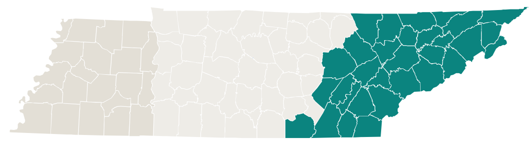
ACTION BRIEF

A Future Forward for a Healthier Tennessee

HealthCareTN

One Voice. One Focus. Leading Employers.

Tackling East Tennessee's Workforce Health Challenges



Addressing Underlying Drivers of Chronic Conditions

ACTION STEPS FOR EMPLOYERS

(see details about each action step starting on page 3):

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.**

East Tennessee is known as the birthplace of country music and for its natural beauty. It is home to the Great Smoky Mountains National Park, the most visited national park in the country, that draws recreationalists from many parts of the country to fish, camp, hike, kayak, and bike. Knoxville, the largest city in East Tennessee, is home to the University of Tennessee, a respected research institution and sports powerhouse. And, as a nod to Pat Summit, the legendary coach of the Lady Vols, Knoxville is home to the Women's Basketball Hall of Fame.

East Tennessee has an Appalachian culture, built on the values of faith, family and kinship in tightly connected, often impoverished, isolated communities. As such, East Tennessee has more in common with Kentucky, lower Virginia, and Western North Carolina than Middle or West Tennessee. There is no definitive urban center, like Memphis in the west and Nashville in the middle; rather it has three smaller urban areas—Knoxville, Chattanooga, and the Tri-Cities. Demographically, East Tennessee has a lower percentage of African Americans than both other Tennessee regions and national averages. However, poverty in East Tennessee is a significant issue, very similar to that in the western end of the state.

Knox County Health Rates (East TN)

HEALTH

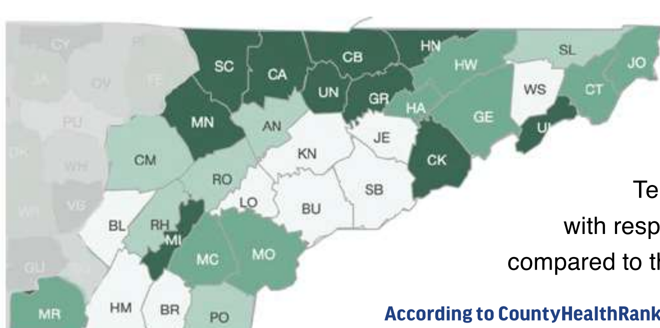
DRUG OVERDOSE:	42% higher than TN
OBESITY:	9% higher than US
DIABETES:	18% higher than US
HYPERTENSION:	3% higher than US and 6% higher than Davidson County
INJURY DEATHS:	8%–15% higher than Shelby County

SOCIO-ECONOMIC

POVERTY:	5% higher then US
INCOME INEQUALITY:	4% greater than Davidson County

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

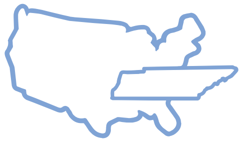
East Tennesseans look very similar to their counterparts across the state with regard to health status, which puts East Tennesseans near the bottom with respect to poor general health when compared to the rest of the nation.



Source: County Health Rankings and Roadmaps 2023

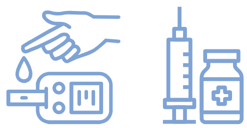
According to CountyHealthRankings 2023, three of the bottom five least healthy counties in Tennessee are in East Tennessee (Campbell, Cocke and Hancock).

Tennessee has the



4th HIGHEST RATE OF DIABETES

in the nation, and the



6th HIGHEST RATE OF HYPERTENSION

in the nation.

Source: America's Health Rankings, 2021 Annual Report, United Health Foundation

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.

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 East 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 East Tennessee.

