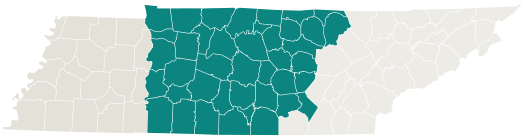
ACTION BRIEF

A Future Forward for a Healthier Tennessee

HC/TN HealthCareTN
One Voice. One Focus. Leading Employers.

Tackling Middle Tennessee's Workforce Health Challenges

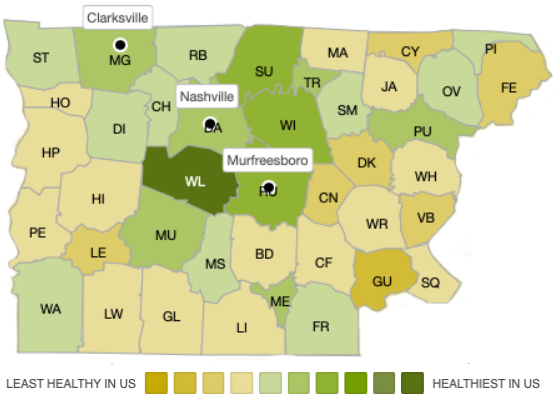


Addressing Underlying Drivers of Chronic Conditions

Nestled in the heart of the Volunteer State lies a cultural and economic hub whose influence resonates far beyond its borders. Middle Tennessee and its vibrant epicenter, Nashville, form a rich blend of unique cultural, economic and physical attributes that distinguish this region as a dynamic hub of diversity, opportunity and growth.

Of the state's three Grand Divisions, Middle Tennessee is the largest in area and the most populated. Middle Tennessee's scenic landscape is characterized by rolling hills, fertile valleys, farmland, and rivers. The region has much to offer in terms of both scenic beauty and recreational opportunities for outdoor enthusiasts.

Nashville, also known as "Music City," is a mecca for the music and entertainment industry and is home to the Country Music Hall of Fame and the National Museum of African American Music. The region attracts artists and talented professionals from around the world to its legendary recording studios, live music venues, and other music-related businesses.



Source: County Health Rankings and Roadmaps, Tennessee 2023

Davidson County Health Rates (Middle TN)

HEALTH

DIABETES:	10% higher than US average
HYPERTENSION:	22% lower than Shelby County
DRUG OVERDOSE DEATH:	44% higher than TN overall

SOCIO-ECONOMIC

UNINSURED:	40% higher than Knox County
CHILDREN IN POVERTY:	22% higher than TN overall
POVERTY:	21% higher than Knox County

Source: County Health Rankings and Roadmaps, CDC Places, US Census

The Nashville-Davidson-Murfreesboro-Franklin MSA has experienced significant growth over the past several years and the MSA is among the fastest growing areas in the United States.[1] At the forefront of Nashville's economic landscape is the healthcare industry, with the city serving as a renowned healthcare hub, home to world-class medical institutions that not only provide critical medical services but also drive significant job creation, research, and innovation.

ACTION STEPS FOR EMPLOYERS

(see details about each action step starting on page 4):

1. **Review data to determine risks and opportunities.**
2. **Manage the risk continuum of obesity.**
3. **Consider the impact of social determinants of health.**
4. **Deploy effective benefit designs.**
5. **Contract with high-quality vendors.**

Demographically, Middle Tennessee is diverse, with a lower percentage of African Americans than West Tennessee and a higher Hispanic population than both West and East Tennessee.[2]

Middle Tennessee is home to some of the healthiest counties in Tennessee, with Williamson ranked the healthiest in the state. In fact, according to County Health Rankings,[3] 54% of the healthiest counties in the state are in Middle Tennessee (please note map on page 1). The remaining counties in Middle Tennessee, however, closely resemble the other counties across the state, with poorer health outcomes and greater gaps in care.

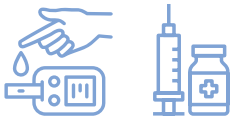
Even with the thriving economic growth of Middle Tennessee, disparities in health outcomes and economic mobility persist, shaped by a complex interplay of factors, including access to care, socioeconomic status, and lifestyle choices.

