



# Community Health Profile

Lancaster County, 2021-2022

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We welcome comments via emails to [health@lincoln.ne.gov](mailto:health@lincoln.ne.gov) or by submitting your comments through the online form here: <https://redcap.link/yr0q8t4a>

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## Introduction

This 2022 Community Health Profile for Lincoln and Lancaster County is based upon the recent community health survey and community health needs assessment done under the general framework of MAPP (Mobilizing for Action through Planning and Partnership). The community profile is informed by this survey and the four assessments: Community Health Status Assessment, Community Themes and Strengths Assessment, Forces of Change Assessment, and the Local Public Health System Assessment.

This update includes the latest available data, including statistical and survey data from an array of sources and qualitative data from surveys and focus groups. These data and statistics include demographic, health, and environmental health indicators.

## Assessments

This Community Health Profile summarizes the four assessments listed below.

- Community Health Status
- Community Themes & Strengths
- Local Public Health System
- Forces of Change

These assessments in coordination with community partners lead to the setting of community health priorities for the Community Health Improvement Plan. The following section provides a brief overview.

### Community Health Status Assessment

In this cycle of the Community Health Assessment process, LLCHD has piloted and implemented a new shortened version of a Community Health Status Assessment in the form of the five-question geospatial community survey mentioned in the previous sections. This survey (primary data source) in combination with the array of indicators from our secondary data sources (birth, death, BRFSS, YRBS, hospital discharge data) helps provide a robust understanding of health behaviors and outcomes in Lancaster County. Equity is central to all the work done at the Lincoln-Lancaster County Health Department. To ensure equity is met in this project, LLCHD has conducted a series of surveys and focus groups (Community Conversations) in collaboration with the Cultural Centers of Lincoln (CCLs). The rest of the Executive Summary section shown above summarizes these behaviors and outcomes for Lancaster County.

#### *Geospatial Community Survey*

The geospatial community survey provided census tract estimates for the self-reported health status of our community. An approach based on the CDC's CASPER (Community Assessment Public Health Emergency Response) model was implemented for this survey. Due to COVID-19 and the uncertainty surrounding the virus, door-to-door surveys were not implemented in this round of the geospatial community survey. See this [video](#) for an example of the CASPER model. The following text summarizes these efforts, including how the tool was developed, piloted, and formally implemented, and the results of this innovative approach. Below is a map that shows the sample sent and a map showing the responses returned. This [graphic](#) shows a copy of the survey that was distributed as well.

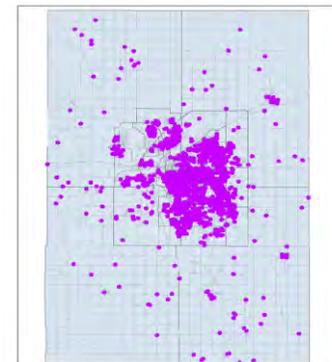
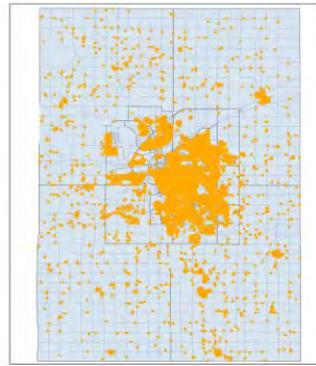
Lincoln Lancaster County Health Department  
3030 O Street, Lincoln, NE 68502

The City of Lincoln and Lancaster County Health Department is conducting this survey to help us understand the health of our community. We are interested in hearing from you about how you experience the things that affect your health in the city of Lincoln. Your survey will help us identify the most important health issues in your neighborhood and help us make decisions about how to improve the health of our community. Please complete the survey below. Use all the time you need to complete the survey. If you have any questions, please call or email us at 402.441.2000.

To complete the survey online, or for language help, scan this code with your phone or go to the website: <https://www.lincolncountyhealth.org/survey>

If you are completing the survey online, enter the following code: **7565010**

1. What was the last major health issue you or your family experienced?
2. What worries you most about your health or the health of your family?
3. The following are health concerns in the city of Lincoln and Lancaster County. In your experience, what are the top 3 health concerns?
  - Asthma, COPD, and Tobacco Use
  - Diabetes
  - Mental Health (for example depression, anxiety, Post-Traumatic Stress Disorder)
  - Substance Use (alcohol, drugs, and tobacco)
  - Heart Disease (for example high blood pressure, stroke)
  - Cancer
  - Infectious Disease (for example HIV/AIDS, Hepatitis B & C)
  - Injury (for example falls, motor vehicle, or other)
  - Getting Enough Exercise
  - Something else (specify): \_\_\_\_\_
4. What's something you do to be healthy?
5. What would make your neighborhood a healthier place for you or your family?



This information was shared with the Board of Health on September 15<sup>th</sup>, 2021, as part of an update regarding the work being done for Community Health Assessment functions by LLCHD. For a full copy of the slides shared at this Board of Health Community Health Assessment update, please refer to the [Appendix CHA Board of Health Update](#). Here is a copy of the survey distributed.

### 2020 PHAB Annual Report

A Quality Improvement using Plan-Do-Study-Act methodology was initiated in the Summer of 2019. First, the Plan Phase included the use of an iterative entrepreneurial tool called Customer Discovery Interviewing. The methodology requires questions that prompt memory recall of decision-making or experience, avoiding health estimation where possible. More than 30 community partners were interviewed, averaging an hour in length, regarding their experience in gathering meaningful input from the communities they serve, and testing validity of potential survey questions. The questions focused on: 1) problems with community data collection 2) best experiences with collecting data and its meaningful use, and 3) providing access to preliminary survey questions developed by the department. The results of the interviews provided focus, direction, and clarification for potential survey methodology and questions. Five survey questions were consistently met with approval, two emerging at the suggestion of a community partner to include asset-based questions. Additionally, each question was assessed in the interviews for potential value it may generate, and ultimately its ability to reveal opportunities for action and improvement. Final questions were:

1. What was the last major health issue you or your family experienced?
2. What worries you most about your or your family's health?
3. The following are health concerns in the city of Lincoln and Lancaster County. In your experience what are the top 3 health concerns? (9 are listed with a check box, with an "other" box provided)
4. What's something you do to be healthy?
5. What would make your neighborhood a healthier place for you or your family?

Secondarily, the Team was unable to find survey methodology matching our focus, and adapted a modified geo-spatial methodology, using GIS to identify 1 out of every 7 homes on every block of the city and county. Roughly 14,000 addresses were identified for this round of surveying (the methodology allows for easy shifting in the future (i.e., home 2 out of 7) to avoid survey fatigue). The survey has no method for collecting additional demographic information, which is currently obtained through the Census. The focus of the survey is solely how health is experienced based on where a person lives. The

tool was translated into 5 additional languages based on the top language needs identified through other services offered by the Lincoln-Lancaster County Health Department.

The DO Phase was initiated internally first, with a piloting of LLCHD staff. The Community Health Survey was sent to all LLCHD employees to assess:

- The quality of data collected by the survey
- The time necessary for completion
- The likelihood of respondents to submit health experiences anonymously
- The usability of the online survey

The LLCHD Staff pilot results were used by the Team to establish preliminary categories to use for analyzing the full sample. Additionally, a pilot was completed through an emailed version to partners and collaborators who were involved in Customer Discovery Interviewing.

In January and February of 2020, a full pilot was conducted in two census tracks assessed as two of the highest risk for many of the leading health concerns in the city and county. One in every seven homes received the survey which could be completed either on paper, online (a QR code and URL were included), or in person via phone (inhouse translation is available for 7 languages). Nearly 500 surveys were distributed each with a code that correlated to their census track. The pilot had more than a 20% completion rate after two mailings, sent two weeks apart. Methodology was set for follow-up to increase completion, with staff and interns going door to door, but COVID prevented this. The minimum threshold for success set prior to mailing was a 20% completion rate, and the Team felt given the interruption from COVID to the follow-up process, the pilot was incredibly successful. The data was cleaned and categorized, with data quality mirroring the internal LLCHD staff pilot.

Based on the success measures identified in the Plan phase, the new Community Health Survey Methodology was sent to Act Phase where it was Adopted to be fully implemented in October and November of 2020 (currently underway) The results of each measure were as follows:

- Increase representation of the CHA/CHIP tool for community input and guidance to include people from throughout the city and county
  - Based on the geo-spatial sampling methodology every neighborhood, apartment complex (1 in every 7 units were sampled), and house was sampled. This broad representation provided significant improvement. With the success of the pilot, representation is broad and significant
- Increase overall participation from 300
  - Based on the 20%+ response rate from the first two census tracks, the full sample will increase response substantially. This does not remove the need to work specifically with partnership organizations in every aspect of the 2020-21 CHA/CHIP, but increases participation in the process from the community substantially
- Increase understanding of health experiences across the city and county
  - Because the survey is an experience-based survey approach, with each question created to make the respondent the expert (only they can answer for their experiences), the insight into how health is experienced based on location in the city and county is invaluable. Results provided categorizable and anecdotal input into the process.

- Ensure analysis is mappable, adding a new meaningful layer to Community Health Status Assessment and community mapping projects
  - With survey results connected only to a geographic identifier, results are mapped by response, allowing partnering organizations to work in specific areas of the community to address health needs as they emerge. This potential to focus CHIP objectives is unprecedented for LLCHD.
- Increase actionability of data received
  - Based on the methodology used to develop the survey questions, and the qualitative nature of the responses, the ability to actionably respond to survey data has increased tremendously.

*2021 PHAB Annual Report*

The new Community Health Survey needed the capacity for mapping results. The department has led community-wide health data mapping projects in the past (i.e., “Place Matters”), but to align and partner with the community’s hospital systems the timeline needed to change from five to three years, requiring more focused Community Health Improvement efforts. A model emerged using a modified spatial-sequential sampling methodology borrowed from the emergency response approach of CASPER (Community Assessment for Public Emergency Response). While CASPER surveys a representative sample with randomly selected census tracts, the LLCHD model chose to sample in every census tract within the city and county. Specifically, one in every seven parcels of land (households) would receive a survey, allowing the Department to weigh and map the results and overlay the survey with established secondary data sources utilized in the Community Health Status Assessment (BRFSS, YRBS, Vital Stats, etc.), and be more directed in where focus was placed in the Community Health Improvement Plan.

Through work with the Cultural Centers of Lincoln, the local chapter of the Federation of the Blind, and the Homeless Coalition, LLCHD partnered to identify and survey 11 Equity Groups to better ensure engagement and representation as priorities emerge from the data for Community Health Improvement Planning.

The results were so strong from the initial pilot that the partnership decided to keep the original timeline of Fall 2020 for the full release of the new survey tool. The results again came in quite strong from a very dispersed sample. The data was categorized by the CHA/CHIP team, weighted, and prepped for use in Community Health Improvement Planning.

*Geospatial Survey Results*

The results of the categorization for each question are shown below. First, the data collected (except for Question 3) were gathered and categorized by the Health Department team and hospital partners. Once categorization was completed, the estimates were weighted and are present for each question. For Question 1 (What was the last major health issue you or your family experienced?), the percentage of responses in each category is listed below. The circulatory system was identified as the leading cause (13.3%), followed by infectious and parasitic disease (13.0%, primarily due to the pandemic), and thirdly cancer (9.9%). The other responses representing at least 5% of our community are disorders of the musculoskeletal system, mental, behavioral, and neurodevelopmental disorders, and injury, poisoning, or other consequences of external causes.

Categorized Responses	Weighted Percent
-----------------------	------------------

Circulatory System	13.3%
Infectious & Parasitic Disease	13.0%
Nothing	12.1%
Cancer/Neoplasms	9.9%
Musculoskeletal System	8.2%
Mental, Behavioral and Neurodevelopmental Disorders	7.0%
Injury, Poisoning & Certain Other Consequences of External Causes	5.9%
General Health and Other or Unspecified Health Conditions	4.2%
Digestive System	4.1%
Diabetes Related Conditions and Procedures	3.5%
Respiratory System	3.1%
Surgery or Other Medical Treatment/Procedure without Specified Cause	3.1%
OB/GYN	2.7%
Urinary System	2.6%
Conditions of the Eye and Ear	2.0%
Aging	1.8%
Other	1.7%
Nervous System	0.9%
Healthcare Access	0.5%
Endocrine System	0.3%
Disability	0.2%
Specialty Care	0.0%

Infectious and parasitic disease is typically not this high as a burden of health outcomes; however, the onset of the pandemic in early 2020 has resulted in the public survey showing it as a much more common issue for the community. The table below shows that of all respondent's experiences categorized as infectious and parasitic disease, COVID-19 was responsible for 56.1% of them.

Infectious & Parasitic Disease	Weighted Percent
Covid-19	56.1%
Other or Unspecified Infectious or Parasitic Diseases	19.3%
Influenza	15.4%
Meningitis	4.2%
RSV (Respiratory Syncytial Virus)	4.1%
Blood	0.6%
Mononucleosis (typically Epstein-Barr virus - EBV)	0.3%

The second question (What worries you most about your or your family's health?) identified infectious disease as the leading cause (29.1%) with 99% of those responses identifying COVID-19 as the primary concern. The next leading group of responses identified healthcare access (17.4%). Individuals reported nothing (11.1%) more frequently than general health & well-being (9.5%), other (9.1%) and behavioral or mental health (5.7%) and aging (5.5%).

Categorized Responses	Weighted Percent
Infectious Disease	29.1%
Healthcare Access	17.4%
Nothing	11.1%
General Health & Well-being	9.5%
Other	9.1%
Behavioral/Mental Health	5.7%
Aging	5.5%
Circulatory System	3.9%
Cancer/Neoplasms	3.3%
Environment	1.4%
Diabetes Related Conditions and Procedures	1.3%
Social Connectedness	1.0%

The third question (In your experience, what are the top 3 health concerns?) gave options for individuals to select their top 3 health concerns. The table below shows what was selected most frequently. Since this form was developed prior to the pandemic beginning, infectious disease and COVID19 were not included. Prior to the pandemic, infectious and parasitic disease was not a leading cause of death.

Health Concern	Weighted percent
Mental Health (i.e., Depression, Anxiety, Post-Traumatic Stress, Suicide)	65.3%
Alcohol, Drug, and Tobacco Use	41.2%
Heart Disease (i.e., high blood pressure & stroke)	40.7%
Getting enough exercise	31.1%
Challenges getting healthy and affordable food	27.3%
Diabetes	25.0%
Getting around town safely (driving, walking, & riding)	23.1%
Cancer	8.8%
Asthma	5.3%

The fourth question (What is something you do to be healthy?) was open-ended and allowed individuals to provide general information about healthy habits they have. The table below summarizes this. Exercise (64.3%) and healthy diet (21.4%) were most responses. Exercise (walking 47.7% or other 45.2%) and healthy diet (other 78.2% and fresh ingredients 14.8%) were general responses typically without specific information about what precisely was done.

Categorized Responses	Weighted percent
Exercise	64.3%
Healthy Diet	21.4%
Other or Unspecified	6.4%
None	3.1%
Reducing Exposure to Risk Factors	2.7%

Regular Preventive Care	2.0%
Safe Traffic Habits	0.1%

The fifth question (What would make your neighborhood a healthier place for you or your family?) inquired about interventions that could be undertaken to improve the health of their community. The table below summarizes the communities' responses to this question. The leading interventions were physical activity infrastructure (16.8%), cleaner environment (10.3%), traffic safety (7.3%), neighborhood safety (6.3%), access to healthy food (4.3%) and neighborhood connectedness (4.2%). For physical activity infrastructure, more focus on access to trails (21.8%), sidewalks (19.7%), parks (15.5%) and gyms (12.5%) were the leading specific types. For environment, air quality (21.9%) and cleaner neighborhoods (17.2%) were among the top specific improvements desired. For traffic safety, less high-speed traffic (38.4%) and traffic volume (19.5%) were the leading preferences.

Categorized Responses	Weighted percent
Physical Activity Infrastructure	16.8%
Cleaner Environment	10.3%
Traffic Safety	7.3%
Neighborhood Safety	6.3%
Don't Know	5.5%
Access to Healthy Food	4.3%
Neighborhood Connectedness	4.2%
Physical Activity Programming	2.7%
Reduced Access to Drugs & Alcohol	2.7%
Access to Healthcare	2.5%
Higher Vaccination Rates	0.2%

Overall, these questions and their responses provide a robust understanding of what the community identifies as the biggest health issues and the best ways to potentially address these health issues. Further analysis of these data is underway as well, including community conversations and additional surveys that were conducted focused on health equity.

#### Equity Sampling

The community was surveyed with a focus on sampling various communities historically known to experience health inequities, particularly by partnering with the Culture Centers of Lincoln (CCL), the Lincoln Homeless Coalition, Cedars, and the National Federation of the Blind of Nebraska. The results for this sample are shown in the Appendix [here](#).

#### Minority Health Assessments

There is an array of projects and processes at LLCHD designed to incorporate minority health into the work done by local public health entities in Lancaster County. Some major projects that are a part of this work are summarized below.

