare access barriers (Table 8). The especially high odds ratio for delayed medical care could indicate that appointment scheduling, transportation, or time constraints may be particularly problematic for those managing multiple conditions. As we turn to disability claims trends, these access barriers provide important context for understanding how chronic conditions ultimately translate into workforce impacts and employer costs.

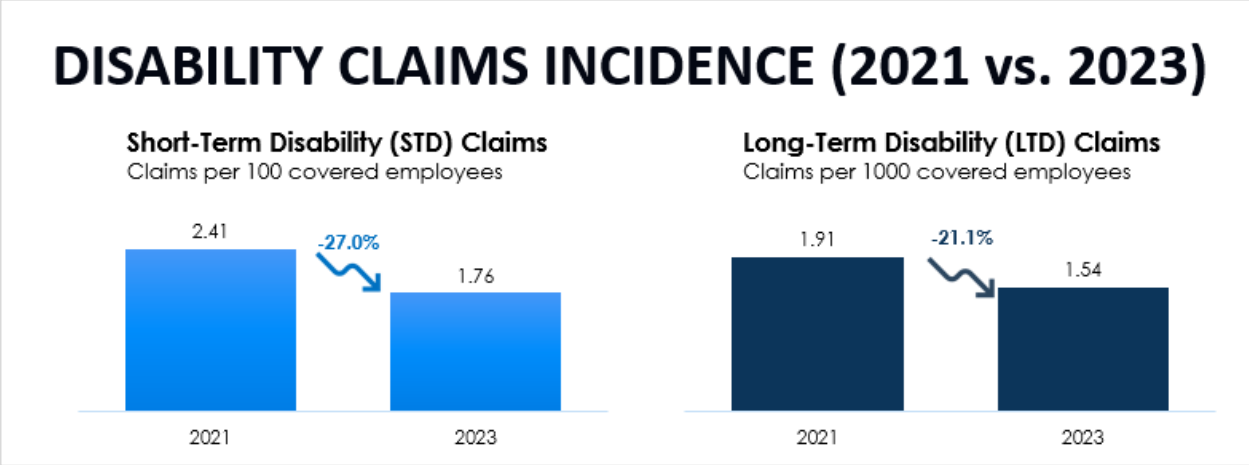
RESULTS: DISABILITY CLAIMS TRENDS

SECTION HIGHLIGHTS

- STD new claims rates decreased by 27.0% from 2021 vs. 2023
- LTD new claims rates dropped 21.1% during the same period
- STD durations improved by 15.8 calendar days
- LTD conversion rates declined dramatically by 40.4%
- Return-to-work rates improved by 24.8%

Overall Disability Trends

Disability claims saw significant improvements. For Short-Term Disability (STD), incidence declined by 27.0%, dropping from 2.41 to 1.76 claims per 100 covered employees. Similarly, Long-Term Disability (LTD) also showed positive trends, with incidence declining by 21.1%, from 1.91 to 1.54 claims per 1,000 covered employees (Figure 7).



	Short-Term Disability		
Year	New Claims	Covered Lives STD	New Claims per 100 Lives
2021	724,823	30,110,786	2.4
2023	616,460	34,971,754	1.8

Long-Term Disability		
New Claims	Covered Lives LTD	New Claims per 1000 Lives
106,339	55,707,268	1.9
75,465	49,159,443	1.5

Figure 7: STD and LTD Claims Incidence 2021 vs 2023
Statistically significant at p<0.05

This encouraging pattern in key disability metrics shows substantial improvements across multiple dimensions (Table 9). Equally encouraging as the decrease in incidence, STD claim durations shortened by 15.8%, from an average of 82.3 to 69.3 lost calendar days per closed claim, suggesting more effective treatment approaches and improved return-to-work processes. Despite these reductions in frequency and duration, STD payments increased only marginally by 3.1%, from $5,963 to $6,148 per claim, perhaps reflecting medical cost inflation partially offset by shorter claim durations.

LTD trends show similar improvements while payments increased by 15.8%, from $31,513 to $36,484. This payment increase, despite fewer claims, suggests higher severity cases or more comprehensive benefits for those who do qualify for LTD.