Chronic Conditions Must Be Prioritized

Many people with hypertension, prediabetes and diabetes do not know they have these conditions, which strongly correlate with each other as co-occurring conditions. For example, three of four adults with diabetes also have hypertension.[4]

Tennessee has the

6th HIGHEST RATE OF DIABETES
in the nation, and the



10th HIGHEST RATE OF HYPERTENSION
in the nation.

Source: America's Health Rankings, 2023 Annual Report, United Health Foundation

Despite investing heavily in managing these diseases, there is an urgent need to:

- Improve disease prevention strategies.
- Better manage chronic conditions.
- Identify and intervene on behalf of at-risk populations.
- Select partners with proven success rates.

As the prevalence of chronic conditions increases nationwide, if Tennessee continues to outpace the rest of the country, the region risks losing economic opportunities. Additionally, the high costs associated with these conditions will contribute to the ongoing, unsustainable escalation of healthcare costs for everyone in Tennessee.

Impact of Chronic Conditions on the Workforce and Employers

Although diabetes and hypertension risks increase with age, a significant percentage of the workforce population already lives with these chronic conditions. Because some of the main risk factors, like obesity, are increasing among all age groups, informed predictions show a rising number of workforce-age people acquiring these diseases—and the serious complications that accompany them, particularly without proper management.[5]

The importance of workforce wellbeing is incalculable. Complications when these diseases go uncontrolled include stroke, heart attack, kidney disease, amputation, and blindness.[6] These chronic diseases drive up costs both for the people living with them and for their employers.

Effects on Employers of the Indirect Costs of Chronic Illnesses

Hypertension-related absenteeism costs employers **$10.3 billion per year.**

Obesity-related absenteeism costs employers **$11.2 billion per year.**

Stroke leads to an average of **20 lost workdays per year** per patient.

Physical inactivity costs US employers **$9.1 billion per year.**

Source: National Alliance of Healthcare Purchaser Coalitions Optimal Cardiovascular Prevention and Care

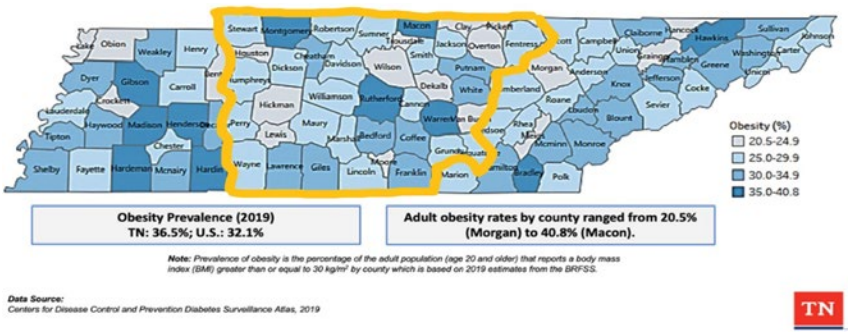
> ***"Poor health shrinks our workforce."***
>
> —Sycamore Institute, "The Economic Impact of Chronic Disease in Tennessee"

Many industries in Tennessee are experiencing labor shortages due, in part, to high rates of chronic disease. Hypertension and diabetes, which often emerge during productive work years, contribute to productivity, absenteeism and presenteeism challenges. In safety-sensitive jobs, these conditions increase risks and can contribute to premature retirement.[7]

Drivers of Hypertension and Diabetes: Obesity and Social Determinants of Health (SDoH)

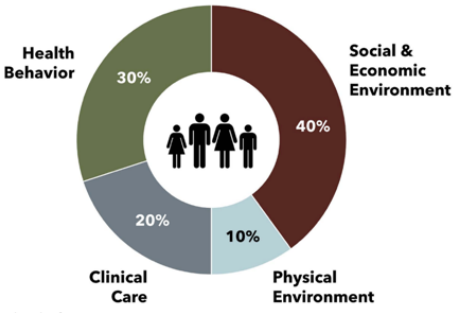
Obesity, now considered by the CDC to be an epidemic, continues to be the most significant health-risk factor in hypertension and diabetes, with excess