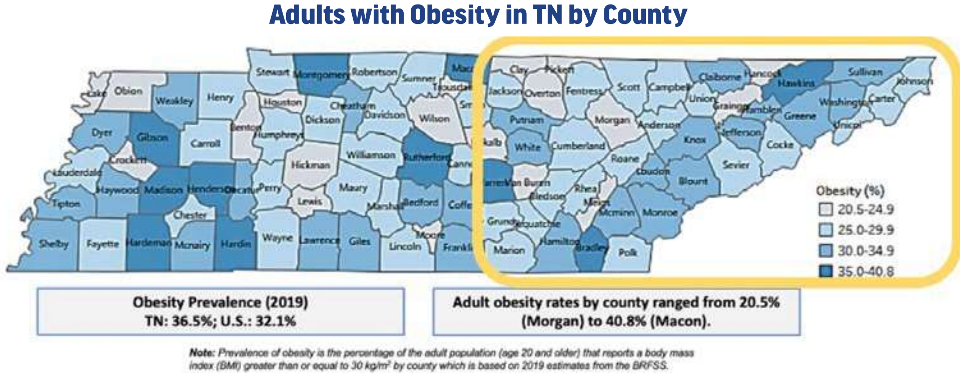
Impact of Chronic Conditions on the Workforce and Employers

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.

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

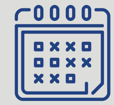
Many industries in Tennessee are experiencing labor shortages due, in part, to high rates of chronic disease. Hypertension and diabetes, which often emerge during productive work years, contribute to productivity, absenteeism and presenteeism challenges. In safety-sensitive jobs, these conditions increase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

Adults with Obesity in TN by County



Data Source: Centers for Disease Control and Prevention Diabetes Surveillance Atlas, 2019

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"

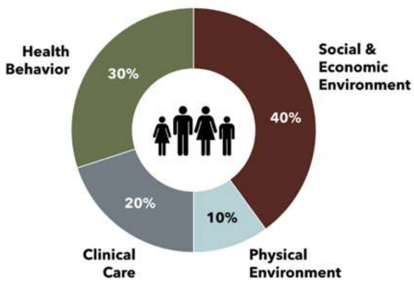
Drivers of Hypertension and Diabetes: Obesity and Social Determinants of Health (SDoH)

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

The CDC reports that "[f]rom 1999 –2000 through 2017–March 2020, US obesity prevalence increased from 30.5% to 41.9%. During the same time, the prevalence of severe obesity increased from 4.7% to 9.2%." As the map on page 2 shows, obesity is even more prevalent in East Tennessee than nationwide, with approximately 51% of East Tennessee counties at or above the national average.

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

The Drivers of Health



Source: County Health Rankings and Roadmaps Model

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:

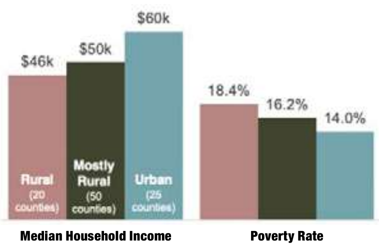
- Income and social protection
- Education
- Unemployment and job insecurity
- Working life conditions
- Food insecurity
- Housing, basic amenities, and environment
- Early childhood development
- Social inclusion and non-discrimination
- Structural conflict
- Access to high-quality, affordable healthcare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

The Impact of Living in Rural Communities

Rural populations, like those in East Tennessee, tend to have higher poverty rates, lower median incomes, higher rates of uninsured, fewer college educated, and less access to healthcare, all social determinants of health (SDoH) affecting health status. As reported by the National Institute of Health people in rural areas are more likely to "die prematurely from… heart disease, cancer, lung disease, and stroke. They have higher rates of obesity and diabetes. And they're at greater risk of fatal car crashes, suicide, and drug overdoses."[8]

Median Income and Poverty Rates

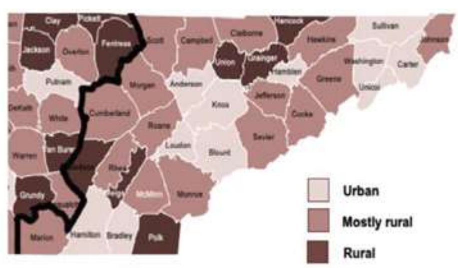
95 Tennessee Counties



Source: Sycamore Institute/US Census Bureau's 2017–2021 American Community Survey 5-year estimates