#### Minority Health Initiative

The Minority Health Initiative is funded by the Nebraska Department of Health and Human Services with the purpose of increasing local health department capacity to perform assessments of minority

community needs and develop programming focused on either (a) prevention strategies or (b) infrastructure. This funding contributes to an increase in community partner engagement and more depth within the broader community health assessment conducted by LLCHD for Lancaster County. With these additional specific funding resources, the goal for the Lincoln-Lancaster County Health Department is to 'lead a comprehensive racial and ethnic minority community assessment process' which will be outlined in the following text. The specific MHI requirements include the following:

1. Minority community assessment, including identifying where minority communities are located using census data, identifying social determinants of health (SDOH) needs using social vulnerability index and census tools, and conducting community listening sessions, branded Community Conversations, to gather input regarding needs and collect recommendations on strategies to address disparities and SDOH issues identified. Identifying where minority communities are located and SDOH distribution throughout Lancaster County is completed as part of the standard Lincoln-Lancaster County Health Department's Demographic Profile shown earlier in this report and the more detailed sections in the Community Health Status Assessment.
2. Partner identification, including identifying a consortium of partners who will be instrumental in advising on programming and describing context for and desired contributions from formal (e.g., health providers, civic officials, faith-based organization leaders) and informal (e.g., local small business owners, teachers, social partners) partners. This action is undertaken as part of the Community Health Improvement Plan development, which is a separate document based on this report; however, this report includes information about who was included in the assessment process that contributes to the improvement planning. Many individuals from the assessment process are incorporated into the improvement plan as responsible parties and stakeholders. For the MHI, cultural center liaisons (CCLs) were the primary contacts who helped coordinate the assessments for various minority communities.
3. LHD engagement, including describing the role of the LLCHD team in implementation of MHI programming. This includes the LLCHD Health Director ensuring organization-wide engagement in equity initiatives. Initiatives undertaken are dependent on the work to be completed reaching out to various communities in Lancaster County historically and currently known to experience systemic health inequities.
4. Programming description, including identifying two-year programming, focused on prevention strategies (e.g., access to health food, access to physical activity, worksite wellness, chronic disease) and infrastructure (e.g., community coalition, training, transportation services, translation). Information about specific programming will be included in the 2021-2022 Community Health Improvement Plan, a byproduct of this assessment process.
5. Outcomes documentation, including identifying 3 desired outcomes over the next 2-3 years because of MHI programming. These metrics will be developed and included in the 2021-2022 Community Health Improvement Plan. Priorities were identified at the Minority Health Initiative Summit on May 11<sup>th</sup>, 2022, at the Nebraska Innovation Campus.

#### CDC COVID-19 Health Disparities Subaward

In addition to ensuring that the above grant requirements are met, the Lincoln-Lancaster County Health Department will be conducting a community assessment that addresses the COVID-19 response, most specifically with the rural population, and those who have a disability. The objective will be determining how COVID-19 responses to date have been successful and where they can improve; Assessing local support systems' coordination and effectiveness during the COVID-19 pandemic that considers local rural, disabled, and racial and ethnic minority communities; Addressing access to care for these populations especially related to Medicaid Expansion; Maintaining or enhancing accessibility to COVID testing, contact tracing, and vaccination. Funds will be primarily used for COVID testing, interpretation and translation, incentives for participants in community conversations (grocery store gift cards, gas cards, other items important to daily living).

#### Advancing Health Literacy

Another related group of work is the Advancing Health Literacy funding. This project is a partnership between LLCHD, the Culture Centers of Lincoln (CCL), and Nebraska Association of Local Health Directors (NALHD). The purpose of this project is to enhance knowledge and uptake of COVID-19 mitigation measures with Lincoln's racial and ethnic minority populations, including refugees and immigrants. A focus of the grant is health literacy, which is the ability for a person to find, understand and use information and services to help them make health-related decisions for themselves and others. Health literacy plays a crucial role in COVID-19 response efforts and COVID-19 information like preventive measures, vaccines and clinic locations should reach all members of the community in a way they are able to understand and act on that information to help protect themselves, their families, and the community. The goals and objectives for this project are below:

1. Improve the sustainable local infrastructure to rapidly recreate accurate, health literate, culturally and linguistically appropriate messaging with communities disproportionately impacted by COVID-19. This will be accomplished by employing and training a team of Health Literacy Associates (HLA's) who are multilingual and multicultural who liaison with member organizations of CCL and facilitate user groups involvement in ongoing communication planning and education.
2. Create and disseminate health literature, culturally and linguistically appropriate education and communication resources targeting communities disproportionately affected by COVID-19 and the public health and health care providers who serve them. This will be accomplished by developing and implementing strategic, ongoing, linguistically, and culturally appropriate communication plans targeting communities disproportionately impacted by COVID-19; as well as providing public health expertise to verify content of messaging that will include print, web, audio, and video assets.

Equity is the central focus of public health, and these minority health assessments are critical to better understanding inequities between racial and ethnic communities in Lancaster County.

Overall, the Community Health Status Assessment is the largest component of this Community Health Profile and the 2022 Community Health Improvement Planning cycle. For an even more in-depth look at the Community Health Status Assessment, please [click here](#).

### Community Themes and Strengths Assessment

The primary method used for the Community Themes and Strengths Assessment (CTSA) was completed using a geospatial sampling protocol to gain a representative sample by census tract. The purpose of this assessment is to gather information about:

- What is important to our community?
- How is quality of life perceived by our residents?
- What assets do we have to improve community health?

The geospatial and equity survey was distributed starting in 2020 to the general population. In early-to mid-2021, a focused assessment survey was shared with cultural centers and other partners throughout Lancaster County to ensure that we were able to view our communities' themes and strengths through an equity lens. There was no convenience survey that is typically administered during this assessment period. For the Community Themes & Strengths, the questions from the geospatial survey and equity-focused survey done in coordination with the Cultural Centers of Lincoln, the Lincoln Homelessness Coalition and the local chapter of the National Federation of the Blind that are used are shown below:

- What worries you most about your or your family's health?
- In your experience, what are the top 3 health concerns in Lancaster County?
- What's something you do to be healthy?

The CTSA provided valuable insight into the community that will be described in more detail in that section. To jump directly to that section, please [click here](#).

### Local Public Health System Assessment

The Local Public Health System Assessment (LPHSA) focuses on all the organizations and entities that contribute to the public's health. The LPHSA answers questions like: "What are the components, activities, competencies, and capacities of our local public health system?" and "How are the Essential Services being provided to our community?"

The LPHSA was released to a core set of partners in the 2021-2022 Lancaster County Community Health Assessment. A survey was developed from the National Public Health Performance Standards (NPHPS) Local Public Health System Assessment Instrument (Local Instrument) provided by the National Association of City & County Health Officials (NACCHO) to gather these data. The tool was developed collaboratively with several respected national organizations, including the Centers for Disease Control and Prevention (CDC), the American Public Health Association (APHA), the Association of State and Territorial Health Officials (ASTHO), the National Association of Local Boards of Health (NALBOH) and more.

The Local Public Health Assessment results are summarized in that section of this report. To jump directly to those results, please [click here](#).

### Forces of Change Assessment

The Forces of Change Assessment focuses on identifying forces such as legislation, technology, and other impending changes that affect the context in which the community and its public health system operate. This answers the questions: "What is occurring or might occur that affects the health of our

community or the local public health system?” and “What specific threats or opportunities are generated by these occurrences?”

In Lancaster County, the Forces of Change Assessment incorporated three different tools to better understand what was impacting the public health systems and the community’s ability to operate. These tools were the Community Health Survey, the Community Conversations, and the Module Questionnaires.

To learn more about the Forces of Change Assessment, please [click here](#).

#### Assessment Summary

In closing, the assessments conducted as part of the Community Health Assessment all lead to the same place. The prioritization of health issues and behaviors in our community that interventions will focus on in this Community Health Improvement Planning cycle. These assessments (Community Health Status, Community Themes & Strengths, Local Public Health System and Forces of Change) will be described in more detail now.

## Community Health Status Assessment

The following section represents the Community Health Status Assessment component of the Community Health Profile. This is designed to identify priority community health and quality of life issues. It does this by answering questions like “How healthy are our residents?” and “What does the health status of our community look like?” To do this, we have analyzed survey (BRFSS/YRBS) and registry data (birth certificates, death certificates, cancer registry), as well as conducting a community survey asking 5 questions to ascertain what individuals identify as their greatest health concerns.

### Demographics

Lancaster County covers 839 square miles in southeastern Nebraska. The county’s population is growing. The current population of 319,090 represents a 14% increase from 279,428 in 2010 (American Community Survey, ACS). The city of Lincoln, the county seat, is also the capital city of Nebraska. Lincoln is the second largest city in Nebraska, behind Omaha.

With four post-secondary educational institutions, the community has a lower-than-average percentage of owner-occupied housing than the state and nation (60.3% LC, 66.3% NE, 64.1% US)<sup>1</sup>, but a higher educational attainment of a Bachelor’s degree or higher among the population 25 years and over (40.3% LC, 33.2% NE, 32.3% US)<sup>2</sup>.

Lancaster County is a host to over 40 active neighborhood associations and features a strong Mayor form of municipal governance with an active City Council. Starting in the 1980s, the community welcomed resettlement of refugees from across the world. In the 1980s, the immigrants were mostly from Vietnam, but in more recent decades there have been refugees and immigrants who have moved to Lincoln from Africa, Europe, and Russia, the Middle East, and the Far East. In addition, there has been an influx of Latinx residents over several decades. The community has initiated numerous social support services, and has embraced its newfound diversity, but challenges remain in meeting the health needs of new Americans and minorities who are unaccustomed to our country’s health care system.

Lancaster County’s demographic changes since 2010 reflect the increased diversity as shown in the tables below.<sup>3</sup> Over the decade from 2010 to 2019, the increase in the Black (34.7%), American Indian and Alaska Native (22.5%), Asian (34.4%), multiracial (84.3%) and Hispanic or Latino (44.7%) populations is very large relative to the White alone population.

*Racial and Ethnic Demographics for Lancaster County, 2010 to 2019*

Year	White alone	Black alone	American Indian/Alaska Native alone	Asian alone	Native Hawaiian/Other Pacific Islander alone	Two or more races	Hispanic or Latino (may be any race)
<b>2010</b>	249,169	9,278	1,753	9,790	220	6,099	15,246
<b>2019</b>	269,630	12,501	2,147	13,153	241	11,238	22,068
<b>Increase</b>	20,461	3,223	394	3,363	21	5,139	6,822
<b>% Increase</b>	8.2%	34.7%	22.5%	34.4%	9.5%	84.3%	44.7%

<sup>1</sup> 2019 American Community Survey, Table DP04

<sup>2</sup> 2019 American Community Survey, Table S1501

<sup>3</sup> American Community Survey 5-Year Estimates, Table DP05

The following table reflects the general population data by age and gender from the American Community Survey from 2010 to 2019. There was significant growth in all age groups except for those under the age of 5. The growth as a percentage was most rapid among those 65 years and older.

*Age and Gender Demographics for Lancaster County, 2010 to 2019*

Population/Age Group	2010	2019	Change (2010-2019)	% Change (2010-2019)
<b>Total population</b>	279,428	313,158	33,730	12.1%
<b>Male</b>	139,932	157,231	17,299	12.4%
<b>Female</b>	139,496	155,927	16,431	11.8%
<b>Under 5</b>	19,920	20,085	165	0.8%
<b>18 and Older</b>	215,055	241,484	26,429	12.3%
<b>Male</b>	107,139	120,505	13,366	12.5%
<b>Female</b>	107,916	120,979	13,063	12.1%
<b>65 and Older</b>	29,656	42,177	12,521	42.2%
<b>Male</b>	12,537	18,696	6,159	49.1%
<b>Female</b>	17,119	23,481	6,362	37.2%

### Socioeconomic Characteristics

This section will provide a summary of households and families, employment, income, and other areas of interest that we can draw an understanding of using the American Community Survey.

#### Housing

In the 2019 ACS, there were an estimated 131,099 total housing units in Lancaster County, which was an increase from the estimated 119,196 total housing units in 2010. Of 124,324 occupied housing units in 2019, 59.8% (74,344) were owner-occupied and 40.2% (49,980) were renter occupied. The average household size was 2.41. 57,423 households were a married-couple family, 5,327 were a male householder with no spouse present family household, 10,972 were a female householder with no spouse present family household and 50,602 were non-family households.<sup>4</sup>

#### Housing Costs

The 2019 ACS estimated the median monthly housing costs for units with a mortgage was \$1,412, for units without a mortgage was \$551; and for renters it was \$852. The cost of housing as a percentage of household income for housing units with a mortgage was 35% or greater for 13.1% of households, but 6.8% for housing units without a mortgage and 37.4% for renters. There are an estimated 5.2% of total housing units that are currently vacant in Lancaster County.<sup>5</sup> For occupied housing units in Lancaster County, 13.4% were built in 1939 or earlier, 13.2% 1940 to 1959, 25.5% 1960 to 1979, 25.8% 1980 to 1999, 3.7% 2010 to 2013 and 4.0% 2014 or later. This is particularly significant when considering the need for improvements to overall infrastructure, for example in relation to household lead exposures for children.

<sup>4</sup> American Community Survey 5-Year Estimates, DP04

<sup>5</sup> 2019 American Community Survey 5-Year Estimates, DP04

### Homelessness

The Lancaster County homeless population is best measured using the Point-in-Time Count conducted annually. The number of homeless persons counted has declined since 2012. In 2012, there were 981 individuals counted, but this number steadily decreased to 451 in 2018.<sup>6</sup> In 2019, the count was conducted on January 22<sup>nd</sup> and there were 449 persons from 325 households counted. There were 279 persons that were formerly homeless housed in Permanent Supportive Housing programs, 234 persons formerly homeless in Rapid Rehousing Programs and 52 persons that were formerly homeless housed in Other Permanent Housing programs.<sup>7</sup>

### Employment

Of the population 16 and older, 71.5% were part of the civilian labor force, with 68.9% employed and 2.6% unemployed. Another 0.2% were employed by the Armed Forces and 28.3% were not in the labor force. The unemployment rate in the civilian labor force was 3.6%.<sup>8</sup>

### Income

The median household income in 2019 was \$61,175 for households, \$81,522 for families, \$94,550 for married-couple families and \$37,272 for non-family households.<sup>9</sup> The percent of family households in poverty was 5.0% in 2019. For households with children under 18 years the poverty rate was elevated to 8.4%. Households with female householders and no spouse present and children under 18 years had a poverty rate of 30.0%, while married-couple families had a poverty rate of 3.4%.<sup>10</sup>

### Nativity and Language

In the 2019 ACS, 288,623 individuals were native-born and 24,535 were foreign-born. Of those who were foreign-born, 11,334 are naturalized citizens and 13,201 are not US citizens. Of the population 5 years and over, 88.7% spoke English only at home, while 11.3% spoke a language other than English and 4.7% spoke English less than “very well”. For native-born individuals, 95.6% spoke English only, while 87.7% of foreign-born individuals spoke a language other than English.<sup>11</sup>

### Education

The 2019 ACS estimates that 93.7% of people 25 years and older had at least graduated from high school or the equivalent and 39.5% had a bachelor’s degree or higher. Approximately 7% were not enrolled in school and had not graduated from high school.<sup>12</sup> ACS estimates show that the total school enrollment in Lancaster County was 94,917. There were 83.3% enrolled in public school and 16.7% enrolled in private school. Undergraduate college enrollment was 31,660 and graduate or professional school enrollment was 7,107.<sup>13</sup>

According to the Nebraska Department of Education, the largest school district in Lancaster County has 41,674 students and 3,134 teachers. About 6% of those are English learners (limited English proficiency)

<sup>6</sup> <http://www.lincolnhomelesscoalition.org/wp-content/uploads/2018/05/2018PITLincolnPpt.pdf>

<sup>7</sup> <http://www.lincolnhomelesscoalition.org/wp-content/uploads/2019/05/2019-Lincoln-Point-in-Time-Count-brief.pdf>

<sup>8</sup> 2019 American Community Survey 5-Year Estimate, DP03

<sup>9</sup> 2019 American Community Survey 5-Year Estimates, S1901

<sup>10</sup> 2019 American Community Survey 1-Year Estimates, S1702

<sup>11</sup> 2019 American Community Survey 5-Year Estimates, S0501

<sup>12</sup> 2019 American Community Survey 5-Year Estimates, S1501

<sup>13</sup> 2019 American Community Survey 5-Year Estimates, S1401

compared to 7% statewide. Also, 45% of students are on free/reduced lunch, compared to 46% statewide. The attendance rate is 94% (93% statewide) and the dropout rate is 2% (1% statewide). The graduation rate (80%) is lower than the state overall (88%), but the college-going rate is slightly higher (78% LPS compared to 75% statewide).<sup>14</sup>

### Poverty

Among the population for whom poverty status is determined, there were 10.9% of people below the federal poverty level. The highest rate of poverty was found among adults 18 to 34 years (19.1%). Individuals who had less than a HS diploma (18.3%), who were unemployed (23.7%) or who worked part-time or part-year in the past 12 months (23.6%) had the highest poverty rates. Please see the income section above for more information about household poverty.<sup>15</sup>

### Health Status Indicators

There are several health status indicators, including both measures of morbidity and mortality. Unfortunately, morbidity measures (incidence or prevalence rates of disease or medical conditions) are less available at the population level. For instance, vital statistics birth and death certificate data provide very good information about births and deaths (mortality), but only a limited set of information (e.g., health conditions contributing to the cause of death) about health status (morbidity) between birth and death. So, while vital statistics data are a reliable database for maternal and child health data and mortality, there are not as useful for other health status measures. Beyond vital statistics, there are many local health indicators or measures available from disease registries, hospital discharge data, and several health behaviors surveys. For most data sources there are several years, or even decades, of data that we can use to analyze any trends present in the data. However, data interpretation is not always easy for the available data sources due to the reliability of the data source or the characteristics (e.g., number of years of data, volatility, or trends) of the available measures. For health indicators that are somewhat stable or less volatile (data whose year-to-year changes are minor), data or measures (whether counts, averages, or rates) from the latest year, or even from several years ago, can provide us with an understanding of the community's current overall status for that measure. This is not true for indicators that are based on small numbers of occurrences or are rates based on small samples or number of events; or for those measures that fluctuate due to random variation. For these data series, even the most recent data, and certainly data from prior years, may be of limited value in assessing/estimating the current, true, or stable health status. As will be shown in this report, there are several such measures that move up or down with no apparent pattern from year to year – falling in some years, rising in other years with no discernable short-term trend. With relatively smaller populations, data about minorities are often not available or so volatile from year to year that it is often necessary to provide caveats about race and ethnicity data or combine multiple years of results to have enough data to provide a reliable rate or measure. Another group that needs to be mentioned is the population with a disability. The estimate is that 17,747 people under the age of 65 have a disability of some kind. While we know the size of the population with a disability, we do not know many of their other characteristics. This is an area for further fact gathering, especially when local health departments can access Medicaid data.