Adults with Obesity in TN by County



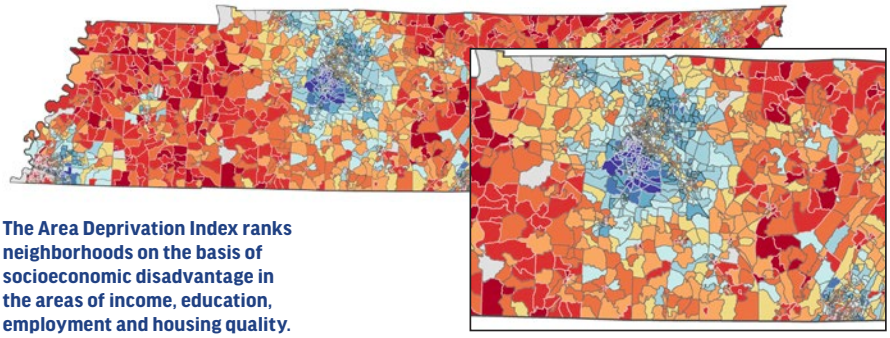
Source: Tennessee Department of Health

The Drivers of Health



Source: County Health Rankings and Roadmaps Model

Area Deprivation Index



The Area Deprivation Index ranks neighborhoods on the basis of socioeconomic disadvantage in the areas of income, education, employment and housing quality.

Note: Areas shaded red represent neighborhoods with higher disadvantage than those shaded blue.

weight accounting for 65%–78% of the essential primary risk for hypertension.[8] About 90% of people with type 2 diabetes are either overweight or obese.[9]

The CDC reports that "From 1999–2000 through 2017–2018, the age adjusted prevalence of obesity increased from 30.5% to 42.4%. During the same time, the prevalence of severe obesity increased from 4.7% to 9.2%."[10] As the map on page 3 shows, obesity is even more prevalent in Tennessee than nationwide, with most Tennessee counties at or above the national average of 32.1%.

These sobering statistics can and must ignite action for better management of obesity rates to lower incidence of the diseases.

Why SDoH Matters to Organizations and Communities

There is a strong correlation between obesity, hypertension, and diabetes and SDoH—environmental and socioeconomic factors workers bring to their jobs.

In addition to the well-established impact of diet, exercise, sleep and weight, these SDoH factors also impact hypertension and diabetes:

- Income and social protection
- Education
- Unemployment and job insecurity
- Working life conditions
- Food insecurity
- Housing, basic amenities, and environment
- Early childhood development
- Social inclusion and non-discrimination
- Structural conflict
- Access to high-quality, affordable healthcare services

Middle Tennessee and the Healthcare Divide

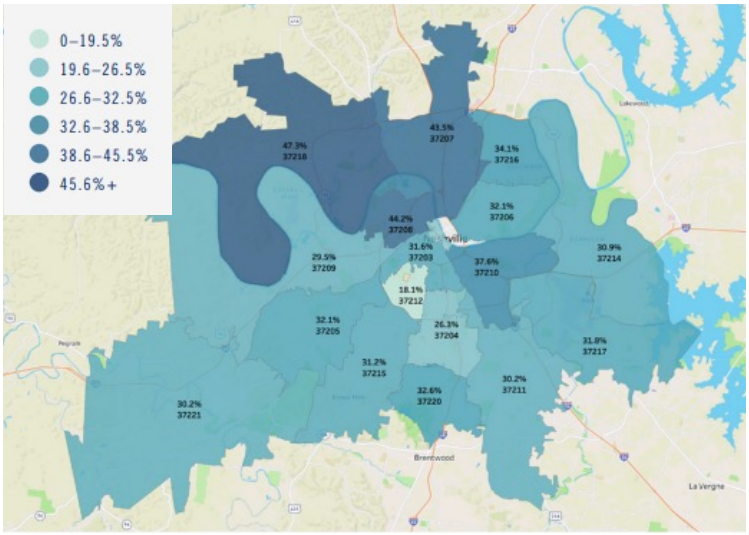
As discussed earlier in this report, while Middle Tennessee may seem to fare better in terms of overall health and socioeconomic factors when compared to East and West Tennessee, a significant gap persists between different socioeconomic groups within the region.