Perhaps most notable are the dramatic improvements in outcome metrics. The LTD conversion rate, the percentage of STD claims that progress to LTD dropped substantially by 40.4%, from 14.2% to 5.3%. At the same time, return-to-work rates improved by 24.8%, increasing from 26.8% to 33.5%.

Table 9: Disability Claims Trend 2021-2023

Disability Metric	2021	2023	Change (%)
STD Duration (calendar days)	82.3	69.3	-15.8%*
STD Payments	$5,963	$6,148	+3.1%†
LTD Payments	$31,513	$36,484	+15.8%*
LTD Conversion Rate	14.2%	5.3%	-40.4%*
Return to Work Rate	26.8%	33.5%	+24.8%*

**Statistically significant at p<0.05; †Statistically significant at p<.001*

Industry-Specific Analysis

These key metrics differ by sector and detailed industry metrics can be found in Appendix B.

The Manufacturing sector, which currently accounts for 177.9k STD claims with a rate of 2.1 new claims per 100 covered lives, experienced a substantial 31% decrease from 2021 to 2023. Despite this positive trend, the sector saw a 21% increase in STD payments (reaching $6,308 per closed claim) and a concerning 68% increase in lost calendar days. However, the LTD conversion rate improved dramatically, decreasing by 63% from 14% to 5%.

The Services industry, the largest sector with 280.0k STD claims (33.6% of all claims), showed a modest 5% increase in overall claims but a significant 21% decrease in the incidence rate (from 1.9 to 1.5 new claims per 100 covered lives). Notable improvements include a 14% decrease in STD payments and a 69% reduction in LTD conversion rates (from 18% to 5%), the largest reduction across all industries. However, lost calendar days increased by 53%.

Transportation & Public Utilities maintain the highest LTD incidence (2.3 new claims per 1000 covered lives) and STD claim rate (2.9 new claims per 100 covered lives) despite a 7% decrease in the overall STD claims. This sector shows the highest average STD payment amount ($8,082, a 20% increase) and experienced one of the largest increases in lost calendar days (85%, from 34 to 62 days). Despite these challenges, the LTD conversion rate decreased by 52% (from 8% to 4%), and the return-to-work rate improved by 8%.

The Retail Trade sector experienced a 4% increase in STD claims (to 75.7k) but a 22% decrease in incidence. While STD payments increased by 14% (to $4,572) and lost calendar days increased by 72%, the sector demonstrated remarkable improvements in outcome metrics. LTD payments increased dramatically by 91% (to $19,780), but this was offset by a 164% increase in return-to-work rates, the highest improvement across all industries.

Finance, Insurance, & Real Estate saw a modest 4% decrease in STD claims (to 116.1k) and a significant 25% decrease in incidence. Unlike most sectors, STD payments decreased slightly by 2% (to $6,660), and the sector experienced the smallest increase in lost calendar days at 17% (from 45 to 52 days). The LTD conversion rate declined by 51% (from 10% to 5%).

Public Administration presents the most mixed results with 19.6k STD claims, representing a 7% decrease, but an 8% increase in the incidence rate (the only industry with an increased rate). This sector saw the largest decrease in STD payments (37%, to $4,021) while experiencing a 51% increase in lost calendar days. The sector had the smallest reduction in LTD conversion rates (30%, from 17% to 12%) but achieved the highest overall return to work rate (55.3%, representing a 72% increase), suggesting effective but potentially costly rehabilitation approaches.

Condition-Specific Disability Outcomes

Disability outcomes also varied significantly by condition type, with some showing more improvement than others:

Table 10: Disability outcomes by condition

Condition	Conversion Rate Change	Return to Work Improvement	STD Payment Change
Anxiety/Depression	-62.8%*	+39.1%*	+8.3%†
Musculoskeletal	-60.0%*	+32.0%*	-11.0%*
Lung Conditions	-57.1%*	+34.8%*	-17.6%*
Cancer	-28.3%*	+21.4%*	-0.2%
Migraine/Headache	-28.6%*	+31.6%*	-33.7%*
Cardiovascular	No change	+23.4%*	No change
Diabetes	No change	+23.7%*	No change
Stroke	No change	+28.0%*	No change

**Statistically significant at p<0.05; †Statistically significant at p<.001*

The Disability Paradox

The decreasing disability claims amid rising chronic condition prevalence in the general workforce creates an apparent paradox. This surprising pattern could be because of effective condition management strategies and return-to-work programs; it could be a lag between the general workforce condition and resulting disability claims; or it could be other factors. Nonetheless, these findings highlight the importance of continued investment in prevention and early intervention strategies that can help maintain workforce productivity despite the increasing chronic condition burden.