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<sup>14</sup> <https://nep.education.ne.gov//snapshot.html#55-0001-000>

<sup>15</sup> 2019 American Community Survey 5-Year Estimates, S1701

There is also a summary of health status indicators shared in a series of CHA-CHIP modules available on YouTube by [clicking here](#). These modules are presented by a series of health data experts at the Lincoln-Lancaster County Health Department. Please review these modules for more insight into the most recent data available as of May 2022.

### Morbidity Information

The sources of information about illnesses, diseases and health conditions include survey results, especially those from the Behavioral Risk Factor Surveillance System (BRFSS), disease registries, hospital discharge data, and reportable disease information from physicians and laboratories. Unfortunately, each source has limitations (e.g., self-reported information, incidence rather than prevalence information). Also, local data are not available for ambulatory conditions treated in physicians' offices and urgent care centers although those data may be easier to get in the future from insurers and through electronic data interchange systems.

### Hospitalizations

The following table lists the leading causes for inpatient hospitalizations in Lancaster County. These results are based on data from the Nebraska Hospital Association and represent hospital discharge records from the hospitals in Lancaster County.

*Leading Causes of Hospitalizations, Lancaster County, 2015-2017*

Cause	Count	Percent
<b>Certain infectious and parasitic diseases</b>	6,934	2.65%
<b>Neoplasms</b>	2,004	0.77%
<b>Diseases of the blood, blood-forming organs &amp; immune mechanism</b>	1,239	0.47%
<b>Endocrine, nutritional, and metabolic diseases</b>	3,609	1.38%
<b>Mental, Behavioral and Neurodevelopmental disorders</b>	15,114	5.77%
<b>Diseases of the nervous system</b>	5,606	2.14%
<b>Diseases of the eye and adnexa</b>	1,645	0.63%
<b>Diseases of the ear and mastoid process</b>	3,970	1.52%
<b>Diseases of the circulatory system</b>	11,091	4.24%
<b>Diseases of the respiratory system</b>	22,976	8.78%
<b>Diseases of the digestive system</b>	17,034	6.51%
<b>Diseases of the skin and subcutaneous tissue</b>	6,695	2.56%
<b>Diseases of the musculoskeletal system and connective tissue</b>	20,243	7.73%
<b>Diseases of the genitourinary system</b>	11,624	4.44%
<b>Pregnancy, childbirth, and the puerperium</b>	13,777	5.26%
<b>Certain conditions originating in the perinatal period</b>	294	0.11%
<b>Congenital malformations, deformations, and chromosomal</b>	348	0.13%
<b>Symptoms, signs, abnormal clinical/lab findings, NEC</b>	45,588	17.41%
<b>Injury, poisoning, and certain other consequences of external causes</b>	58,627	22.39%
<b>Factors influencing health status and contact with health services</b>	13,380	5.11%

The chart above only includes individuals who were coded using ICD-10-CM for their diagnosis codes in the Nebraska Hospital Association dataset. Many of the hospitalizations for inpatients are a result of injuries, poisonings, and other consequences of external factors, but a larger percentage are attributable

to causes outlined in the table above. One in twenty hospitalizations are for pregnancy and pregnancy-related reasons.

More information about hospitalizations resulting in unintentional injuries is presented below in the ‘Unintentional Injuries’ [section](#). There is also a summary of hospitalizations shared in a series of CHA-CHIP modules available on YouTube by [clicking here](#). These results were shared in May 2022 with the most recent data available at the time. Please select the ‘Communicable Disease and Hospital Discharge Data’ video for hospitalization data presented by Epidemiology Supervisor, Raju Kakarlapudi.

### Unintentional Injuries

Unintentional injuries, especially falls, are a significant source of morbidity in the county and they are the sixth leading cause of death overall. Unintentional injuries are in fact the leading cause of death for individuals ages 1 to 44. Injuries also may result in either short- or long-term disabilities. All injuries are classified by e-code and Nebraska hospitals are required to submit the data to the Nebraska Department of Health and Human Services (NDHHS). The Nebraska Hospital Association collects the injury data from hospitals and then transfers the information to the NDHHS. Since injury data are mandated, these data are likely to be as complete as possible. In 2017, there were 28,759 inpatient admissions and 88,536 outpatient hospital visits.

The following table shows the distribution of hospital visits, whether hospital outpatient (ER) visits or inpatient admissions, by age. It should be noted that the range for the age groups differ with five-year spreads for children and young adults (20-24), but ten-year spreads for persons 25 and older.

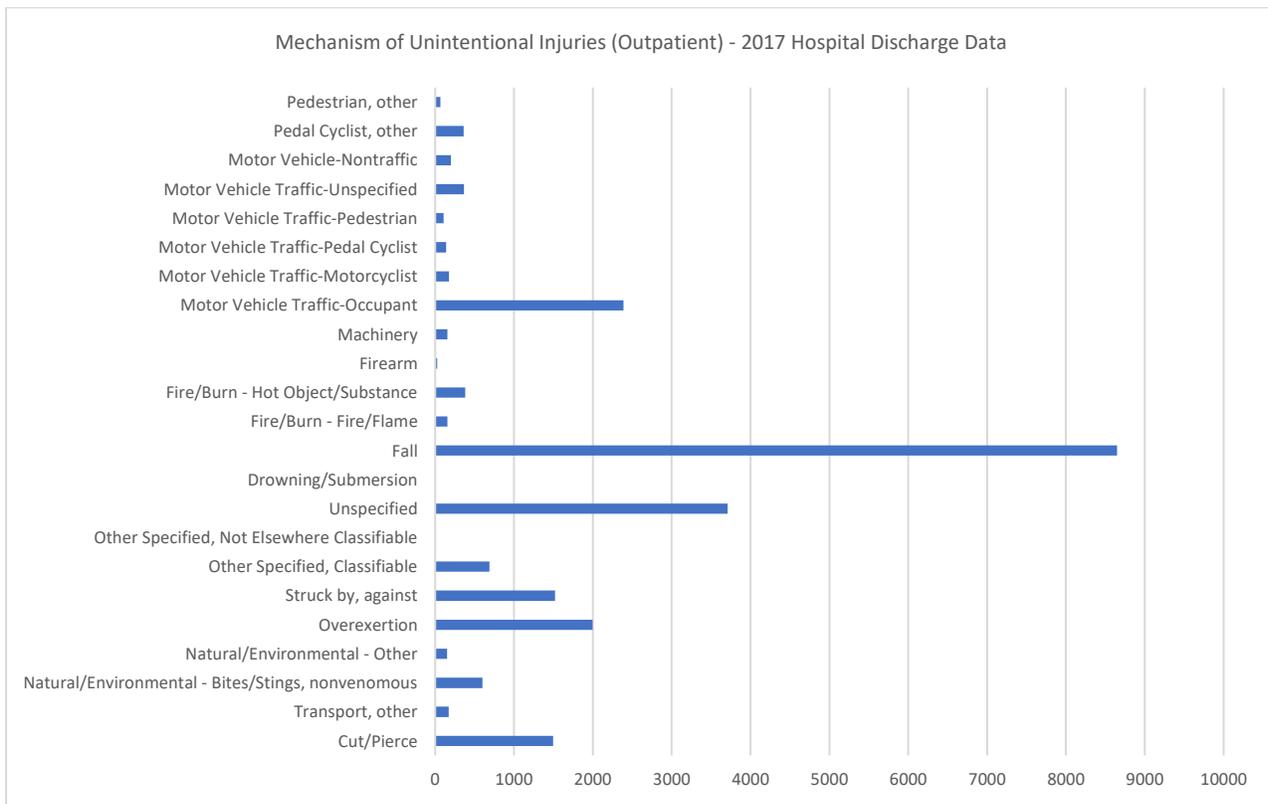
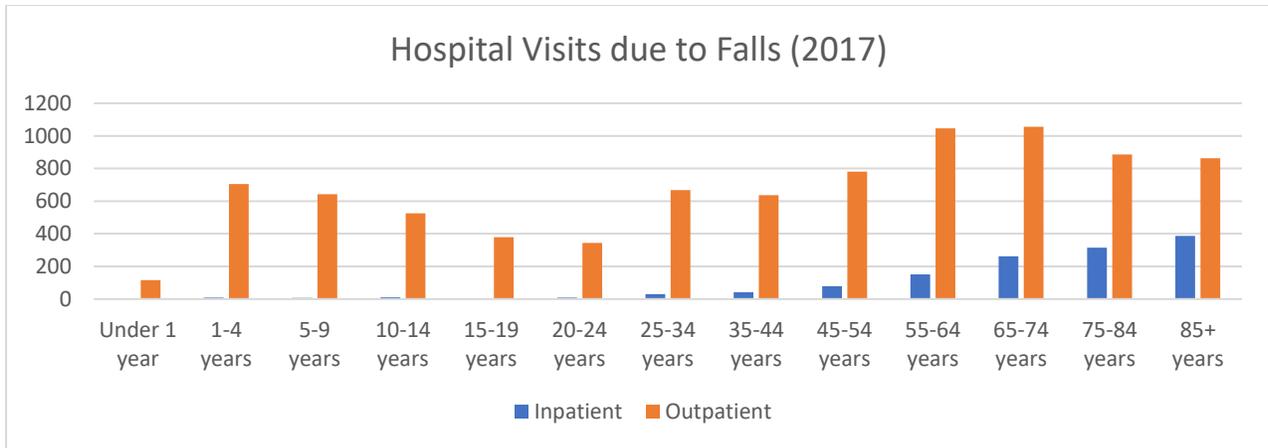
*2017 Inpatient & Outpatient Hospitalizations by Age*

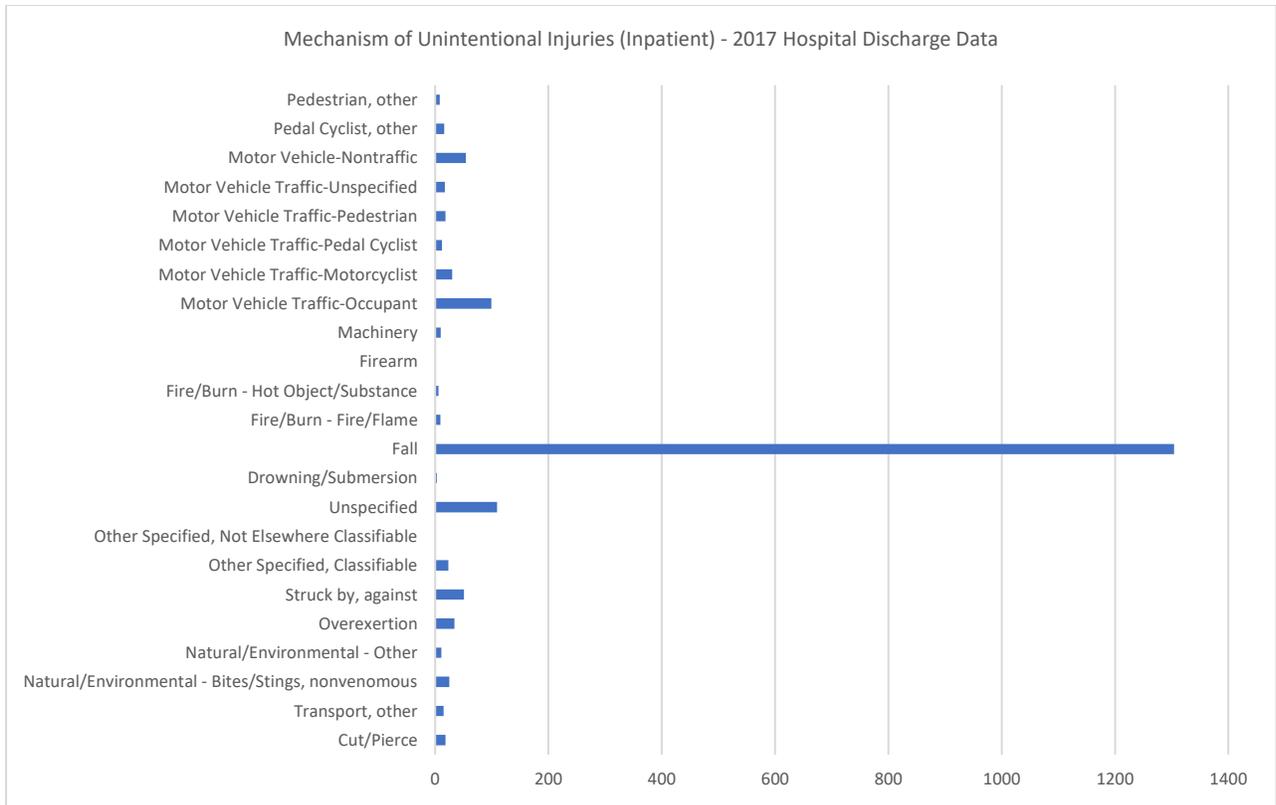
	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75+
<b>Inpatient</b>	4152	258	120	360	857	1381	3901	2297	2257	3456	4144	5576
<b>Outpatient</b>	2571	6236	4249	4024	5806	7528	14235	11162	9729	8913	6607	7476

*2017 Inpatient & Outpatient Hospitalizations by Age (Unintentional)*

	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75+
<b>Inpatient</b>	4	11	15	23	28	53	116	100	155	240	368	797
<b>Outpatient</b>	239	1761	1619	1831	1929	1889	3333	2688	2562	2656	2046	2626

As shown in the graphs below, falls are the reason for most outpatient and inpatient visits by a wide margin. While “Non-Fall” is the second leading reasons for outpatient visits, for a specific cause the next leading reason for outpatient visits in 2017, are motor vehicle accidents, followed by poisoning, natural/environmental, fire/burn, with “Struck by, against” being the 6th most likely reason for outpatient visits. Information on the mortality caused by injuries is included in the next section on causes of mortality. Falls are the leading cause of hospitalizations by a significant number. Below is a chart showing the distribution of hospitalizations due to falls by age.

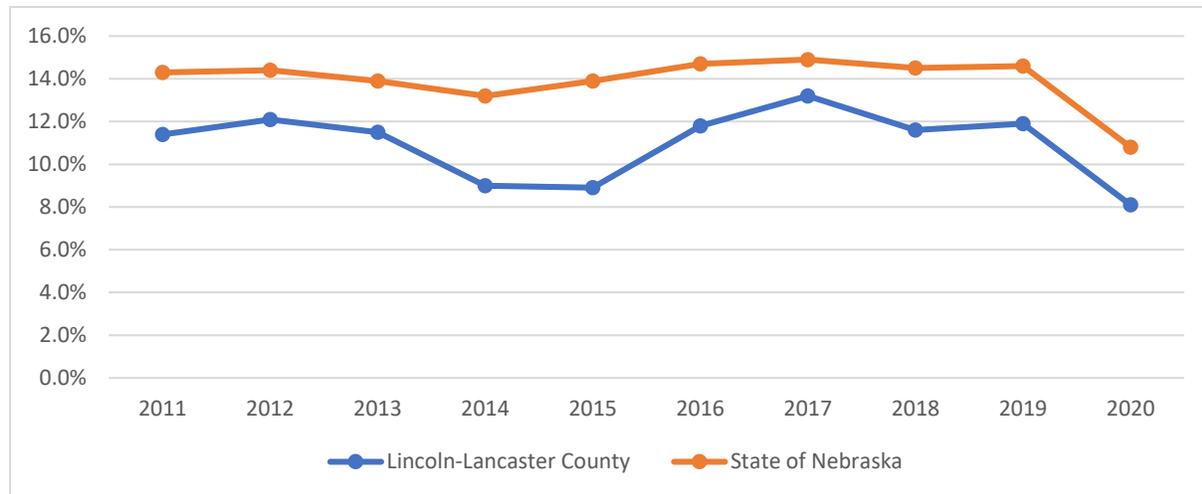




The tables above provide a general understanding of what the primary mechanism of injury is responsible for unintentional injuries in Lancaster County. This clearly identifies falls as the leading cause; however, other causes of unintentional injury may impact different age groups more significantly.

*Self-Reported Health Status*

An individual’s health status can usually be determined by how a survey respondent rates his/her own health. The BRFSS survey annually asks the question: “Would you say in general your health is Excellent, Very Good, Good, Fair or Poor?” The respondents who answer “Excellent”, “Very Good” or “Good” generally have their responses added together; and replies of “Fair” or “Poor” are also added together.