The region's epicenter, Nashville, has a vibrant economy and robust healthcare infrastructure, but not all residents benefit equally from these advantages, and high-quality healthcare providers are not evenly distributed throughout the region. Access to healthcare can be particularly challenging for those who do not have health insurance. In Davidson County, 15% of adults are uninsured, which is higher than the state average.

Residents in urban centers like Nashville may have better access to healthcare services, providers and facilities than do rural residents. Even within urban areas, however, disparities persist, with marginalized communities facing barriers such as transportation issues, lack of health insurance, and limited availability of healthcare providers.

Consequently, individuals from disadvantaged backgrounds are more likely to experience chronic health conditions, higher rates of preventable diseases, and lower life expectancy than their wealthier counterparts. According to a recent article in the *Tennessean*, "In Nashville, the simple zip code of your residence could lead to a six-year decrement to life expectancy."[11]

Hypertension by ZIP Code, 2019



Source: Belmont Data Collaborative

There is a strong connection between health outcomes and zip codes. A recent report by the Belmont Data Collaborative found that hypertension rates in Nashville vary significantly by location and zip code, ranging from 18.1% to 47.3% across different neighborhoods. As the map on page 3 shows, the northern areas of the city generally exhibit higher average rates of hypertension compared to the southern parts. ZIP codes like 37207, 37218, 37208, and 37228 stand out, with more than 40% of residents reporting high blood pressure—possibly an underestimate because many individuals may be unaware of their condition.[12]

There is also an undeniable correlation between SDoH factors, health disparities, and the prevalence of chronic conditions. For example, a study by NashvilleHealth revealed that 30.5% of all Davidson County adults have been diagnosed with hypertension. For college-educated adults in Davidson County, the hypertension rate was only 17.7%. In contrast, the hypertension rate for adults who did not graduate from high school increased to 39.6%.[13]

While some Middle Tennessee residents enjoy wealth and prosperity, others struggle with financial instability, housing and food insecurity, higher rates of poverty, unemployment, and, ultimately, worse health outcomes, exacerbating the divide between affluent and disadvantaged communities.

These factors have an impact on the workforce because employees bring the context of their lives to work with them every day.

These factors also affect employees directly and indirectly in terms of their ability to show up on time, capacity to meet job requirements, attention and focus, and employment longevity.

Thus, employers need to examine non-medical risk factors as they strive to understand and improve conditions that contribute to overall workforce health.

EMPLOYER ACTION

Employers can take these actions to address the drivers of chronic conditions and help prevent—and encourage treatment for—these risks and conditions.

1. Review data to determine risks and opportunities.

- **Get the data.** The recent Consolidated Appropriations Act (CAA) gives employers enhanced leverage to demand unfettered access to the data their service providers collect. Self-funded employers benefit from contracting with independent data warehouses and analytic firms to analyze data, identify opportunities to enhance health, and conduct benchmarking and program evaluation.
- **Analyze the data.** Run a basic set of claims-data analyses to identify opportunities for risk reduction and condition management. Look at:
  - Screening rates and prevalence rates
  - Engagement in chronic condition management programs
  - Claims costs
- **Benchmark the data.** Benchmark analyses at least regionally and perhaps statewide, nationally, and within the specific industry. Benchmarks must be from objective sources and not limited to the vendor's customer base.
- **Dive deep into data.** Employers will gain a deeper understanding of barriers and opportunities if measures are broken down by demographics (such as age, gender, race/ethnicity, income, education, subscriber/dependent). Employers can augment their claims data with this type of data from their human resource information systems.

2. Manage the risk continuum of obesity.

Because obesity is often an underlying cause of diabetes and hypertension, a comprehensive, evidence-based obesity benefit design is needed to reach as many employees as possible with tailored approaches.

Depending on their BMI, employees may need an array of benefits and programs to support healthy weight loss. Lifestyle management and behavioral therapy are needed at all stages of increased BMI, and should be coupled with pharmacotherapy and surgery, as medically indicated.