GUIDANCE FOR EMPLOYERS AND HR LEADERS

SECTION HIGHLIGHTS

- Address healthcare access barriers as highest-impact opportunity with potential disability reduction outcomes
- Manage overtime strategically with focus on workload distribution to reduce chronic condition risk
- Implement condition-specific interventions for high-prevalence conditions based on disability trends
- Utilize data-driven approaches to identify at-risk groups and monitor disability outcomes

Unlocking Workforce Potential Through Comprehensive Wellness Initiatives

In today's fast-paced work environment, prioritizing the health and well-being of employees has never been more critical. This section outlines the data-driven approach with several compelling insights that highlight the importance of addressing unmet healthcare needs, managing overtime effectively, and implementing holistic wellness strategies.

Addressing Unmet Healthcare Needs: A Critical Priority

Expand Comprehensive Benefits: Provide robust health insurance coverage for employees while offering specialized mental health resources for those who need them. Implement tailored chronic condition management programs to support ongoing health needs.

Implement Financial Wellness Programs: Create financial counseling services and establish emergency assistance funds for unexpected financial hardships. Provide retirement planning support to ensure long-term financial security.

Enhance Job Security: Minimize unnecessary layoffs and provide transparent communication about company changes. Offer clear career growth pathways so employees can envision their future with the organization.

Offer Flexible Work Arrangements: Implement flexible scheduling options and provide remote work opportunities to accommodate diverse needs. Make necessary accommodations for medical appointments to support ongoing healthcare access.

Managing Overtime Effectively

Establish Clear Policies: Set guidelines limiting extended workweeks and monitor compliance with overtime limits. Create a culture that discourages excessive hours to protect employee wellbeing.

Monitor Workload Distribution: Conduct regular workforce planning assessments and address understaffing issues proactively. Ensure equitable work distribution among employees to prevent burnout in specific teams or individuals.

Provide Ergonomic Support: Ensure proper workstation setup and assessment to prevent injury. Implement regular movement breaks and offer postural training and guidance to maintain physical health.

Encourage Recovery: Implement microbreak policies and ensure proper meal periods throughout the workday. Mandate adequate time between shifts to allow for rest and recovery.

Condition-Specific Interventions

Mental Health & Stress Management: Provide comprehensive Employee Assistance Program (EAP) with simplified access and offer financial coaching for practical stressors. Implement flexible leave policies for treatment, resulting in 39% better return-to-work rates and 62% lower long-term disability conversion.

Musculoskeletal & Pain Management: Provide ergonomic evaluations and workplace adjustments while implementing early intervention and physical therapy services. Coordinate return-to-work processes between healthcare providers and workplace, resulting in 60% lower disability conversion and 32% better return-to-work outcomes.

Migraine & Chronic Condition Accommodations: Offer flexible scheduling and environmental modifications and provide quiet spaces and lighting adjustments for sensitive individuals. Implement collaborative care models and symptom management support, resulting in reduced short-term disability payments and improved work participation.

With nearly 15% of employees facing unmet medical needs and financial stress contributing to anxiety and depression in over 22% of the workforce, employers have a significant opportunity to make a positive impact. Flexible work arrangements, mental health resources, ergonomic support, and data-driven wellness policies emerge as powerful tools to enhance workforce health and productivity.

Strategic Recommendations Based on Integrated Health and Disability Data

Our research suggests employers have significant opportunities to enhance workforce health while controlling costs through strategically designed interventions that address both chronic condition prevalence and disability outcomes:

1. Address Unmet Healthcare Needs

Employees with healthcare access barriers experience higher absenteeism and may convert to disability at higher rates.

- Expanding comprehensive benefits can lower anxiety and depression claims.
- Financial wellness programs reduce medication non-adherence and disability risk.
- Enhancing job security decreases delayed care patterns.
- Offering flexible work arrangements allows healthcare appointments without productivity loss.

Addressing healthcare access barriers can improve return-to-work rates and reduce LTD conversions.