In 2020, 8.1% of Lancaster County adults indicated that their health was only either fair or poor, comparing relatively well to the rest of the state of Nebraska (10.8%). Females (9.7%) were more likely to report fair or poor health compared to males (6.5%). Individuals who were 45-64 years (10.2%) or 65+ years (14.2%) were significantly more likely to report fair or poor health compared to 18-44 years (5.0%). Small sample size prevents Lancaster County from reporting race-specific data; however, it is possible to report that 7.1% of non-Hispanic White respondents and 15% of Hispanic respondents reported fair or poor health. The strongest indicators of fair or poor health are income and education. Income less than \$25,000 was associated with a 22.5% fair or poor health percentage, which is by far the highest rate except for 13.8% for those with a HS diploma. As income increases the risk of fair or poor health decreases (\$25K-\$49.99K 10.9%, \$50K-\$75.9K 7.4%, \$75K+ 2.4%). As education increases the risk of fair or poor health decreases (Some post-HS education 8.2%, College graduate 3.4%). See state and national BRFSS data at <http://www.cdc.gov/brfss/brfssprevalence/index.html>. State BRFSS data can also be reviewed through Nebraska DHHS's Behavioral Risk Factor Surveillance System Dashboard at <https://atlas-dhhs.ne.gov/Atlas/BRFSS>.

#### Diagnosed Health Conditions

In addition to self-reported health status information, the BRFSS survey asks adult respondents about whether they have been diagnosed with or have experienced certain health conditions. The following tables reflect the latest available data. There are no statistically significant differences in the prevalence of self-reported individuals meeting the health conditions in the table below.

#### Most Recent BRFSS Results for Selected Health Conditions

Disease/Condition	LLCHD	Nebraska
<b>Asthma (current)</b>	7.4% (6.0%-9.1%)	7.8% (7.1%-8.5%)
<b>Asthma (lifetime)</b>	10.7% (9.0%-12.7%)	10.7% (10.0%-11.5%)
<b>Arthritis</b>	17.2% (15.3%-19.2%)	22.8% (21.9%-23.7%)
<b>Heart attack or CHD</b>	4.0% (3.2%-5.0%)	5.3% (4.9%-5.7%)
<b>Stroke</b>	1.9% (1.3%-2.7%)	2.4% (2.1%-2.7%)
<b>Diabetes (excludes pregnancy)</b>	7.5% (6.3%-9.0%)	9.9% (9.3%-10.5%)
<b>High cholesterol</b>	29.6% (27.1%-32.2%)	31.1% (30.0%-32.1%)
<b>High blood pressure</b>	28.4% (26.1%-30.9%)	31.0% (30.0%-31.9%)

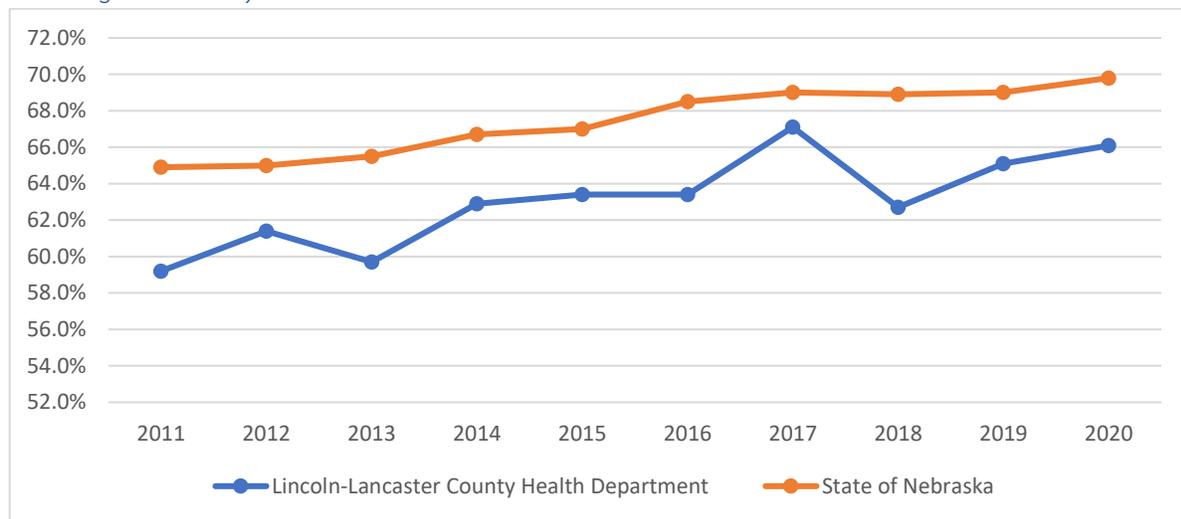
<b>Depression</b>	19.7% (17.3%-22.2%)	16.8% (15.8%-17.7%)
<b>COPD</b>	3.7% (2.8%-4.8%)	5.2% (4.7%-5.7%)
<b>Kidney disease</b>	2.0% (1.4%-2.8%)	2.6% (2.3%-3.0%)
<b>Had a fall last year, 45+</b>	23.9% (20.8%-27.3%)	23.7% (22.5%-24.9%)
<b>Injured from fall last year, 45+</b>	8.9% (6.9%-11.3%)	8.0% (7.3%-8.8%)

The available evidence suggests that lifestyle factors (e.g., smoking, physical inactivity, alcohol use, diet, BMI) influence the incidence of many of the chronic health conditions (e.g., diabetes, heart disease, cancer) discussed in the health status section. Positive factors such as regular screening (i.e., mammograms, colonoscopies, Pap tests) for cancers (i.e., breast, colorectal, and cervical cancers) that can be found and prevented at an early stage are another factor as is access to necessary primary care. Of course, access to care is influenced by having an adequate level of providers and health insurance.

### Adult Risk Factors

The information below is drawn from the Behavioral Risk Factor Surveillance System (BRFSS), which is a survey of adults, 18 years and older. Data from the most recent BRFSS surveys for Lancaster County and Nebraska are available for this report. We present data by race and ethnicity here, but data by race/ethnicity has wide confidence intervals where reportable (relative standard error often greater than 35%, which is a standard metric for unreliable estimates or sample size is limited). In the section on disparities, there’s a detailed comparison of data to account for the smaller number of non-White respondents.

### Overweight & Obesity

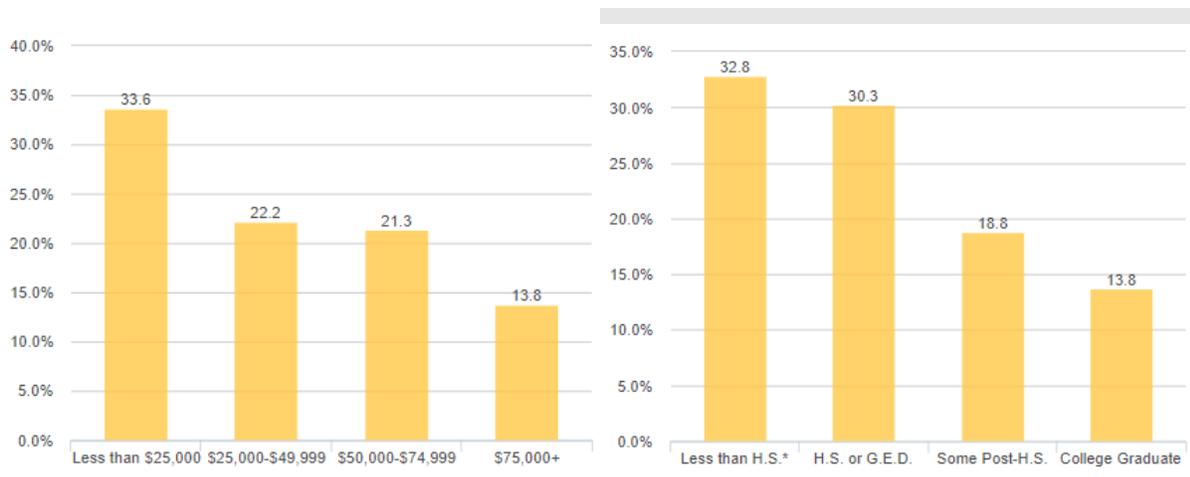


The BRFSS relies on self-reported heights and weights rather than actual measurement, such as the practice conducted by the National Health and Nutrition Examination Survey (NHANES). NHANES data is unfortunately not available at the granularity of a county level due to the limited population sampling and the intent of NHANES to draw inferences at a higher level. Lancaster County BRFSS data showed the local percentage of overweight or obese respondents (66.1%, 95% CI 63.0%-69.0%) was significantly lower than Nebraska overall (69.8%, 95% CI 68.6%-71.0%). Males (72.8%) were more likely to report being overweight or obese than females (58.8%). Non-Hispanic White respondents (66.7%) and Hispanic respondents (81.5%) were more likely to report being overweight or obese than the general population

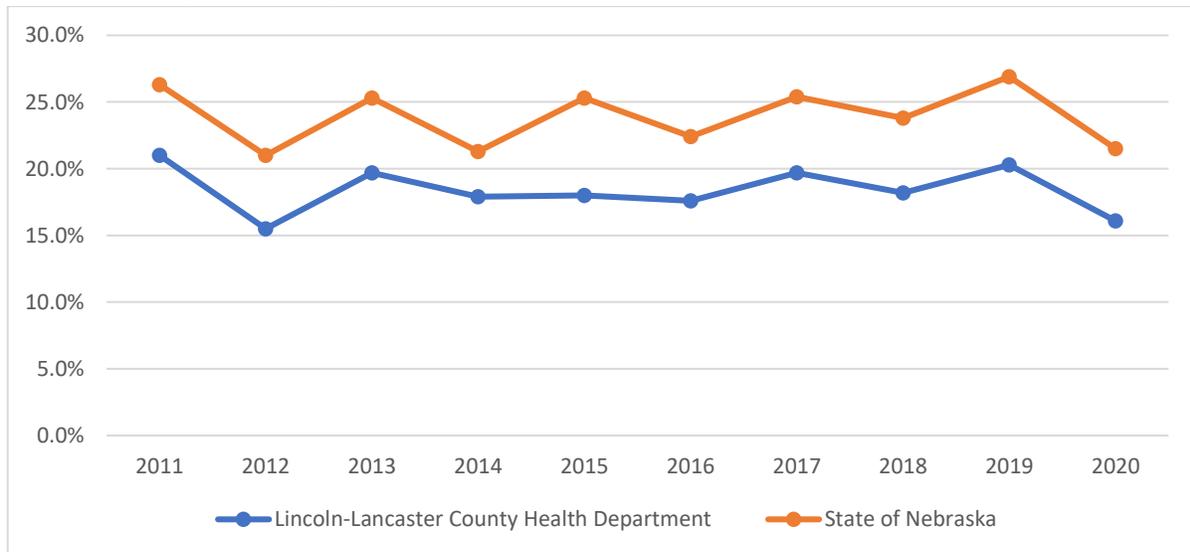
(66.1%). (Small sample size prevents Lancaster County from reporting race-specific data on Black, Asian, American Indian)

*Fruit & Vegetable Consumption*

In 2019, 38.1% of Lancaster County adults consumed fruit less than 1 time per day compared to 39.5% of adults in Nebraska. This difference is not statistically significant. In 2019, 20.9% of Lancaster County adults reported consuming less than 1 vegetable per day compared to 20.8% of Nebraska adults, which was also not statistically significant. Females (33.8% fruits, 17.2% vegetables) are less likely than males (42.4% fruits, 24.2% vegetables). Non-Hispanic White respondents (38.3% fruits, 19.5% vegetables) were less likely than non-Hispanic Black respondents (34.6% fruits, 30.0% vegetables) and Hispanic respondents (33.3% fruits, 37.7% vegetables) to report consuming less than 1 serving of fruits or vegetables per day. Income and education showed the strongest associations in Lancaster County to this outcome as shown in the chart below for consuming vegetables less than 1 time per day.

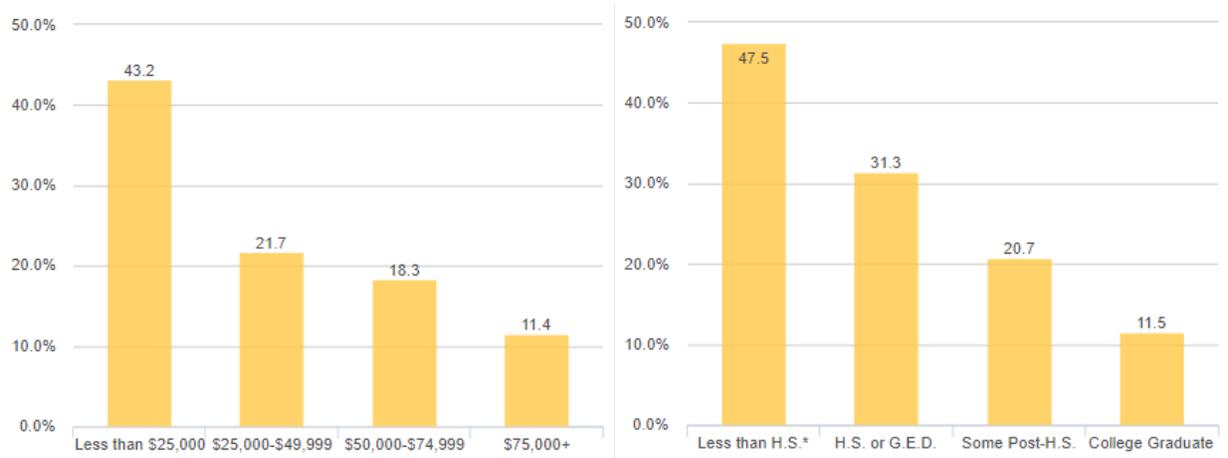


*Leisure-Time Physical Activity*

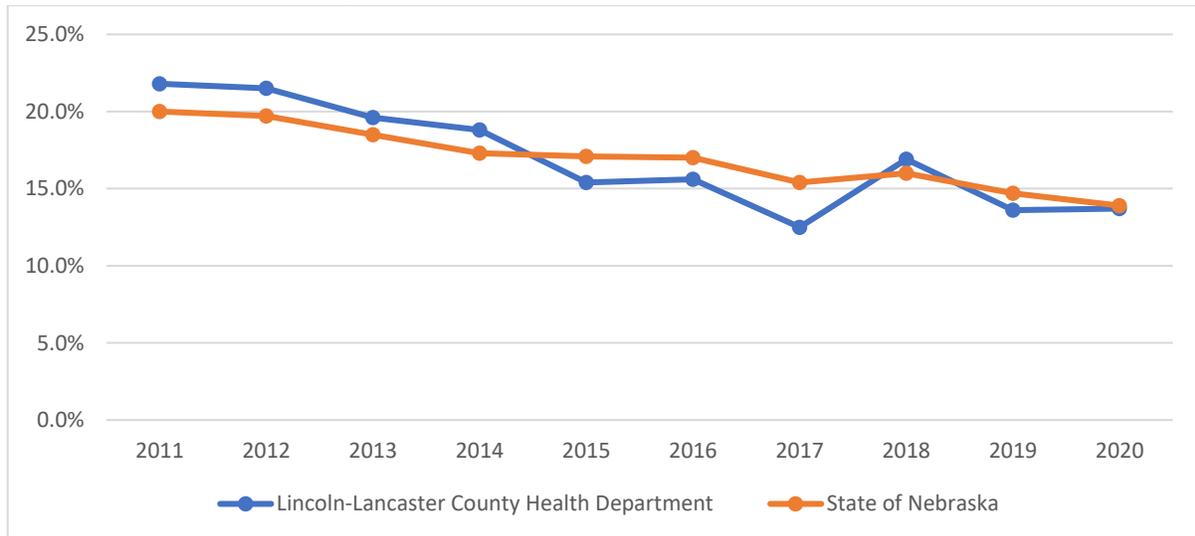


In 2020, 16.1% (95% CI 14.0%-18.4%) of Lancaster County adults had no leisure time physical activity compared to 21.5% of Nebraskans (95% CI 20.6%-22.5%). This was a statistically significant difference.

This difference has been consistently shown since 2011 when comparable BRFSS data was available. Males were less likely (14.7%) to have no leisure time physical activity than females (17.5%). Non-Hispanic White respondents (14.6%) reported no leisure time physical activity less often than Hispanic (22.5%) respondents (Small sample size prevents Lancaster County from reporting race-specific data on Black, Asian, American Indian). Lower income and education were strongly associated with an increased risk of no leisure time physical activity as in the charts below. As income or education increase, the risk of not having any leisure time physical activity decreases.



*Current Tobacco Use (Smoking)*



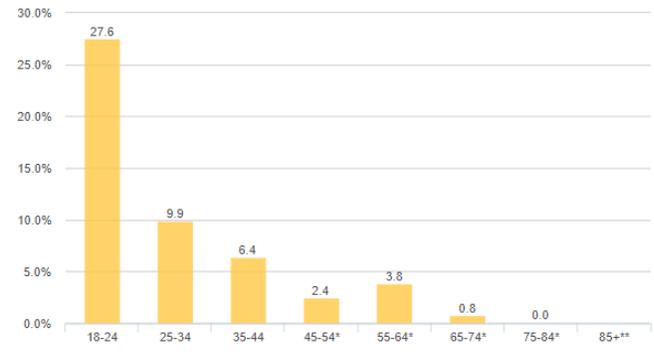
BRFSS results indicate Lancaster County’s adult current smoking rate (13.7%, 95% CI 11.6%-16.1%) has decreased since 2011 (21.8%, 95% CI 19.8%-23.9%). This is a statistically significant steady decrease we’ve seen until 2017, when the decrease appears to have slowed. The State of Nebraska (13.9%, 95% CI 13.1%-14.8%) showed the same steady decrease but is currently non-significantly higher than Lancaster County. Males (16.4%, 95% CI 13.3%-20.0%) have higher reported rates of current smoking than females (11.1%, 95% CI 8.5%-14.4%). Non-Hispanic White (13.6%, 95% CI 11.4%-16.3%) respondents had a non-statistically significant higher percentage of current smokers than Hispanic (16.4%, 95% CI 8.5%-29.1%) While there are no statistically significant differences, the absolute

differences between these percentages indicates there may be opportunities for focused interventions on reducing smoking rates by demographics.