East Tennessee

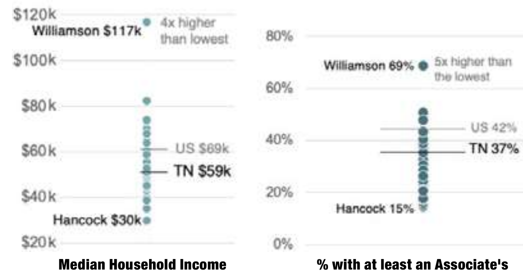
33 Counties



Source: Sycamore Institute

Comparing Williamson and Hancock counties

Tennessee's wealthiest and least wealthiest counties



CountyHealthRankings ranked Williamson county the healthiest in Tennessee (#1) and Hancock was ranked 94 out of 95 counties.[3]

Source: Sycamore Institute, https://www.sycamoreinstitutetn.org/2021-income-poverty-education-insurance/

Further, healthcare provider shortages are also widely reported in rural areas. According to the Tennessee Department of Health, of the 30 counties with the lowest primary care provider to population ratio, 12 are in East Tennessee.[10]

Employees bring the context of their lives to work every day—neighborhood concerns, economic stress, transportation inaccessibility, unstable housing, food insecurity, and more. These factors affect their work directly and indirectly in terms of ability to show up on time, capacity to meet job requirements, attention and focus, and employment longevity.

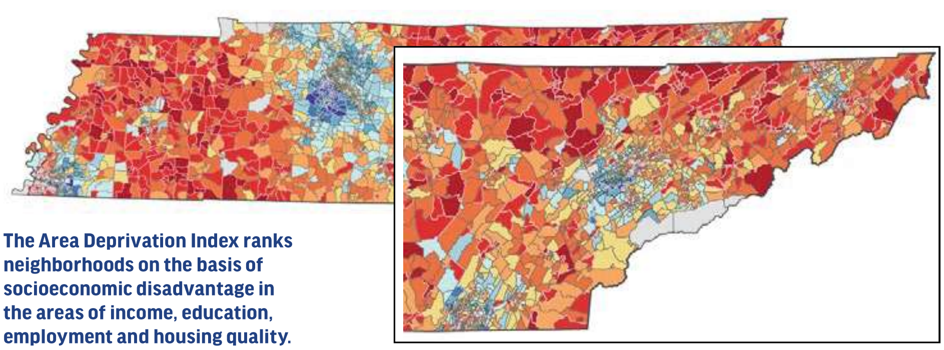
Employers need to examine such non-medical risk factors as they strive to understand and improve conditions that contribute to overall workforce health.

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) legislation gives employers enhanced leverage to demand unfettered access to the data service providers collect. Self-funded employers benefit from contracting with independent data warehouses and analytic firms to analyze data, identify opportunities, and conduct

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.

benchmarking and program evaluation.

- **Analyze the data.** Run a basic set of claims-data analyses to identify opportunities for risk reduction and condition management.
  - 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 a 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.

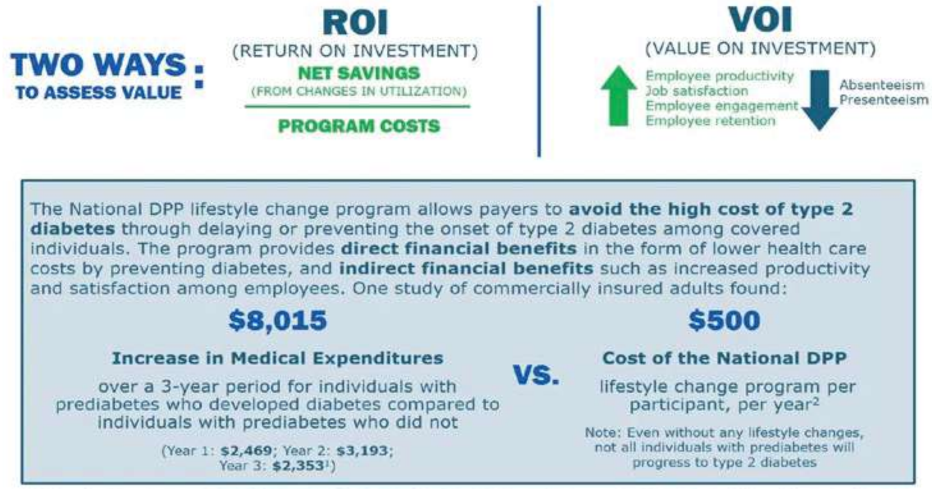
Because obesity is often an underlying cause of diabetes and hypertension, a comprehensive, evidence-based obesity benefit design is needed to reach as many employees as possible with tailored approaches.