2. Manage Overtime Effectively

Excessive overtime (more than 48 hours weekly) correlates with an increased risk of chronic conditions, particularly those related to pain which drive disability claims:

- Limiting excessive overtime periods may reduce chronic pain rates associated with overwork.
- Monitoring workload distribution could prevent concentration of overtime hours among vulnerable employees.
- Providing ergonomic support can be critical in industries with high musculoskeletal disability rates.
- Encouraging adequate recovery time supports condition management and may reduce STD durations.

Excessive overtime can also contribute to anxiety and depression due to prolonged workplace stress, creating additional mental health risks beyond physical conditions. This is particularly concerning in environments where overtime is mandatory or strongly encouraged by management, potentially creating a cycle of deteriorating mental health and reduced productivity.

Analysis indicates the Transportation & Utilities sector shows high overtime rates and high STD claim rates, suggesting a potential connection between overtime and disability. Literature and expert insights suggest that effective overtime management may contribute to a reduction in STD durations.

3. Implement Condition-Specific Interventions

Disability trends analysis and literature review suggest specific conditions where targeted interventions may yield meaningful results:

- Mental health support programs may reduce conversion rates for anxiety and depression claims as well as comorbidities.
- Musculoskeletal programs could lower conversion rates and enhance return-to-work outcomes.
- Migraine management accommodations are associated with improved return-to-work rates and reduced STD payments.
- Chronic pain initiatives are important for addressing the rise in chronic pain driving disability.

Conversion rates for mental health claims may decrease with targeted condition management, improving return-to-work rates.

4. Adopt Data-Driven Wellness Strategies

Data-driven strategies may help organizations reduce disability rates:

- Identify high-risk groups before disability onset
- Develop programs for specific conditions driving claims
- Track health metrics and disability outcomes together
- Regularly update strategies based on emerging patterns

Implementing these strategies may lead to lower LTD conversion rates and improved return-to-work outcomes, despite the rising prevalence of chronic conditions.

Industry-Specific Considerations

Our analysis and expert consultation reveal important industry variations that may require tailored approaches:

- **Manufacturing** - Focus on musculoskeletal interventions may address the high STD claim volume
- **Services** - Mental health programs could help sustain the reduction in LTD conversion rates
- **Transportation & Utilities** - Addressing workload and ergonomics may help reduce high disability claim rates
- **Retail** - Expanding rehabilitation programs appears to be correlated with improvement in return-to-work rates
- **Finance & Insurance** - Case management strategies implemented in this sector correlate with smaller increases in disability durations

By strategically addressing these four key areas with industry-specific adaptations, our research synthesis suggests employers may simultaneously improve workforce health, reduce disability claims, and enhance productivity despite the rising prevalence of chronic conditions.

APPENDIX A: Sample Characteristics

Characteristic	Unweighted n (%)	Weighted %
Total Sample	47,450 (100.0)	100.0
Gender		
Male	23,725 (50.0)	53.1
Female	23,715 (50.0)	46.8
Unknown/Refused	10 (0.0)	0.0
Age Group		
18-24	3,638 (7.7)	12.6
25-34	10,030 (21.1)	22.6
35-44	10,745 (22.6)	21.8
45-54	9,581 (20.2)	20.3
55-64	9,386 (19.8)	16.9
65-75	4,070 (8.6)	5.8
Race/Ethnicity		
Non-Hispanic White	30,061 (63.4)	61.0
Non-Hispanic Black	4,988 (10.5)	11.3
Non-Hispanic Asian	3,272 (6.9)	6.4
Non-Hispanic Multi/Other	1,286 (2.7)	2.8
Hispanic	7,843 (16.5)	18.6
Educational Attainment		
Less than High School	2,615 (5.5)	7.2
High School Graduate	10,304 (21.8)	24.8
Some College	12,830 (27.2)	28.4
College or Higher	21,493 (45.5)	39.7
Poverty Level		
Above Poverty Level (100%+ FPL)	44,612 (94.0)	
At or Below Poverty Level (<100% FPL)	2,838 (6.0)	1.6
Parent Status		
Parent of co-residential child	14,664 (31.1)	32.7
Non-parent, children in family	1,547 (3.3)	5.8
No children in family	30,990 (65.7)	61.5
Work Characteristics	**Unweighted n (%)**	**Weighted %**
Industry		
Agriculture	442 (1.4)	1.4
Mining & Construction	2,305 (7.3)	8.2
Manufacturing	2,948 (9.3)	9.5