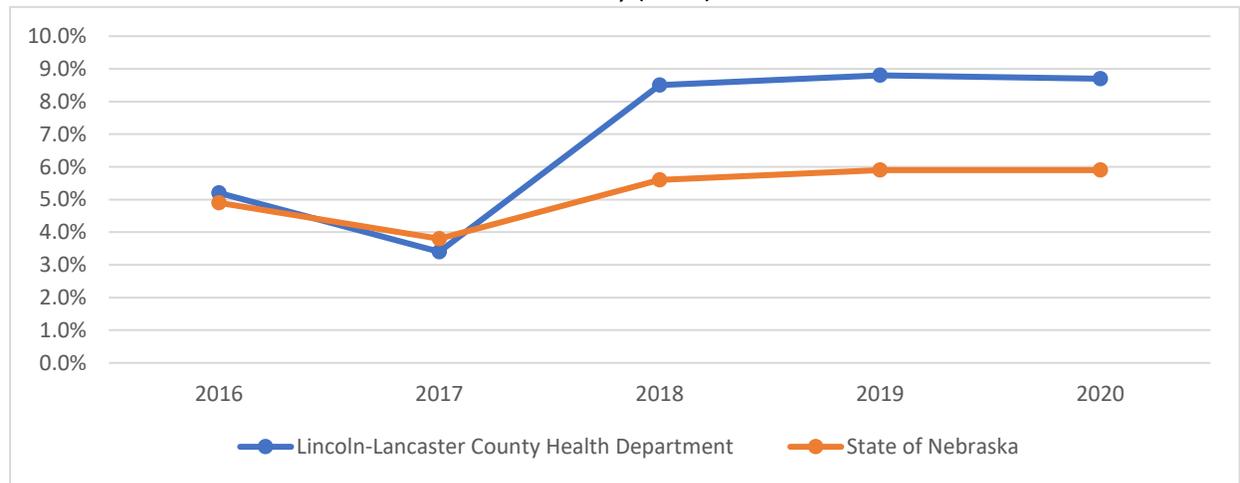
*Current E-Cigarette Use*

The commercial increase in the availability of electronic cigarettes is a public health issue that emerged since our last Community Health Profile. The percentage of adults reporting current e-cigarette use is significantly higher in Lancaster County (8.7%, 95% CI 6.9%-10.9%) than Nebraska (5.9%, 95% CI 5.3%-6.6%). This represents a significant increase since the data collection on this metric was initiated in 2016. Lancaster County has a non-statistically significant higher percentage of current e-cigarette use (8.7%) than any other local health jurisdiction (Sarpy-Cass 7.0%, Douglas County 6.5%, Three Rivers 6.3%).

E-cigarette use is most common among males (9.4%, 95% CI 7.0%-12.5%) compared to females (8.0%, 95% CI 5.6%-11.3%), although not a statistically significant difference. Age is a major predictor of current e-cigarette use as well. Please see the chart to the left for more detail on this. Individuals who are in the 18-24 age range make up the highest risk group with a decreasing risk with age. More information about youth e-cigarette use will be provided in a later section about the Youth Risk Behavior Survey (YRBS).

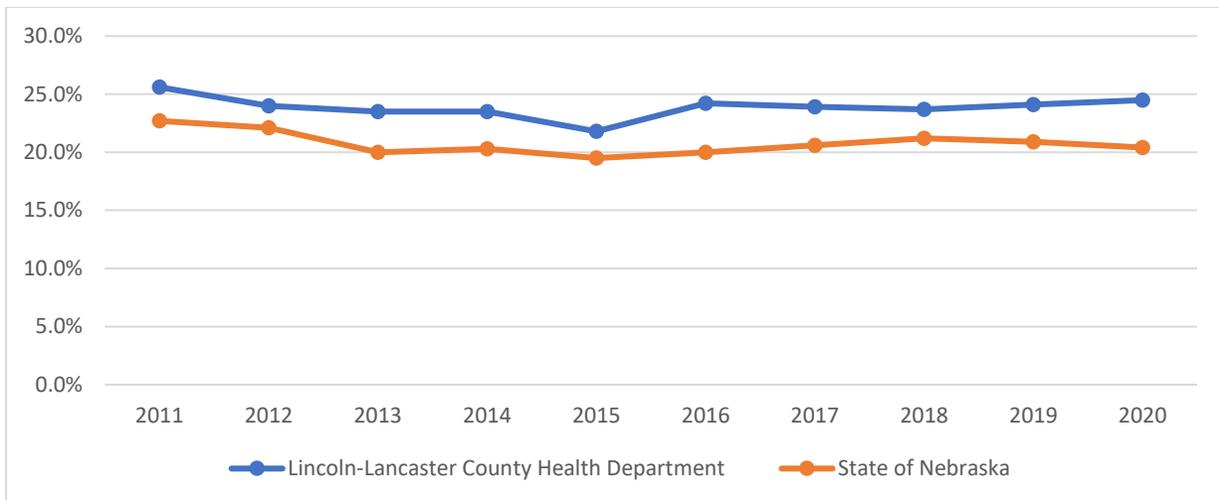


\*Unstable estimate, use with caution. Consider multi-year combined data for more stable estimates.  
 \*\*Data suppressed due to small numbers. Consider multi-year combined data for a larger sample size.



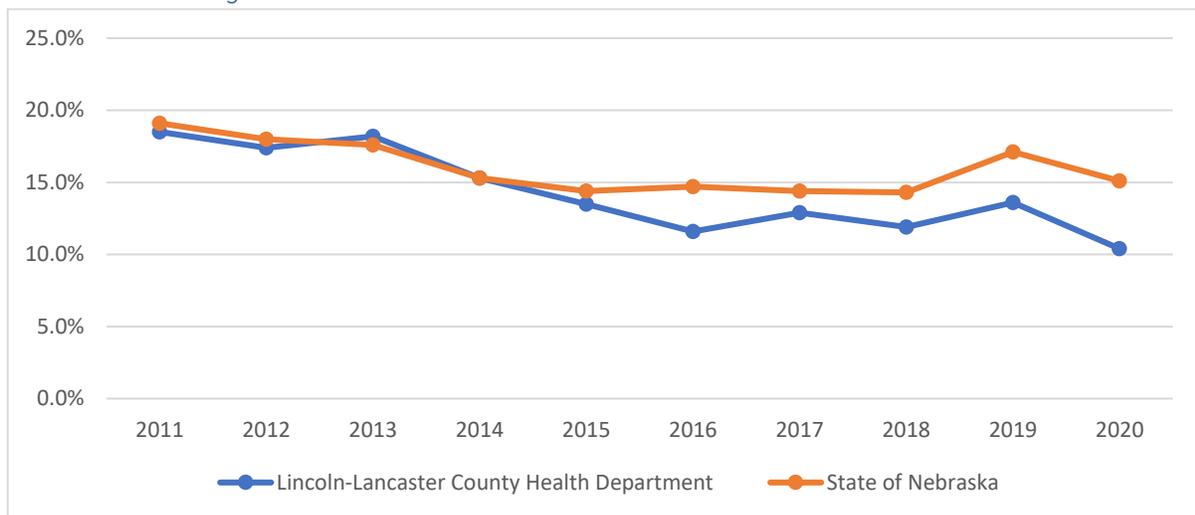
*Alcohol – Binge Drinking*

The proportion of adults reporting binge drinking in the past 30 days for Lancaster County (24.5%, 95% CI 21.8%-27.4%) was slightly higher than the state of Nebraska (20.4%, 95% CI 19.4%-21.5%).



As shown in the chart, Nebraska overall has a lower proportion of binge drinking in the past 30 days than Lancaster County and the metric has remained stable since 2011. Males (29.6%, 95% CI 25.7%-33.8%) are more likely than females (19.4%, 95% CI 15.9%-23.4%) to report binge drinking. The highest risk group for binge drinking are young adults 18-34 years (33.6%, 95% CI 29.3%-38.2%), adults 35-44 years (22.1%, 95% CI 17.8%-27.2%), non-Hispanic White respondents (26.2%, 95% CI 23.3%-29.3%) and Hispanic respondents (23.1%, 95% CI 13.7%-36.4%).

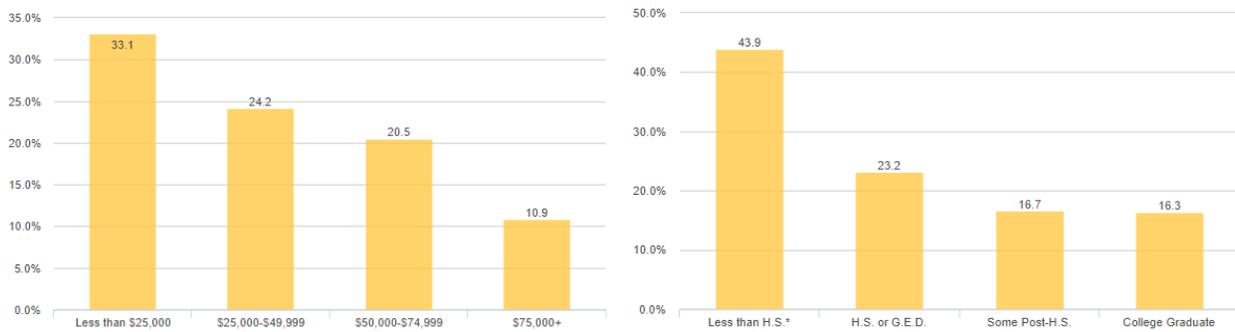
*Health Care Coverage*



In 2020, Lancaster County respondents aged 18 to 64 indicated they did not have health care coverage (10.4%, 95% CI 8.4%-12.8%), which was significantly lower than Nebraska (15.4%, 95% CI 14.0%-16.3%). Respondents reporting no health care coverage was most common among Hispanic respondents (51.8%, 95% CI 40.0%-63.5%), households making less than \$25,000 per year (27.4%, 95% CI 20.1%-36.1%), and education with High School diploma (19.3%, 95% CI 14.0%-26.1%). Race specific data or data for education was suppressed due to a smaller sample size but increasing education was associated with a lower proportion of individuals reporting no health care coverage.

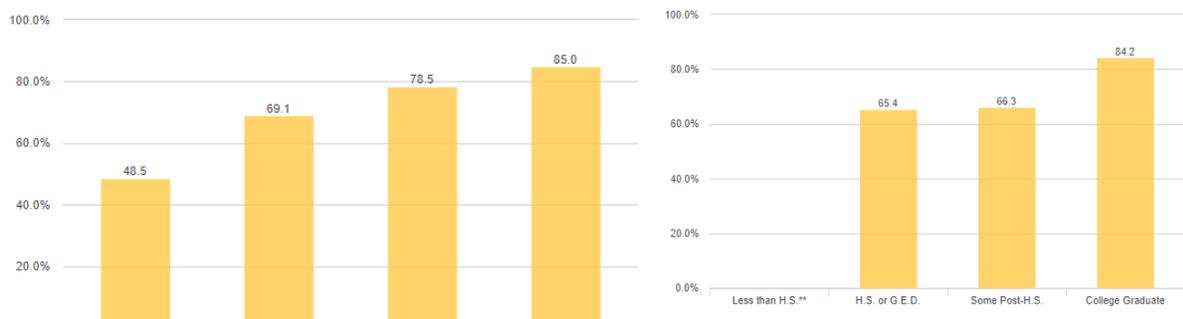
*Health Care Access and Utilization*

In 2020, Lancaster County residents reported a very similar proportion of individuals who had a routine checkup in the past year (71.3%, 95% CI 68.4%-74.0%) to the state of Nebraska (72.8%, 95% 71.7%-73.9%). The proportion of respondents reporting they needed to see a doctor but could not due to cost in the past year was also very similar between Lancaster County (9.7%, 95% CI 8.0%-11.7%) and Nebraska (9.3%, 95% CI 8.6%-10.1%). The proportion of residents reporting they had no personal doctor or health care provider was also similar between Lancaster County (19.5%, 95% CI 17.2%-22.1%) and Nebraska (20.5%, 95% CI 19.5%-21.6%). Males were more likely than females to report not having a personal doctor or healthcare provider (27.3% males, 11.8% females). Non-Hispanic White respondents were less likely to not have a personal doctor or health care provider (17.1%, 95% CI 14.7%-19.7%) than Hispanic respondents (33.3%, 95% CI 23.5%-44.8%). Income and education were also strongly associated with having a personal doctor or health care provider as shown in the charts below.



*Oral Health Care*

In 2020, Lancaster County respondents (72.8%, 95% CI 70.0%-75.4%) were more likely than Nebraska (68.1%, 95% CI 67.0%-69.3%) to have had their teeth cleaned by dentist/hygienist in the past year. Females (72.5%, 95% CI 71.0%-74.0%) were more likely than males (63.7%, 95% CI 61.9%-65.3%) to

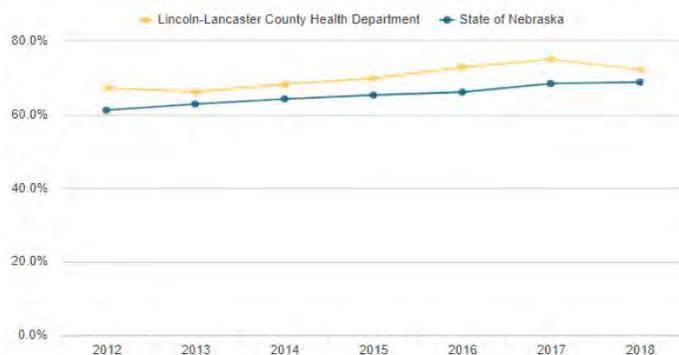


\*Unstable estimate, use with caution. Consider multi-year combined data for more stable estimates.  
 \*\*Data suppressed due to small numbers. Consider multi-year combined data for a larger sample size.

complete this dental care. Increasing income and education were associated with a decreased risk of obtaining this routine dental care as shown in the charts below.

### Cancer Screening – Colorectal

Colorectal cancer screening indicator definition got changed for BRFSS 2020 (new definition: Percentage of adults 50-75 years old who report having had a blood stool test during the past year, or a stool DNA



test during the past three years, or a sigmoidoscopy during the past five years, or a sigmoidoscopy during the past 10 years and a blood stool test during the past year, or a virtual colonoscopy during the past five years, or a colonoscopy during the past 10 years). Colorectal cancer screening was up to date for adults 50-75 years old in Lancaster County (75.2%, 95% CI 70.8%-79.1%) was similar to Nebraska (72.5%, 95%

CI 70.9%-74.1%). Females (78.4%, 95% CI 72.2%-83.6%) were slightly more likely to be up to date on their colorectal cancer screening than males (72.0%, 95% CI 65.6%-77.7%). Unfortunately, only 69.6% (95% CI 63.5%-75.1%) of adults 50-64 years were up to date compared to 84.4% (95% CI 78.6%-88.9%) of adults 65-75 years. Earlier screening and detection of colorectal cancer helps promote improved colorectal cancer outcomes. Data by race is unavailable due to sample size limitations. Increased income and education were both associated with a higher likelihood of being up to date with their colorectal cancer screening. The graph above shows trend for colorectal cancer screening for Lincoln-Lancaster County and State of Nebraska up to year 2018 according to previous definition (old definition: Percentage of adults 50-75 years old who report having had a fecal occult blood test (FOBT) during the past years, or a sigmoidoscopy during the past 5 years and an FOBT during the past 3 years, or a colonoscopy during the past 10 years).

### Cancer Screening – Breast

Breast cancer screenings were up to date for females 50-74 years old in Lancaster County (74.4%, 95% CI 68.1%-79.9%) at a similar rate compared to Nebraska (76.4%, 95% CI 74.4%-78.4%). Similarly to colorectal cancer screening rates, screening rates are lower for 50-64 years (69.4%, 95% CI 60.5%-77.1%) than 65-74 years (83.1%, 95% CI 75.6%-88.7%). Data by race is unavailable due to sample size limitations. Like colorectal cancer screening, increased income and education were also both associated with a higher likelihood of being up to date with their breast cancer screening.

### Cancer Screening – Cervical

Cervical cancer screenings were up to date for females 21-65 years old in Lancaster County (78.6%, 95% CI 73.1%-83.2%) at comparable rates to Nebraska (77.7%, 95% CI 75.6%-79.7%). Cervical cancer screening was most commonly up to date for those aged 21-34 years (80.2%, 95% CI 70.7%-87.2%), 35-44 years (79.7%, 95% CI 66.6%-88.5%) 45-54 years (79.7%, 95% CI 67.4%-88.2%) and 55-65 years (72.1%, 95% CI 60.2%-81.5%). Those with an income less than \$25,000 had the lowest rates of any group at 72.0% (95% CI 57.6%-82.9%). Data for those with less than a HS education are unavailable due to sample size limitations; however, it is expected that rates in that group would be lower due to common barriers faced for this population.