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.

Return on Investment for National DPP

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



SOURCES: 1. Kahn, T., Tsipas, S., Wozniak, G., Medical Care Expenditures for Individuals with Prediabetes, Population Health Management, 2017. | 2. CDC, How Type 2 Diabetes Affects Your Workforce, 2018.

Lifestyle Intervention

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

The National DPP:

- Can prevent or delay type 2 diabetes by 58%.
- 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 to 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 $600 per participant.

Pharmacotherapy

- Where possible, remove financial barriers, such as deductibles and co-pays/co-insurances, for FDA-approved weight-loss treatment.
- 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, long-term, successful outcomes.
- Bundle pricing to manage risk of complications.
- Pre-qualify patients to identify good candidates for success.

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

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 hardhip by providing advantages at the worksite and benefits that ease access to care for them and their families. This simple continuum—bronze, silver, gold—will help employers identify a starting point.

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

- Deep-dive data analyses, integrating human resource information systems (HRIS) data, claims data, 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 rural populations, and the provider shortages in these areas, like East Tennessee, employers located in or near rural parts of the state should consider strategies to mitigate healthcare isolation through…

- increased telehealth coverage,
- increased online prevention and management for chronic illnesses,
- establishing onsite clinics and pharmacies,
- subsidizing internet connectivity, 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 best industry practices?
- How are they addressing SDoH for this unique employee population?

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 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.

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.

- 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.

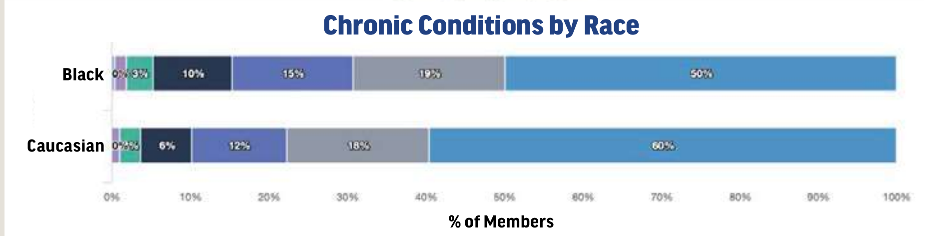
Health plans continue to form part of the chronic-condition management strategy. Employers need to persistent in pushing health plans for HEDIS data specific to network providers serving members. Employers can also encourage brokers and consultants to introduce them to an array of point solutions, understanding direct and indirect compensation arrangements.

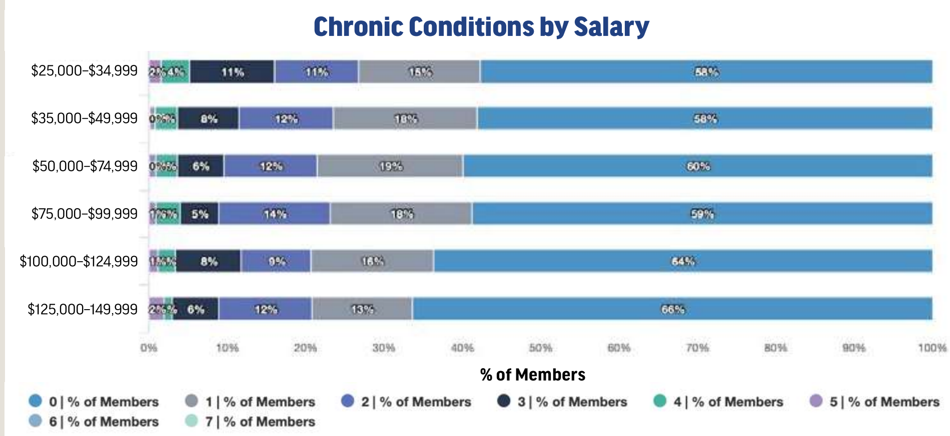
Employer Conducts Basic Silver Level SDoH Study