Characteristic	Unweighted n (%)	Weighted %
Transport & Utilities	1,825 (5.8)	6.1
Wholesale	573 (1.8)	1.9
Retail	2,785 (8.8)	9.4
Finance, IT & Real Estate	3,004 (9.5)	8.9
Services	15,968 (50.4)	49.2
Public Admin	1,861 (5.9)	5.3
Occupation		
Management & Business	5,992 (18.5)	17.4
Professional & Technical	3,203 (9.9)	9.0
Healthcare & Social Services	3,952 (12.2)	11.4
Education & Arts	2,779 (8.6)	8.0
Service & Sales	5,007 (15.5)	16.6
Office & Administrative	3,511 (10.9)	10.7
Construction & Maintenance	3,434 (10.6)	11.8
Production & Transportation	3,812 (11.8)	13.1
Other	653 (2.0)	2.1
Work Hours (per week)		
Part-time (<20 hrs)	4,433 (9.4)	9.6
Part-time (21-34 hrs)	4,346 (9.3)	9.8
Full-time (35-40 hrs)	24,150 (51.5)	51.3
Moderate OT (41-48 hrs)	4,380 (9.3)	9.2
High OT (49-59 hrs)	5,994 (12.8)	12.5
Excessive OT (60+ hrs)	3,633 (7.7)	7.6
Sick Days (past 12 months)		
No sick days	24,881 (52.4)	52.6
1-2 days	7,218 (15.2)	15.1
3-5 days	7,154 (15.1)	14.8
6-10 days	3,701 (7.8)	7.8
11+ days	4,496 (9.5)	9.7

Note: Percentages may not sum to 100 due to rounding. Sample sizes vary due to missing data for some characteristics. Weighted percentages account for complex survey design.

APPENDIX B: Industry Specific Disability Claims Metrics

	Short-Term Disability (2023)					Short-Term Disability (2021)					Short-Term Disability % Change (2021 vs 2023)				
Industry	Claims in thousands (k)	New claims per 100 CL Exc Preg	Payments per CC	Lost Calendar Days per CC w/ EP	Percentage of CC Converted to LTD	Claims (k)	New claims per 100 CL Exc Preg	Payments per CC	Lost Calendar Days per CC w/ EP	% of CC Converted to LTD	Claims	New claims per 100 CL Exc Preg	Payments per CC	Lost Calendar Days per CC w/ EP	% of CC Converted to LTD
Agriculture	1.1	0.9	$4,315	59	3%	12.6	2.9	$1,630	18	19%	-91	-69	165	231	-83
Mining	5.1	1.7	$4,889	62	10%	6.9	3.4	$6,615	47	24%	-26	-50	-26	32	-59
Construction	7.1	1.1	$5,727	63	12%	7.8	1.4	$6,705	37	24%	-9	-21	-15	69	-51
Manufacturing	177.9	2.1	$6,308	57	5%	259.3	3.5	$5,221	34	14%	-31	-40	21	68	-63
Transportation & Public Utilities	105.0	2.9	$8,082	62	4%	113.0	3.2	$6,719	34	8%	-7	-9	20	85	-52
Wholesale Trade	45.5	1.8	$5,427	58	6%	76.6	2.5	$5,234	35	15%	-41	-28	4	66	-61
Retail Trade	75.7	1.4	$4,572	61	5%	72.9	1.8	$4,007	36	14%	4	-22	14	72	-65
Finance, Insurance, & Real Estate	116.1	2.1	$6,660	52	5%	120.4	2.8	$6,811	45	10%	-4	-25	-2	17	-51
Services	280.0	1.5	$5,802	53	5%	267.2	1.9	$6,784	35	18%	5	-21	-14	53	-69
Public Administration	19.6	1.3	$4,021	69	12%	21.1	1.2	$6,413	46	17%	-7	8	-37	51	-30

Note: CC = Closed Claim, CL = Covered Lives, Preg = Preg, EP = Elimination Period