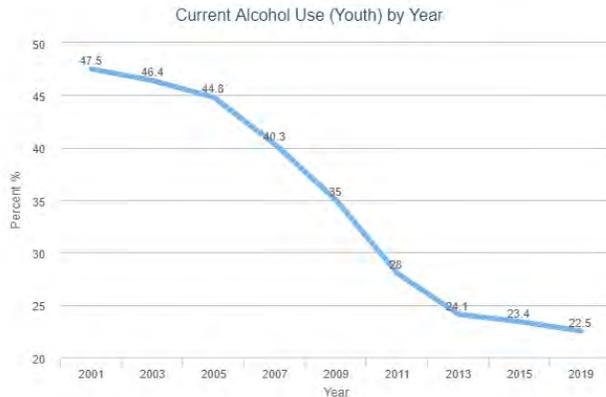
### Youth Risk Factors

The Lincoln-Lancaster County Health Department has been conducting the Youth Risk Behavior Survey (YRBS) every odd year since 1991. The YRBS survey is a paper-based survey that is generally conducted

during the spring of odd years (e.g., 2005, 2007, etc.). Our 2011 local YRBS data come from the fall of 2010 as the state tried to reduce the administrative burden on school administrators by combining several surveys at that time. Also, the 2013 local data comes from the fall of 2012 and 2015 local data comes from the fall of 2014 thanks to the CDC approving the change in timing. In 2017, there were sampling concerns that led to some of the estimates not being shared due to reliability and validity concerns.

*Alcohol Use*

The percent of Lancaster County youth that currently use alcohol decreased from 47.5% in 2001 to 22.5% in 2019. This is lower than the national (29.2%) prevalence, but higher than the state (21.0%) prevalence. This has been a steady decline that appears to be slowing since 2013.

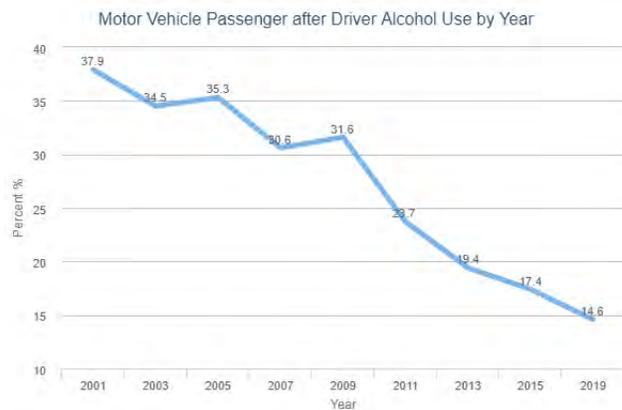


The prevalence of current alcohol use increases from 9<sup>th</sup> grade (12.4%), 10<sup>th</sup> grade (19.6%), 11<sup>th</sup> grade (29.9%), and 12<sup>th</sup> grade (29.8%). The proportion of males reporting current alcohol use (21.9%) is very similar to the proportion of females (22.5%) reporting current alcohol use.

Lifetime alcohol use has also declined from 80.4% in 2001 to 48.3% in 2019. A significant increase occurs between 10<sup>th</sup> grade (39.5%) and 11<sup>th</sup> grade (57.6%) suggesting that individuals in this age group are introduced to alcohol more frequently.

*Alcohol & Motor Vehicle Transportation*

The proportion of Lancaster County youth that report being a passenger in a motor vehicle after the driver has used alcohol has decreased from 37.9% in 2001 to 14.6% in 2019. This was significantly lower than national estimates (16.7%), but consistent with state estimates (14.6%).

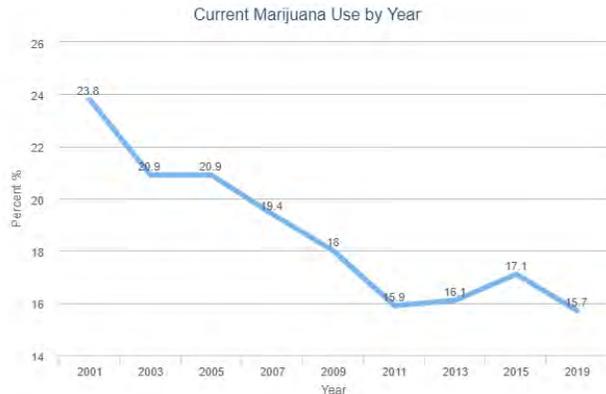


Males (15.8%) reported being a passenger in a motor vehicle operated by someone who had consumed alcohol more frequently than females (13.2%). There was no notable difference between grades (9<sup>th</sup> 15.3%, 10<sup>th</sup> 12.5%, 11<sup>th</sup> 14.8%, 12<sup>th</sup> 15.5%) except for a slight decrease in this being reported among 10<sup>th</sup> graders. It is possible that this is a chance

variation from other years however as in 2015 10<sup>th</sup> graders showed the highest rate of being a motor vehicle passenger after driver alcohol use (19.2%) and the next highest group was 12<sup>th</sup> graders (17.9%).

### Marijuana Use

Marijuana use within the past 30 days decreased from 23.8% in 2001 to 15.7% in 2019. This was lower than national estimates (21.7%), but higher than state estimates (11.6%).

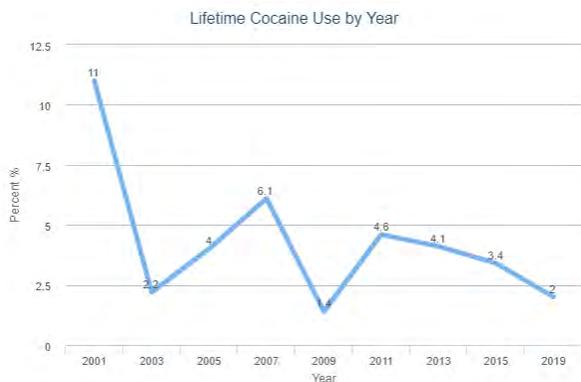


but higher than state estimates (11.6%). Males (15.4%) and females (16.0%) reported similar rates of currently using marijuana. There is a significant increase in currently using marijuana between 10<sup>th</sup> grade (8.1%) and 11<sup>th</sup> grade (22.7%) that continues to increase into 12<sup>th</sup> grade (25.4%).

Approximately one in four high school youth report currently using marijuana by the time they are in 12<sup>th</sup> grade. This increase between 10<sup>th</sup> grade and 11<sup>th</sup> grade suggests interventions to reduce marijuana use in 10<sup>th</sup> grade may contribute to reduced overall rates of marijuana use for Lancaster County youth.

### Cocaine Use

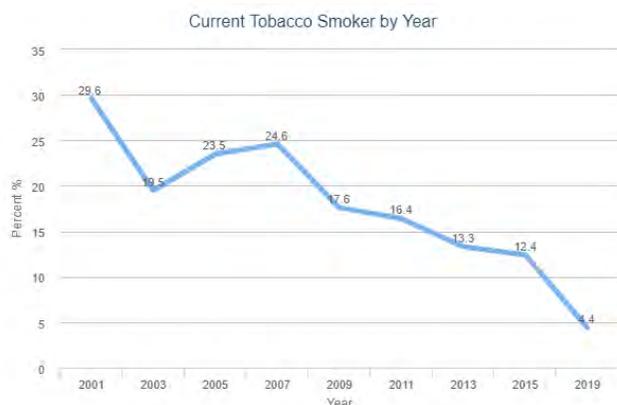
Data on cocaine use is volatile; however, recent years have shown it to have stabilized under 5%. In



2019, 2.0% of Lancaster County youth reported ever using cocaine compared to 11% in 2001 and 6.1% in 2007. This is slightly higher than the US (3.9%) and Nebraska (3.5%). Males (2.7%) were 3 times as likely to report cocaine use compared to females (0.8%). There was also a significant increase between 10<sup>th</sup> grade (1.0%) and 11<sup>th</sup> grade (2.8%) that remained at 2.5% into 12<sup>th</sup> grade. This suggests, as previous indicators have, that interventions prior to 11<sup>th</sup> grade may help to reduce the prevalence of lifetime cocaine use in Lancaster County.

### Tobacco Use

The proportion of 8<sup>th</sup> to 12<sup>th</sup> grade youth who self-report smoking tobacco in the past 30 days has



decreased to 4.4% in 2019 from 29.6% in 2001. This is lower than the US (6.0%), but slightly higher than Nebraska (4.2%). Females (5.2%) are more likely than males (3.2%) to report smoking tobacco in the past 30 days. There is also a significant increase between 11<sup>th</sup> grade (3.3%) and 12<sup>th</sup> grade (9.7%) in the percentage of youth who report smoking tobacco in the past 30 days. This increase between 11<sup>th</sup> grade and 12<sup>th</sup> grade has been present since 2013. The next section on e-cigarette use is a related area where we will expand on the importance of preventing tobacco

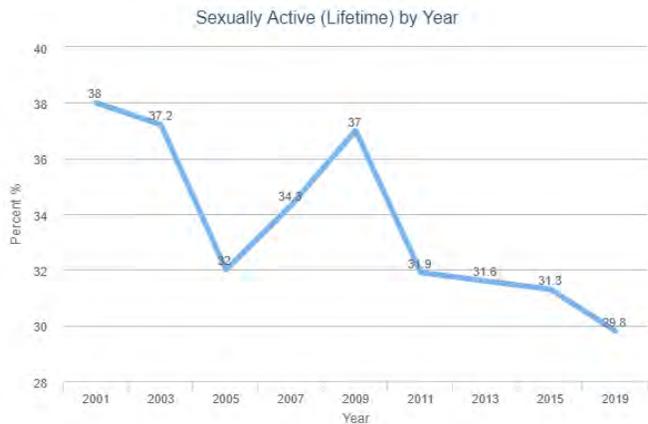
use, including electronic cigarettes among youth in 8<sup>th</sup> through 12<sup>th</sup> grade.

*Electronic Vapor Product Use*

Data collection via YRBS was initiated in 2015 for electronic vapor product use in the past 30 days. In 2015, the rate was 23.8%, but by 2019 that rate had increased to 27.4%. This concerning increase suggests that efforts need to be implemented to reduce initiating e-cigarette use. These proportions start at 19.5% in 9<sup>th</sup> grade and gradually increase to 35% in 12<sup>th</sup> grade. There is no notable difference between males (27.8%) and females (27.1%). These rates of electronic vapor product use are higher than tobacco smoking estimates in 2001, which took 20 years to get to a rate of 1/20 youth and had led to tobacco use and long-term negative impacts for adults for decades after. It is also important to note that US estimates (32.7%) are higher, but Nebraska estimates (17.1%) are lower.

*Sexual Activity and Birth Control*

In 2019, the percent of high school youth who indicated they had ever had sexual intercourse was



29.8%, which was relatively stable since 2011 at 31.9%. This was lower than US (38.4%) and Nebraska (33.7%) estimates. Males (28.1%) were slightly less likely than females (31.2%) to have reported ever having sexual intercourse. There is a notable increase between 10<sup>th</sup> grade (16.4%) and 11<sup>th</sup> grade (37.5%) into 12<sup>th</sup> grade (50.8%). Among youth who reported ever having sexual intercourse, 52.2% reported only 1 partner in the past 3 months and 31.3% reported no activity in the past 3 months. Also, among youth who

reported ever having sexual intercourse, 61% reported using a condom the last time they had intercourse, 11.5% reported no method of pregnancy prevention, 19.0% reported birth control pills, 7.5% had an IUD or implant, 3% had a shot, patch, or birth control ring and 11.5% used withdrawal or some other method.

*Physical Activity*

In Lancaster County, the percent of 8<sup>th</sup> through 12<sup>th</sup> grade youth who self-report engaging in vigorous

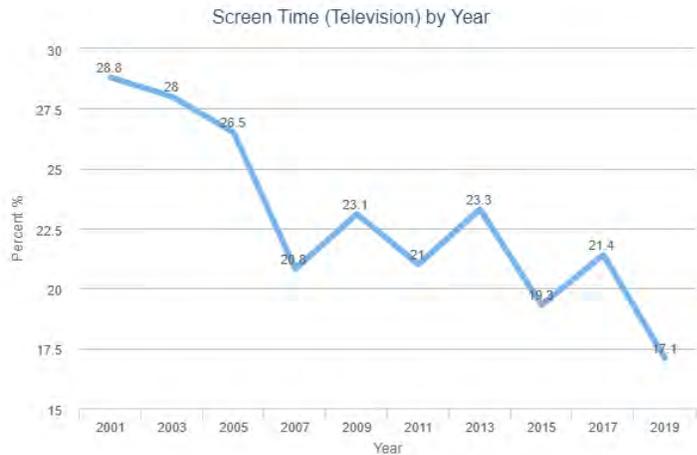


physical activity at least 3 of the past 7 days was 60.3%; however, this metric is very volatile and ranges from 54.0% in 2005 to 76.6% in 2015. The prevalence of physical activity among males (62.8%) was higher than among females (58.0%). There is a steady decline in physical activity from 9<sup>th</sup> grade (66.7%) through 12<sup>th</sup> grade (55.2%). A related metric of youth sports participation shows that over 50% of youth participate on a sports team in the past 12 months (66.3% in 2015), but this shows the same decline from 9<sup>th</sup> grade (72.5%) through 12<sup>th</sup> grade

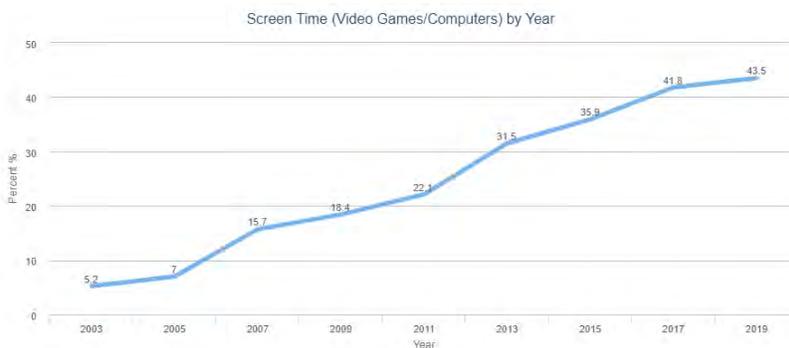
(59.8%) as well as the difference between males (71.9%) and females (60.6%).

*Video Games & Television*

In 2019, 17.1% of 8<sup>th</sup> to 12<sup>th</sup> grade youth self-reported watching television 3 or more hours per day. This was a steady decline from 2001 when 28.8% reported 3 or more hours of television per day. This was



higher than the 19.8% reported nationwide and the 16.0% reported in Nebraska. This steady decline has impacted females (18.3%) more than males (43.5%). Males reported this rate approximately 2 times as high as females. A review of grade estimates shows that there is no notable difference between 9<sup>th</sup> grade (18.8%) and 12<sup>th</sup> grade (18.7%); however, there is a slight dip to 15.9% for 10<sup>th</sup> grade and 14.9% for 11<sup>th</sup> grade. It should be noted that this variation is inconsistent and varies from year to year.

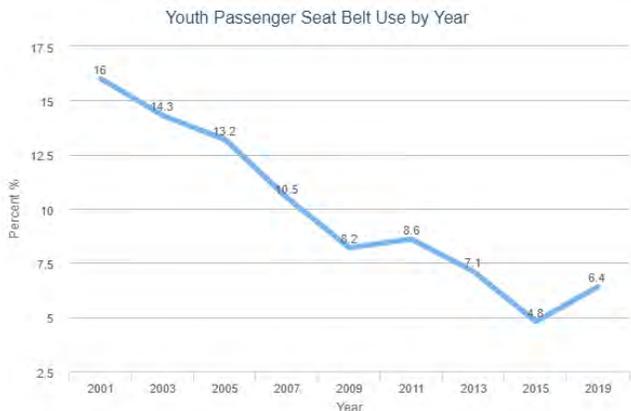


While there has been a steady decrease in the proportion of youth who report watching television 3 or more hours per day, the opposite has occurred for youth who self-reported playing video games or using a computer for at least 3 hours per day. In 2019, Lancaster County youth (43.5%) reported their

highest percent and show a steady increase since 2003 (5.2%). This was slightly lower than the US (46.1%) and higher than Nebraska (39.0%). There is no significant difference between males (43.2%) and females (43.8%). There is no notable trend by grade.

*Seatbelt Use*

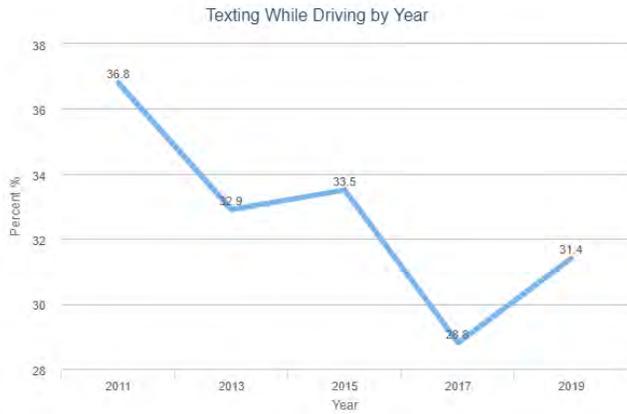
The percent of 8<sup>th</sup> to 12<sup>th</sup> graders who self-report never or rarely wearing a safety belt while riding in a



car driven by someone else was 6.4%, which was a slight increase from the lowest estimate in 2015 of 4.8%; however, this represented a decrease from the high in 2001 of 16.0% reporting never or rarely wearing a seat belt. The proportion of males (6.4%) and females (6.5%) was very similar. There was an increase from 9<sup>th</sup> grade (3.0%) to 10<sup>th</sup> grade (7.1%) that remained in 11<sup>th</sup> grade (7.2%) and 12<sup>th</sup> grade (8.8%) who never or rarely wore a seat belt. The US (6.5%) and Nebraska (7.4%) were similar and higher, respectively.