Using this comprehensive benefit design as a road map, employers can inventory their benefits and programs, identify gaps, and establish a plan to evaluate how programs and service providers are performing.

Lifestyle Intervention

Without lifestyle changes, most people with prediabetes will develop type 2 diabetes in 5–6 years. It is essential that employers offer interventional programs such as the CDC's National Diabetes Prevention Program (National DPP).

The National DPP:

- Can prevent or delay type 2 diabetes, reducing the risk of developing the disease by 58% in high-risk adults.

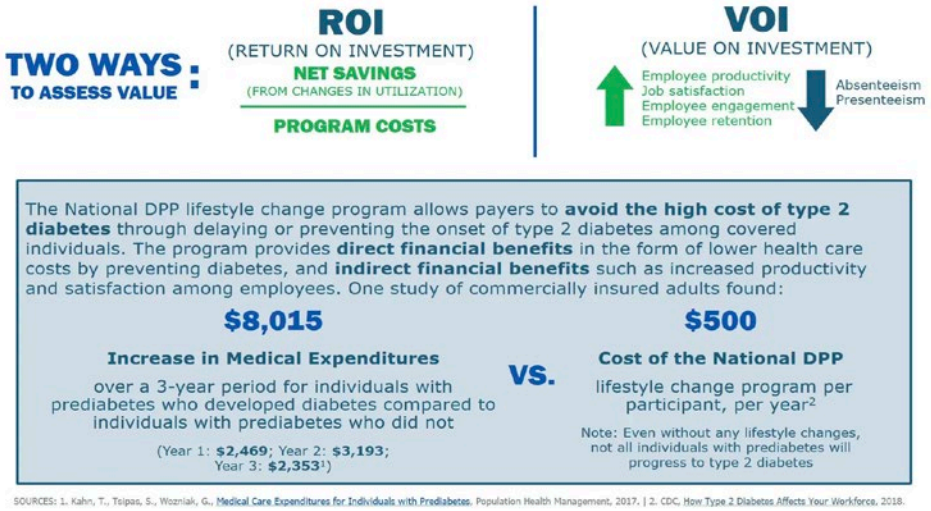
Obesity Risk Continuum

Treatment	BMI Category				
	25 - 26.9	27 - 29.9	30 - 34.9	35 - 39.9	40+
Lifestyle Management, Behavioral therapy	Yes w/ comorbidities	Yes	Yes	Yes	Yes
Pharmacotherapy		Yes w/ comorbidities	Yes	Yes	Yes
Surgery				Yes w/ comorbidities	Yes

Source: NIH/NDEP: Guiding Principles for the Care for People With and At Risk for Diabetes

Return on Investment for National DPP

The CDC National Diabetes Prevention Program proves Type II Diabetes is not inevitable for Patients with Prediabetes.



- Offers a full year of support to achieve and maintain lifestyle changes.
- Is built on a CDC-required curriculum grounded in proven lifestyle change approaches.
- Requires recognized providers who adhere to CDC's scientific standards and outcomes monitoring.
- Can be offered through different modalities (e.g., in-person, online, etc.).
- Has a three-year ROI of approximately $8,015 compared to a program cost of approximately $500 per participant.

Pharmacotherapy

- Employers should conduct an evaluation of coverage for weight-loss medications in accordance with thier unique financial circumstances and strategic objectives.
- Include reasonable prior authorization for medications to ensure only appropriate treatment is approved.
- Consider ways to link pharmacotherapy to participation in lifestyle and other benefit programs to reinforce long-term benefits of lifestyle change.

Surgical Intervention

- Offer a high-quality center of excellence that has proven, successful long-term outcomes.
- Bundle pricing to manage the risk of complications.
- Pre-qualify patients to identify good candidates for success.

3. Consider the impact of social determinants of health.

Employers serious about addressing SDoH can support the health of employees who contend with social and environmental hardship by providing advantages at the worksite and benefits that ease access to care for them and their families. This simple continuum will help employers identify a starting point.