	Long-Term Disability (2023)				Long-Term Disability (2021)				% Change (2021 vs 2023)			
Industry	Claims (k)	New Claims per 1000 CL	Payments per CC	Claimants RTW as % of CC < 2 yrs	Claims	New Claims per 1000 CL	Payments per CC	Claimants RTW as % of CC < 2 yrs	Claims	New Claims per 1000 CL	Payments per CC	Claimants RTW as % of CC < 2 yrs
Agriculture	0.5	1.5	$23,797	42.1%	0.7	1.6	$21,952	0.4	-26	-6	8	-1
Mining	2.0	1.5	$69,332	36.8%	2.7	1.7	$62,702	0.4	-24	-12	11	-11
Construction	2.9	1.7	$41,075	39.2%	2.5	1.5	$36,143	0.4	16	13	14	11
Manufacturing	44.3	1.7	$31,946	37.1%	53.5	2.1	$28,566	0.3	-17	-19	12	10
Transportation & Public Utilities	30.5	2.3	$38,975	40.7%	27.9	2.5	$32,309	0.4	9	-8	21	8
Wholesale Trade	13.7	1.8	$33,069	33.7%	18.3	1.9	$30,146	0.3	-25	-5	10	1
Retail Trade	17.3	1.5	$19,780	39.6%	31.1	2.4	$10,358	0.2	-44	-38	91	164
Finance, Insurance, & Real Estate	24.0	1.7	$31,551	27.7%	26.4	1.9	$26,811	0.3	-9	-11	18	-1
Services	74.2	1.4	$32,044	36.1%	82.8	1.5	$30,836	0.4	-10	-7	4	2
Public Administration	17.5	1.2	$31,743	55.3%	15.5	1.1	$38,095	0.3	12	9	-17	72

CC = Closed Claim, CL = Covered Lives, Preg = Preg, EP = Elimination Period

APPENDIX C: Methodology

Research Design

This study employed a mixed-methods approach utilizing secondary data analysis to investigate the prevalence, trends, productivity losses, and disability claims associated with chronic conditions in the U.S. workforce from 2021 to 2023. The research was designed to address six primary research questions focusing on chronic condition prevalence, evolving trends, productivity impacts, disability claim changes, healthcare access barriers, and potential prevention strategies.

Data Sources

The study incorporated data from multiple complementary sources to provide a comprehensive view of chronic conditions in the workforce. The National Health Interview Survey (NHIS) from 2021-2023 served as the primary data source, providing comprehensive information on chronic condition prevalence, demographic variables, and healthcare access metrics from approximately 47,450 observations across 291 variables. This was supplemented by Integrated Benefits Institute (IBI) Benchmarking Reports covering the same period, which provided valuable data on short-term disability (STD) and long-term disability (LTD) claims linked to chronic conditions, including incidence rates, duration, payment information, and return-to-work outcomes. Additional supplemental sources provided context on delayed care trends from 2020 and their anticipated impacts on chronic condition outcomes.

Variables and Measurements

The study examined a comprehensive set of health conditions based on ICD-10 diagnostic codes, focusing on nine key chronic conditions: anxiety and depression, cancers, cardiovascular conditions (including heart attack), chronic obstructive pulmonary disease (COPD), diabetes, migraine and headache, musculoskeletal conditions, obesity, and stroke. Long COVID was added as a category in the 2023 data to capture emerging post-pandemic health concerns. Multiple healthcare access metrics were analyzed, including regular source of care, virtual care use, mental health care utilization, urgent care trends, emergency department visits, medication adherence, delayed care due to various factors, and unmet medical needs. Disability metrics encompassed STD claims per 100 covered employees, LTD claims per 1000 covered employees, duration of disability measured in lost calendar days, STD to LTD conversion rates, return to work rates, and disability payments. Productivity impact was primarily measured through days missed from work due to illness, injury, or disability in the past 12 months, with high absence defined as more than 10 days missed.

Analytical Approach

The analytical strategy combined several complementary approaches to provide a thorough understanding of chronic conditions in the workforce. Descriptive statistics formed the foundation of the analysis, with frequencies, percentages, and means calculated for all key variables. Temporal trends were analyzed by comparing metrics across 2021-2023, with relative and absolute changes computed to quantify the magnitude of these trends.