*Texting While Driving*

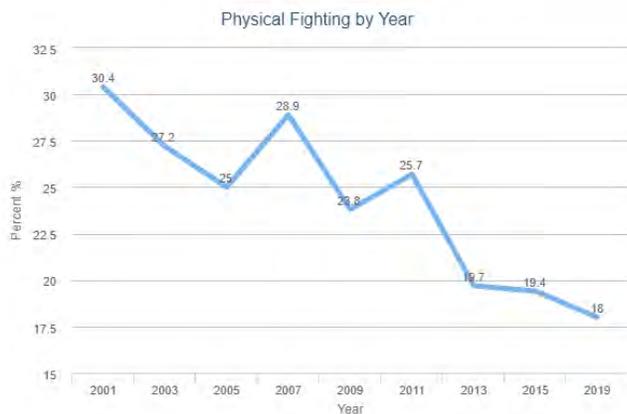
The percent of 8<sup>th</sup> to 12<sup>th</sup> grade youth who self-report texting or emailing while driving has decreased



from 36.8% in 2011 to 31.4% in 2019. There was no notable difference between males (31.5%) and females (31.2%). There was a clear increase in the proportion of texting or emailing while driving by grade from 9<sup>th</sup> grade (5.4%) to 10<sup>th</sup> grade (17.1%) and a very large jump to 11<sup>th</sup> grade (49.2%) that only slightly increases to 12<sup>th</sup> grade (53.9%). The US (39.0%) and Nebraska (50.7%) reported higher rates than Lancaster County of texting or emailing and driving among the youth.

*Physical Violence*

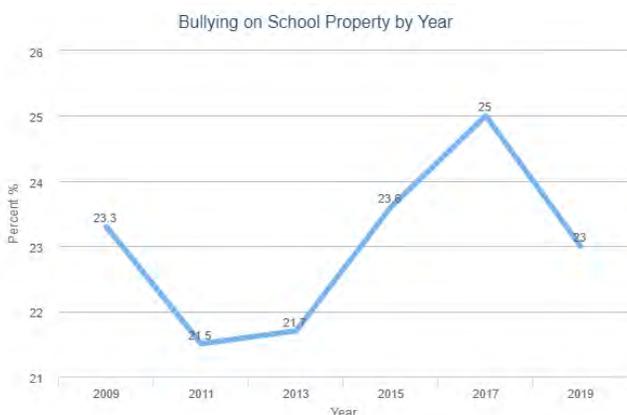
In 2019, the percent of 8<sup>th</sup> to 12<sup>th</sup> grade youth who self-report being involved in a physical fight in the



past 12 months had decreased to 18.0% from a high of 30.4% in 2001. This steady decline is accompanied by a significant difference between males (23.6%) and females (11.6%). There was no significant trend identified by grade. The US (21.9%) and Nebraska (19.1%) were both comparable to the Lancaster County estimates. The trend in physical violence is seen at the national and state level.

*Bullying*

The percent of 8<sup>th</sup> to 12<sup>th</sup> grade youth in Lancaster County who self-report being bullied while on school



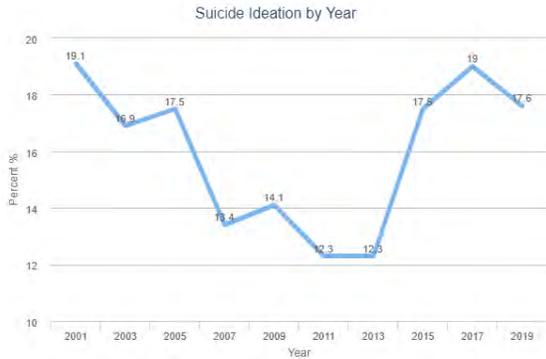
property in the past year was 23% in 2019, which was no significant change from 2009 (23.3%). Males (21.3%) were slightly less likely to report bullying than females (24.3%). There was no notable difference by grade. Statewide (21.3%) and nationwide (19.5%) estimates are similar to these estimates of bullying on school property. This equates to nearly 1 in every 4 children who are attending 8<sup>th</sup> through 12<sup>th</sup> grade are reporting being bullied while at school.

Electronic bullying, defined as self-reporting being bullied via electronic devices in the past 12 months, is reported by 18.4% of 8<sup>th</sup> to 12<sup>th</sup> grade youth. This was also more commonly reported among females (19.8%) compared to males (16.9%).

There is an increase from 10<sup>th</sup> grade (12.1%) to 11<sup>th</sup> grade (19.0%) and 12<sup>th</sup> grade (25.9%). Nationwide (15.7%) and statewide (15.7%) estimates are slightly lower than Lancaster County.

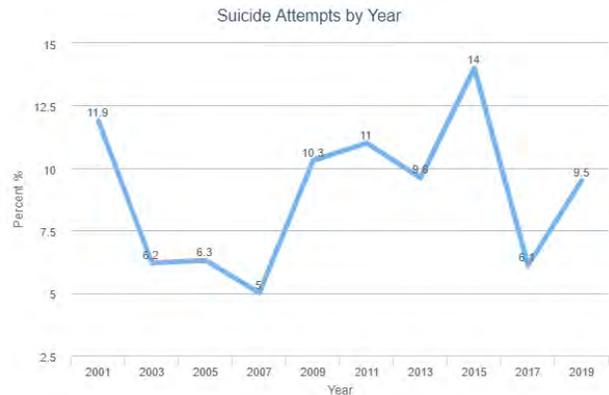
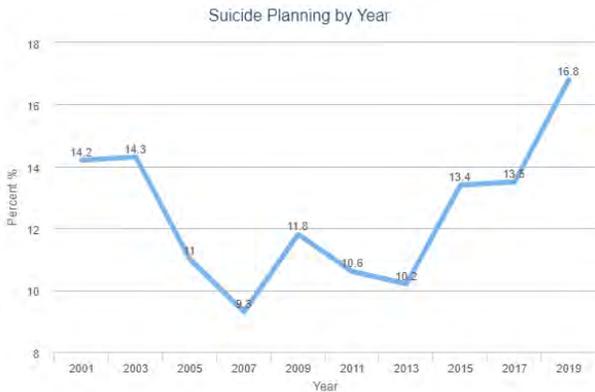
*Suicide*

In 2019, the percent of 8<sup>th</sup> to 12<sup>th</sup> grade Lancaster County youth who self-reported seriously considering attempting suicide in the past 12 months was 17.6%.



This is nearly one in five youth reporting thinking about suicide in the last 12 months. Nearly 1 in 4 females (24.4%) reported suicidal ideation while 1 in 10 males (11.1%) reported suicidal ideation. There is no notable trend by grade. Nationwide (18.8%) and statewide (17.7%) estimates are comparable. This is a serious concern that can be better understood with the following information about planning to commit suicide and suicide attempts.

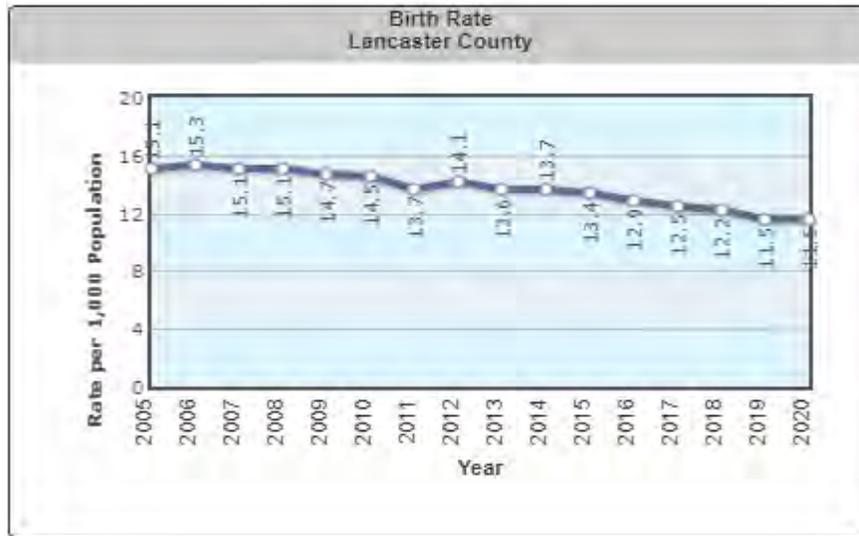
In 2019, the percent of 8<sup>th</sup> to 12<sup>th</sup> grade Lancaster County youth who self-reported planning to commit suicide in the past 12 months was 16.8%. This is only slightly lower than the percent of youth who reported that they were thinking about or seriously considering suicide in the past 12 months. Females are slightly more likely (18.1%) than males (15.4%). There is no notable trend by grade.



In 2019, there were 9.5% of 8<sup>th</sup> to 12<sup>th</sup> grade youth who self-report attempting suicide in the past 12 months. This is nearly 1 in 10 of every 8<sup>th</sup> to 12<sup>th</sup> grader that is struggling with suicide and attempting suicide in the past 12 months. Females (10.2%) were more likely than males (7.8%) to attempt suicide. The highest risk grade was 12<sup>th</sup> grade (11.7%) although the other grades were 9.3% (9<sup>th</sup>), 8.1% (10<sup>th</sup>) and 8.2% (11<sup>th</sup>), which is still a major public health issue.

## Maternal and Child Health

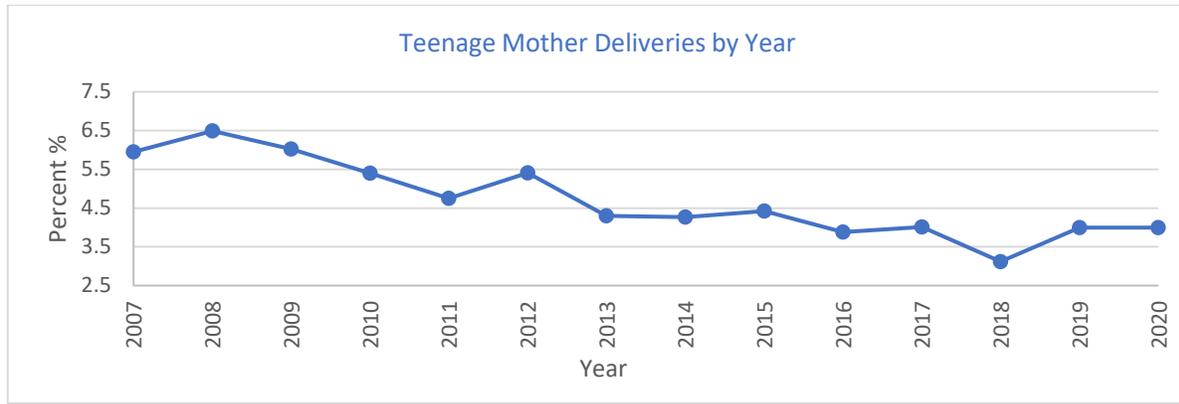
Maternal and child health data is from a wide array of data sources, but it is primarily drawn from birth certificate data for the purposes of this report. Some data is used from death certificate data for maternal and infant/child mortality estimates. Other data sources that may be referenced for data at the state and national level, such as PRAMS.



As was evident in reviewing the leading causes of death, vital statistics data are rich with details related to deaths, but the data from birth certificates are even more informative. Birth certificates contain information related to the pregnancy, birth outcomes and characteristics of the mother and father. In 2005, Nebraska became one of the 31 states to modify its birth and death certificates to comply with the recommended national standards. Perhaps the most significant change in the birth certificate was the way of determining when the expectant mother began prenatal care. Prior to 2005, the information was self-reported by the mother. After the change, the information comes from the medical records completed by the providers.

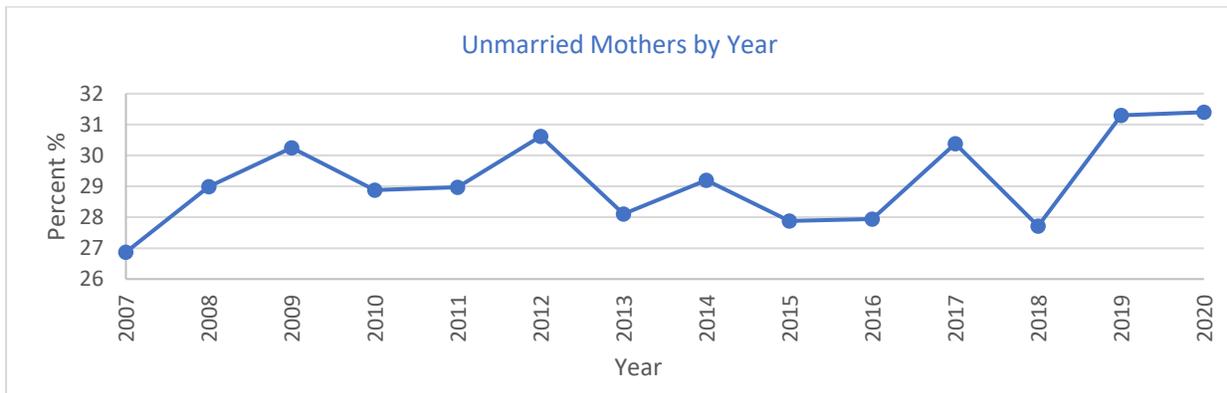
The rate of births per 1,000 population has been declining since 2005 from 15.1 in 2005 to 11.5 in 2020. This decline has also been observed nationwide as more women are choosing to wait longer to have children and contraceptive interventions are becoming more widely adopted. For 2020 in Lancaster County, White mothers made up 77.6% of all pregnancies, while Hispanic mothers made up another 13.6%, followed by mothers reporting their race as 'Other' at 9.6% and Black mothers (6%) and Asian mothers (5.5%) making up the next largest percentages. Of all 3,712 births in 2020, 1,934 were male and 1,778 were female. By age, mothers who are under 20 make up 4% of all births, 20-24 years are 16%, 25-29 years are 31.6% and 30+ are 48.2%.

Births to Teenage Mothers

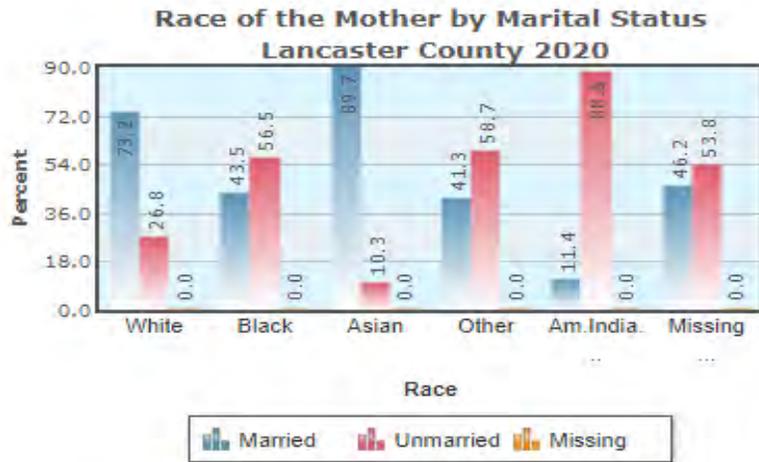


The number of births to mothers less than 18 years of age has been declining historically. Teenage pregnancies can be particularly challenging due to a higher probability of financial instability, unstable housing, high costs of childcare, incomplete education and other factors that make it more difficult to care for their children. The chart in this area shows this decline has continued since 2007. Teenage mother deliveries were 4% of all births in 2020. As contraceptive interventions become more widely adopted and sexual behaviors for youth are improved with continuing education, it is expected that this metric will continue to improve.

Unmarried Mothers

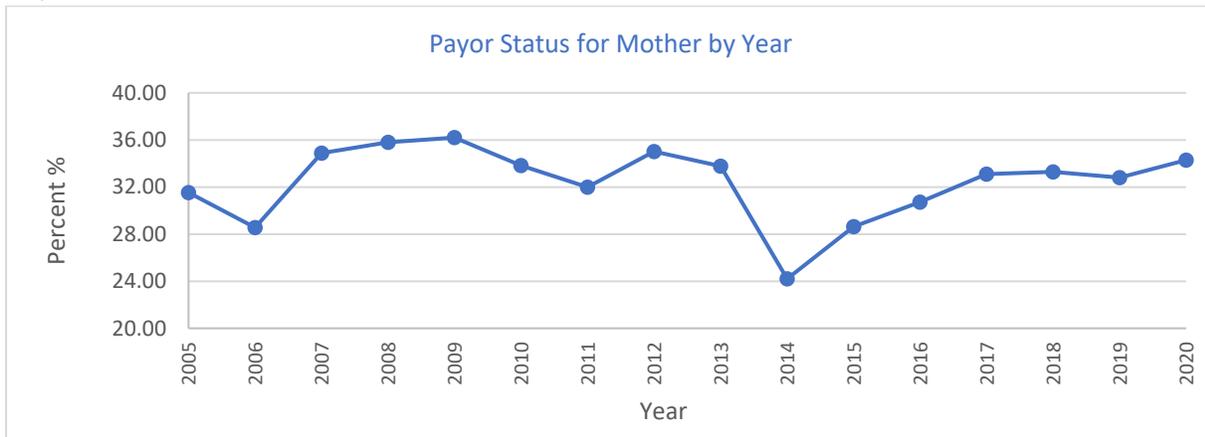


Mothers who are unmarried are statistically more likely to have negative health outcomes. There are a range of contributing factors that may help to explain this disparity in outcomes by marital status. Since 2007, the proportion of mothers who were unmarried has fluctuated stably between 26.5% to 31.5%. The chart also shown in this section shows that the percentage of births that were to unmarried mothers varies significantly by race.