Because some Middle Tennessee residents experience disproportionate hardship due to SDoH, it is even more important that employers consider benefits strategies such as:

- Deep-dive data analyses—integrating human resource information systems (HRIS) data, claims data, and community and employee-specific SDoH data—to identify opportunities and gaps that benefits and benefit programs can address.
- Salary-banded employee premium contributions ("made more, paid more")
- Funded HSAs for low-wage employees
- Public transportation options and incentives
- Childcare and/or elder care support programs
- Tuition support and career training

Considering the strong correlation between poor health and zip code, employers located in Middle Tennessee should consider strategies to mitigate

healthcare disparities through…

- increased telehealth coverage
- increased online prevention and management for chronic illnesses,
- subsidizing internet connectivity,
- establishing onsite clinics and pharmacies, and
- developing worksite food and nutrition programs, like farmers markets, and healthy take-home meals to go.

Employers are encouraged to ask vendors:

- What are they doing to identify and address SDoH?
- Which specific issues are they focused on, and what are the results?
- What are industry best practices?
- How are they addressing SDoH for this unique employee population?
- Can you commit to sharing aggregated feedback from employees to help create strategies to address SDoH issues and concerns?

BRONZE

"Getting Started"

Employers can use age and gender breakdowns to look for sub-populations that have disparities in benefits participation, engagement, and compliance. Employers can also use a ZIP code analysis and standard tools to create ZIP code heat maps of where employees live to compare with publicly available databases that present SDoH statistics and heat maps.

SILVER

"Making a Commitment"

Employers with access to HRIS data can augment their claims data with relevant HR fields, such as race, salary, standard occupational codes, job position, and job location. As with Bronze, Silver employers can use publicly available databases for benchmarking and comparison.

GOLD

"All-In"

Employers may choose to push data vendors to integrate sophisticated SDoH analytics into reporting tools. The best data comes directly from employees. However, there are a variety of vendors aggregating publicly available data sets and third-party claims and survey data that allow employers to supplement known data with imputed data to profile their workforce based on SDoH.

4. Deploy effective benefit designs.

Employers are encouraged to use benefit designs and programs to eliminate barriers to high-value care for those with chronic conditions and, especially, for low-wage earners. For example:

- Reduce or eliminate out-of-pocket costs for primary care physician visits and essential medications.
- For high-deductible health plans:
  - Expand pre-deductible coverage for medications and services that help control chronic illnesses.
  - Enhance affordability for lower-wage earners through employer contributions to HSAs or HRAs.
- Other considerations:
  - Implement flextime or breaks that allow for exercise.
  - Review food and pricing incentives in cafeterias.
  - Sponsor healthy eating and cooking demonstration lunch-and learns.

5. Contract with high-quality vendors.

- Employers should contract for evidence-based disease management. For example, hypertension management programs should:
  - Report the successful prevention of hypertension or reduction in systolic blood pressure.
  - Include programs/coaching that encourage behavioral changes, such as healthy diet, physical activity, and tobacco cessation.
  - Increase medication adherence.
  - Promote regular clinician visits to measure blood pressure.
  - Promote accurate blood pressure self-monitoring between clinician visits.
  - Employers can also incorporate performance guarantees and termination clauses in contracts to hold vendors accountable.

Health plans play a crucial part in the management of chronic conditions. Employers need to persist in pushing health plans for HEDIS data specific to the network providers that serve their members. Employers can also encourage brokers and consultants to introduce them to an array of point solutions, clearly explaining direct and indirect compensation arrangements.

Employer Conducts Gold-Level SDoH Study

A large Middle Tennessee employer uses a sophisticated healthcare benefits delivery model that emphasizes population health, while leveraging an integrated data warehouse, value-based benefits, low-cost health plans, and onsite health centers. By incorporating SDoH and HRIS analytics into their data warehouse, the employer can conduct in-depth analyses and generate actionable insights. These insights help to inform data-driven recommendations, targeted programs, and tailored solutions specific to their diverse employee population.