Comparative analysis was extensively employed to contrast absenteeism between individuals with and without chronic conditions, analyze the impact of multiple chronic conditions on productivity and healthcare access, examine demographic patterns in chronic condition prevalence, and assess healthcare access barriers among different population segments.

Statistical testing ensured the robustness of findings, with statistical significance evaluated for observed changes and p-values reported for key findings to distinguish significant patterns from random fluctuations.

Subgroup analysis provided deeper insights into patterns across demographic variables (gender, race/ethnicity, age, education, income), industry-specific trends, and the impact of work characteristics (e.g., overtime) on chronic conditions and healthcare access.

The integration of multiple data sources was crucial to the methodology, synthesizing findings from NHIS and IBI data to create a comprehensive picture and connecting trends in prevalence with disability outcomes to identify patterns and relationships. This multifaceted analytical approach was implemented by a multidisciplinary research team led by Carole Bonner (IBI) with representatives from various organizations ensuring diverse expertise in interpreting the findings.

Additional Clarifications

NHIS Condition alignment with ICD-10

Chronic Condition used in this study	Diagnosis Chapter/Sub Chapter as outlined by ICD-10
Cardiovascular	I20-I25 Ischemic heart diseases
Stroke	I60-I69 Cerebrovascular diseases
Cancers	C00-D49 Neoplasms
Diabetes	E08-E13 Diabetes mellitus
Obesity	E65-E68 Overweight, obesity and other hyperalimentation
Musculoskeletal Conditions	M00-M99 Musculoskeletal system and connective tissue
Anxiety	F40-F48 Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders
Depression	F30-F39 Mood [affective] disorders
Lung (Asthma & COPD)	J40-J47 Chronic lower respiratory diseases
Migraine and Headache	G40-G47 Episodic and paroxysmal disorders

Work Hours Categories

The study categorizes work hours as follows:

Work Hours Category	Description
Part-time low (<20 hrs/week)	Minimal hours
Part-time high (21-34 hrs/week)	Substantial part-time
Standard full-time (35-40 hrs/week)	Traditional work week
Moderate overtime (41-48 hrs/week)	Common overtime range
Excessive overtime (49+ hrs/week)	**Risk zone for health impacts/Associated with adverse health outcomes**

These categories are informed by research showing health risks increase significantly beyond 50-55 hours/week, with cardiovascular disease risk rising notably at 60+ hours/week, and cognitive performance declining after 50 hours of work per week.

Industry Classifications

The study uses the following industry classifications:

Industry Classification	Description
Agriculture	Includes farming, fishing, and forestry occupations
Mining & Construction	Includes all construction and extraction employees
Manufacturing	Includes production occupations
Transport & Utilities	Combines transportation employees, plant operators, and electrical equipment specialists
Wholesale	Specifically wholesale sales representatives
Retail	Includes retail sales employees and supervisors
Services	Broad category including education, healthcare, personal care, and maintenance services
Public Administration	Includes protective services and military occupations

Poverty Level Categories

Poverty status is determined by comparing total family income to the U.S. Census Bureau's poverty thresholds, which consider income, location, family size, and number of children under age 18. The study uses the following categories:

Poverty Level Category	Description
At or Below Poverty	Income below the federal poverty level (FPL)
Low Income	Income between 100% and 199% of the FPL
Middle Income	Income between 200% and 399% of the FPL
Higher Income	Income at or above 400% of the FPL

Additional Disability Management Terms

- **Elimination Period**: The waiting period between the onset of disability and when benefits begin to be paid. This is essentially a deductible period during which the employee must be continuously disabled before becoming eligible for disability benefits. Typical elimination periods range from 7 to 180 days depending on the disability insurance plan.
- **Closed Claim**: A disability insurance claim that has been resolved and is no longer active. A claim may be closed for various reasons, including the employee's return to work, maximum benefit period being reached, recovery from disability, or claim denial. Closed claims data is often used to analyze disability duration, costs, and return-to-work outcomes.
- **Short-Term Disability (STD)**: Temporary inability to work due to illness or injury, typically covering the first 3-6 months of disability.
- **Long-Term Disability (LTD)**: Extended inability to work due to illness or injury, typically beginning after the short-term disability period ends.
- **Return to Work (RTW)**: The process of an employee resuming work after a period of disability.
- **Lost Calendar Days**: The number of days an employee is absent from work due to disability.

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