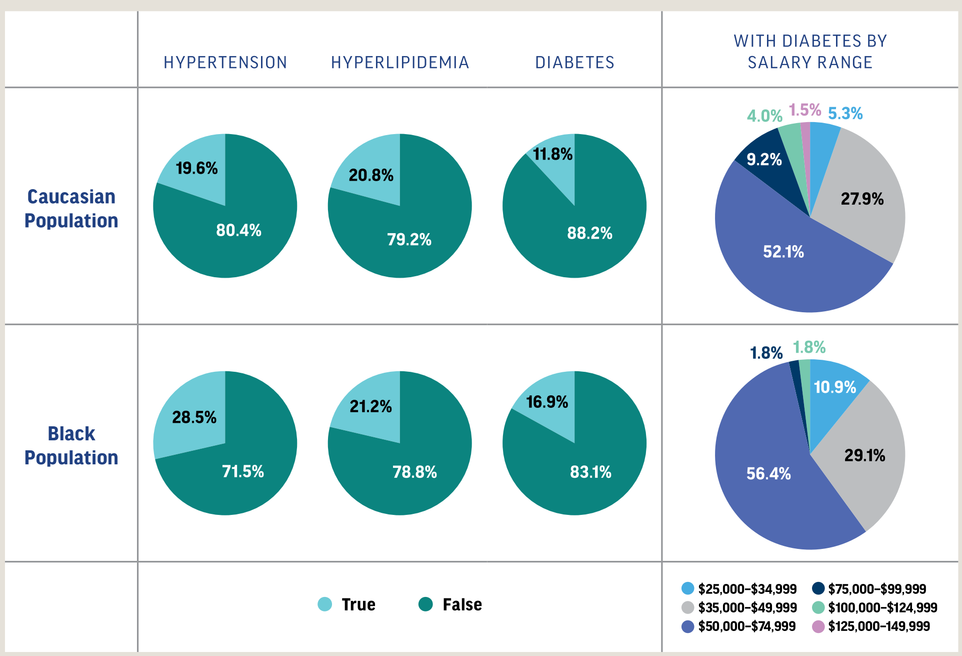
To better understand the SDoH risks in the population, an East Tennessee employer augmented medical claims data with HRIS information, including, race, income (salary), and job class/category. Analyzing claims with this new information, they found that both hypertension and diabetes are more prevalent among Black employees than White employees. They also confirmed that income had an impact with lower-wage workers having a higher prevalence of co-existing conditions.

Following this study, the employer plans to network with other employers, HealthCareTN, and its data analyst to expand the SDoH strategy. They are also meeting with leaders from various ethnic groups in the region to help inform recruitment and retention strategies.

This is actual, not imputed data. However, this company can still access the available public information, including heat maps and benchmarks, reporting social vulnerability.







Notes

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

2 https://www.webmd.com/hypertension-high-blood-pressure/guide/high-blood-pressure#:~:text=Typically%2C%20blood%20pressure%20increases%20with,blood%20pressure%20also%20increases%20risk

3 https://www2.diabetes.org/sites/default/files/2022-04/ADV_2022_State_Fact_sheets_all_rev_TN-4-4-22.pdf

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

5 https://www.ahajournals.org/doi/10.1161/circresaha.116.305697#:~:text=Excess%20weight%20gain%2C%20especially%20when,human%20primary%20(essential)%20hypertension

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

7 https://www.cdc.gov/obesity/data/adult.html

8 https://newsinhealth.nih.gov/2022/03/health-rural-america#:~:text=Studies%20have%20found%20that%20rural,%2C%20suicide%2C%20and%20drug%20overdoses

9 https://www.tn.gov/health/health-program-areas/rural-health/hrsa-maps.html

Resources

- Tackling Tennessee's Workforce Health Challenges: Addressing Underlying Drivers of Chronic Conditions
- Novo Nordisk WORKS™
- 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)

Acknowledgment

HealthCareTN gives special thanks to and acknowledges the partnership of the Tennessee Department of Health in the creation of this statewide employer Action Brief.

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

KNOXVILLE OFFICE:
625 Market Street, Suite 500
Knoxville, TN 37902
865-292-2121

MEMPHIS OFFICE:
4728 Spottswood Avenue, #376
Memphis, TN 38117
901-487-7299

DECEMBER 2023