For example, this employer used SDoH factors and other data to better understand the impact of COVID-19 on cancer screening rates among employees. The study analyzed pre- and post-COVID screening data for breast, colorectal and prostate cancers in various employee groups and sub-populations. Because the employer was able to segregate data using SDoH factors (including different job classifications, education, and salary) and claims data, as well as HRIS data (including gender, age, and race), they were able to analyze the results in a nuanced way. Interesting insights emerged, notably:

- Post-COVID screening rates were higher in all screening categories for employees in job classification #2, with a significant increase in breast cancer screenings.
- Overall, prostate cancer screening rates remained relatively low for both job classifications and sub-populations compared to other screenings, but there was a slight increase for prostate cancer screenings for employees in job classification #1, post-COVID.

Using the insights from the study, the employer was able to develop targeted communications and strategies to better engage employees and address areas with lower screening rates.

This employer was also able to supplement their specific data with outside SDoH data sets to better understand and study SDoH resources and healthcare access in their community. Leveraging this data, the employer implemented targeted programs and services to address care gaps within their employee population, using strategically positioned employer health clinics throughout the city to better support their employees' need for primary care services and healthcare resources.

Screening	Pre-COVID	Post-COVID
Breast Cancer	78%	83%
46 – 55	79%	81%
56 – 65	78%	84%
Job Classification # 1	80%	83%
Job Classification # 2	77%	86%
Colorectal	76%	75%
46 – 55	69%	71%
56 – 65	79%	78%
Job Classification # 1	76%	76%
Job Classification # 2	83%	79%
Prostate	49%	52%
46 – 55	41%	46%
56 – 65	56%	57%
Job Classification # 1	46%	51%
Job Classification # 2	55%	55%

This strategic use of data underscores the employer's ability to assess the efficacy of their healthcare benefits, identify areas for improvement, and inform future initiatives. These comprehensive strategies not only enhance employee health outcomes but also yield favorable cost outcomes, reflecting this employer's commitment to accessible and effective healthcare delivery for their employees across Middle Tennessee communities.

Notes

1 https://www.nashvillechamber.com/blog/chamber-research-center-nashville-msa-grew-by-86-people-per-day-in-2023/

2 https://www.census.gov/quickfacts/fact/table/TN,davidsoncountytennessee,shelbycountytennessee,knoxcountytennessee,US/IPE120222

3 https://www.countyhealthrankings.org/health-data/tennessee?year=2024

4 https://pubmed.ncbi.nlm.nih.gov/21466619/

5 https://www.webmd.com/hypertension-high-blood-pressure/high-blood-pressure

6 https://diabetes.org/sites/default/files/2024-03/adv_2024_state_fact_tennessee.pdf

7 https://www.sycamoreinstitutetn.org/health-workforce-development/

8 https://www.ahajournals.org/doi/10.1161/circresaha.116.305697#%3A%7E%3Atext%3DExcess%20weight%20gain%2C%20especially%20when%2Chuman%20primary%20(essential)%20hypertension

9 https://bettertennessee.com/diabetes-report-card/

10 https://www.cdc.gov/nchs/data/databriefs/db360-h.pdf

11 https://www.tennessean.com/story/opinion/2020/07/31/examination-racial-inequality-nashvilles-healthcare/5540680002/

12 https://belmontdata.wpengine.com/wp-content/uploads/2023/05/BDC_HypertensionReport.pdf

13 https://www.nashvillehealth.org/wp-content/upload/2019/09/NashvilleHealth-Executive-Summary_FINAL-9-25.pdf

Resources

- Tackling Tennessee's Workforce Health Challenges: Addressing Underlying Drivers of Chronic Conditions
- Novo Nordisk WORKS™(https://www.novonordiskworks.com/)
- St. Louis Business Health Coalition Benefits Check-Up for Heart Disease and Diabetes
- Leading By Example and Moving Upstream Together (*Action Brief*)
- Understanding Health Equity in the Workplace (*Action Brief*)
- The New Science of Obesity (*Action Brief*)
- The New Science of Obesity (Video)
- SDoH Partner Discussion Tool | HCTNonevoice.org (available to HCTN members only)

For additional information on any HCTN tools, resources, free Hypertension, Diabetes Prevention Program or Diabetes Management Pilots, please contact HCTN using the contact information below.

Acknowledgment

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