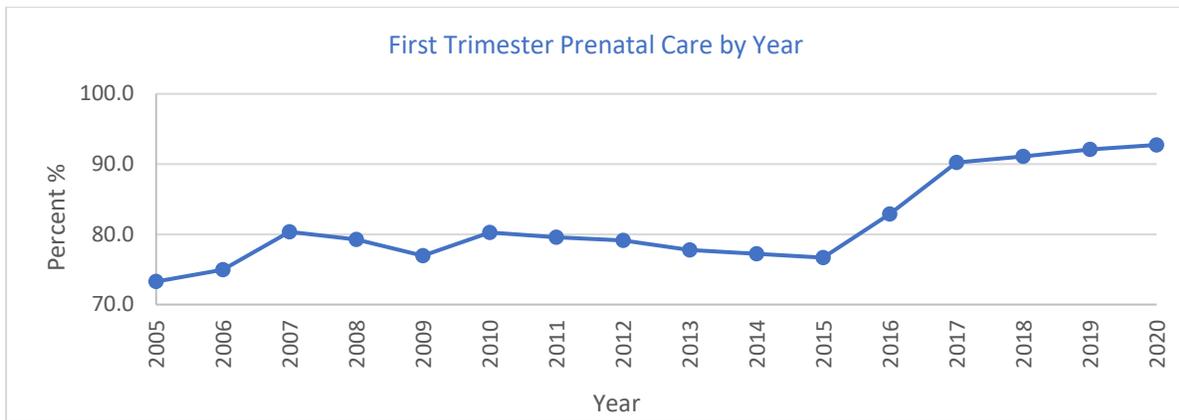
For 2020, 26.8% of White mothers were unmarried, while the rate for Black mothers (60.3%) and American Indian or Alaska Native mothers (83.9%) were higher. Also, in 2020, 52.4% of Hispanic mothers were unmarried compared to 28.1% of non-Hispanic mothers. The probability of being unmarried also decreases by age group with mothers under 20 (93.3%) with the highest percentage followed by mothers 20-24 years (65.3%). Mothers who had Medicaid were frequently unmarried (62.5%).

Payor Status



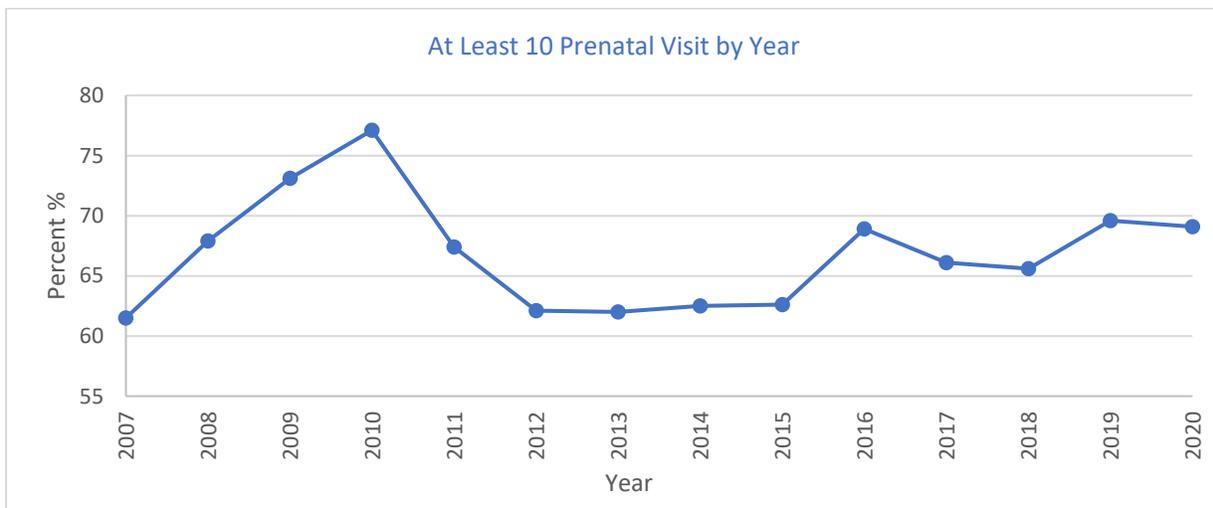
Medicaid and private insurance are typically the primary payors in Lancaster County. In 2020, 34.3% of pregnancies were paid for using Medicaid (n=1273) and 61.7% (n=2267) were paid for using private insurance. In 2020, 62.3% of Medicaid payers were unmarried, compared to 15.1% of those using private insurance.

First Trimester Prenatal Care



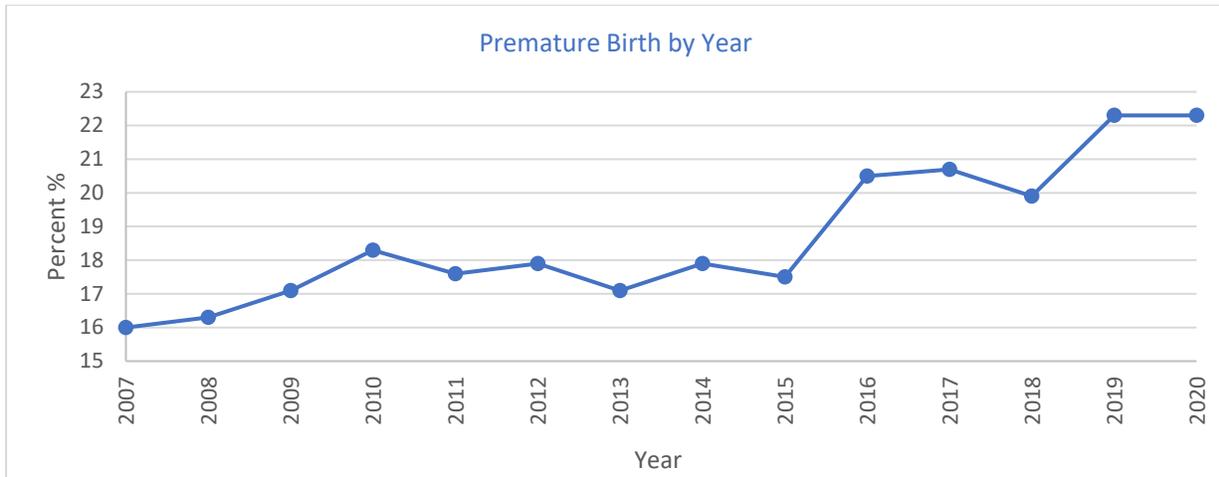
Expectant mothers initiating prenatal care as soon as possible is a predictor of positive maternal and child health outcomes. In 2020, 92.7% of mothers were seen for prenatal care during their first trimester of pregnancy. Between 2005 and 2015, first trimester prenatal care estimates were between 70% to 80%. Since 2015, first trimester prenatal care estimates started to improve. In 2005, 73.3% of mothers received prenatal care, by 2020 it improved to 92.7%. Mothers who are under 20 years are the least likely to initiate their prenatal care in the 1<sup>st</sup> trimester (63.8%) compared to 20-24 years (79.9%), 25-29 years (81.3%) and 30+ years (82.4%) in 2020. The estimates in 2015 showed one of the lower rates from 2005-2020; however, this trend of increasing maternal age being associated with increased likelihood of 1<sup>st</sup> trimester prenatal care is true for most other years as well.

10+ Prenatal Care Visits



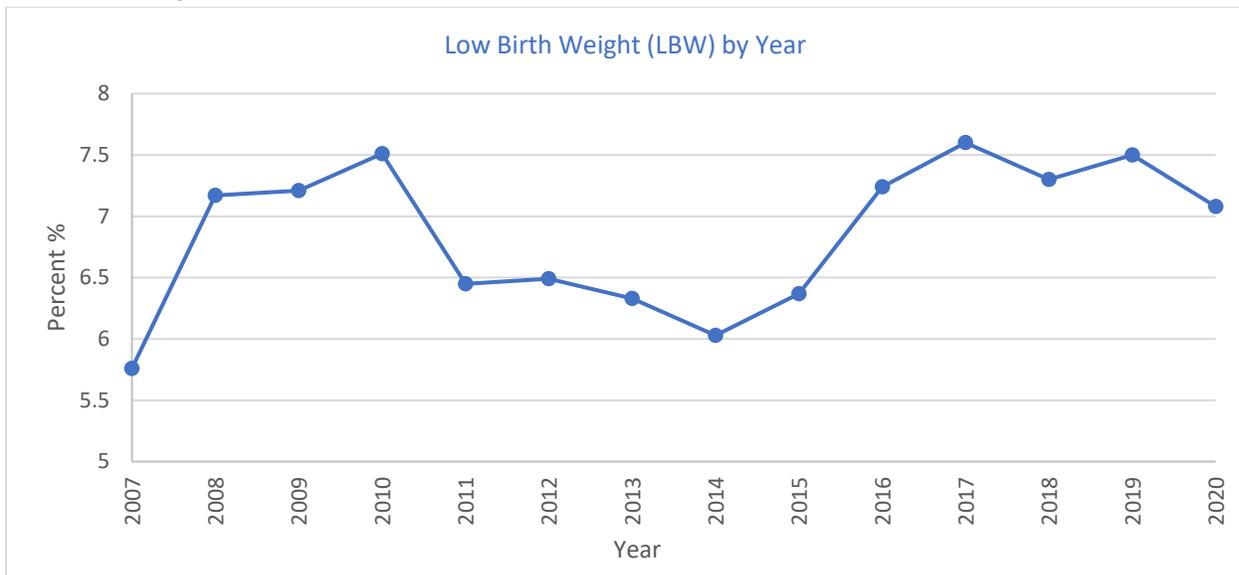
Adequate prenatal care is often measured using the number of prenatal care visits completed by the mother during her pregnancy. In 2020, 69.1% of mothers had at least 10 prenatal care visits. The percentage of mothers with at least 10 prenatal care visits has remained between 60-68% in all years except for two (2009 & 2010) when it peaked. Age is a predictor of 10+ prenatal care visits as it is with prenatal care. Mothers under 20 years completed 10+ prenatal care had the lowest rate (60%), followed by 20-24 years (70.4%), 25-29 years (69.3%), and 30+ years (69.3%).

Premature Birth



A premature birth is defined as a delivery that occurs prior to 38 weeks of gestation. Premature births increase the risk for negative child health outcomes, although medical advances and excellent work done in the NICU’s have helped to reduce the impact of premature births. In 2020, 22.3% of births in Lancaster County occurred prior to 38 weeks of gestation. By race, non-Hispanic American Indian and Alaska Native mothers had the highest percentage of premature birth (29.4%), followed by non-Hispanic Black mothers (26.5%), Hispanic mothers (21.0%), and non-Hispanic Asian mothers (22.2%). Mothers who had Medicaid (23.8%) also had a higher percentage of premature birth deliveries when compared to those with private insurance (21.5%).

Low Birthweight



Low birthweight is defined as babies weighing 2500 grams (5.5 pounds) or less. Since 2007, the percentage of newborns that were low birthweight ranged from 6.5% to 8.5%. The most recent years suggest an increase in low birthweight newborns after a drop below 7% for 5 years between 2011-2015. Birthweight by race and ethnicity is a notable area of disparity. Since 2007, non-Hispanic Black mothers have had low birth weight babies more frequently than the rest of the population. Non-Hispanic White

mothers have the next highest rate typically of low birth weight babies; however, that percentage is typically almost 6-7% lower than that for non-Hispanic Black mothers. The incidence of low birth weight births is higher for those with Medicaid when compared to those with private insurance as well.

## Communicable Diseases

This section presents a summary of selected communicable diseases. The diseases that are included in the following table are vaccine-preventable diseases, sexually transmitted diseases, enteric (foodborne and waterborne) diseases, vector-borne (from an animal or insect) diseases, as well as tuberculosis (TB) and other diseases that are rare but can have a significant effect on health status.

**Lancaster County Selected Reportable Diseases**  
**Annual Summary: 2012 to 2021**

Reportable Disease by Category	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
<b>Vaccine Preventable Diseases</b>										
Hepatitis A	0	1	2	0	1	2	1	1	4	3
Hepatitis B (acute/chronic)	6	11	24	19	20	24	24	43	22	21
Covid-19*	25121	22773	NA							
Influenza	403	297	150	223	141	31	14	37	40	34
Mumps *	0	0	11	2	1	6	1	0	0	0
Pertussis *	2	17	50	37	21	67	298	173	48	26
Varicella (chickenpox) *	0	1	5	3	5	4	2	1	2	2
<b>Sexually Transmitted Diseases</b>										
HIV/AIDS	25	9	11	17	19	10	23	17	16	19
Chlamydia	1866	1868	1807	1732	1809	1710	1589	1490	1381	1346
Gonorrhea	691	814	585	649	565	403	353	299	320	390
Syphilis (primary/secondary)	14	10	28	28	9	10	6	7	5	0
Syphilis (other)	17	26	20	25	6	5	9	17	9	10
<b>Enterics</b>										
Campylobacter *	24	32	60	38	49	53	69	68	76	54
Cryptosporidiosis *	3	6	8	7	10	12	13	8	12	39
E-coli (shigatoxin-producing) *	6	19	22	19	13	13	10	8	5	12
Giardiasis *	6	12	8	13	17	16	41	48	55	61
Listeriosis	0	0	0	0	1	1	0	1	1	0
Salmonella *	16	28	44	47	47	44	36	44	45	40
Shigellosis *	4	2	8	6	1	5	9	18	3	4
<b>Other Reportable Diseases</b>										
Dengue Fever *	0	1	2	0	0	2	0	0	1	2
Haemophilus influenza, invasive *	0	5	9	4	6	7	5	4	1	3
Hepatitis C (acute/chronic)	62	75	137	85	103	103	153	186	240	139
Histoplasmosis	2	5	1	1	5	1	3	5	4	4
Kawasaki	0	0	2	0	3	0	0	0	0	0
Legionellosis	4	3	7	1	1	0	3	4	4	2
Lyme Disease *	1	2	0	6	1	1	2	2	3	6
Malaria	2	0	3	1	1	2	1	2	0	1
Meningitis (aseptic)	5	6	25	27	43	12	5	8	6	10
Meningitis (bacterial)	0	0	3	4	0	1	2	1	1	3
Neisseria meningitidis, invasive	0	0	0	1	0	1	0	0	1	2
Rabies in Animals	11	4	5	12	4	2	3	6	4	10
Rocky Mountain Spotted Fever *	0	4	5	10	5	1	3	2	3	3
Streptococcal disease (invasive)	32	56	62	66	49	71	38	45	37	28
Tuberculosis	2	9	5	4	4	6	3	5	3	4
Tularemia *	0	1	3	1	1	1	3	0	1	1
Typhoid Fever (Salmonella typhi)	0	0	0	1	0	0	0	0	0	0
West Nile Virus- non-neuro-invasive*	0	2	1	12	5	4	6	4	5	11
West Nile Virus -nuero-invasive	4	3	0	6	0	5	4	3	9	5
Yersiniosis (not Plague)	1	3	4	0	1	4	1	1	0	0

\* Includes both confirmed and probable cases. \*\* Not reportable NA Not applicable

Communicable Disease Program, Public Health Informatics and Planning Division, Lincoln-Lancaster County Health Department

<https://lincoln.ne.gov/city/health/phip/epi/dise2018/Diseases2018.pdf>

### Vaccine Preventable Diseases

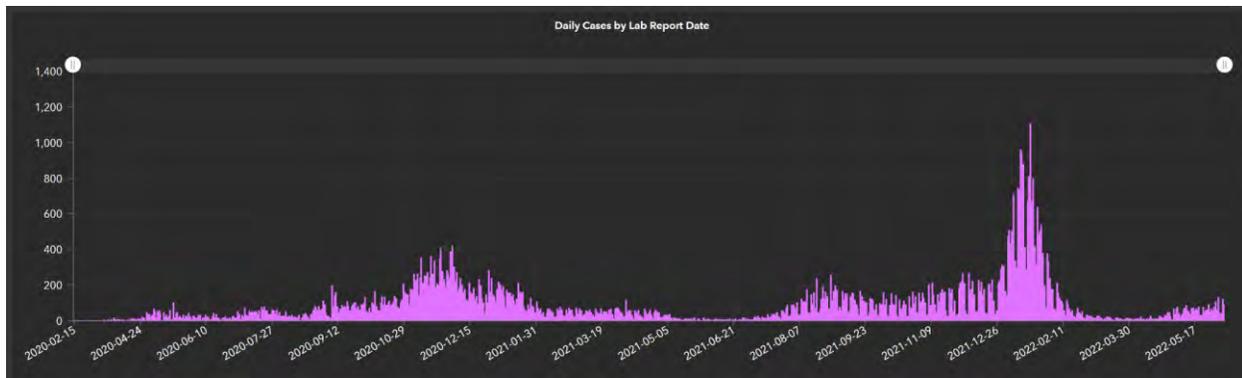
The table above shows the Lancaster County Selected Reportable Diseases. You can see that the case numbers for these diseases are not very large overall. Please note, in the case of influenza, the numbers are for confirmed cases and do not reflect the true dimensions of the pandemic H1N1 2009 flu outbreak of 2009-2010 or even for regular seasonal flu as providers usually don't report clinically diagnosed cases once influenza is circulating in the community. Also, notably absent from the list are measles (rubeola virus) and rubella (German measles) since there have been no local cases in recent years. Any cases of measles locally would be a sentinel event as measles cases have been virtually eliminated in 2000 in the U.S. due to vaccination. There are occasional outbreaks, but they are rare. Most children receive a series of MMR (measles, mumps, and rubella) shots that provide immunity to 90 percent of those vaccinated.

Of the diseases listed, increases in influenza in 2018 was the most notable fluctuation. This fluctuation is explained by two atypically high influenza seasons in 2017-2018 and 2018-2019.

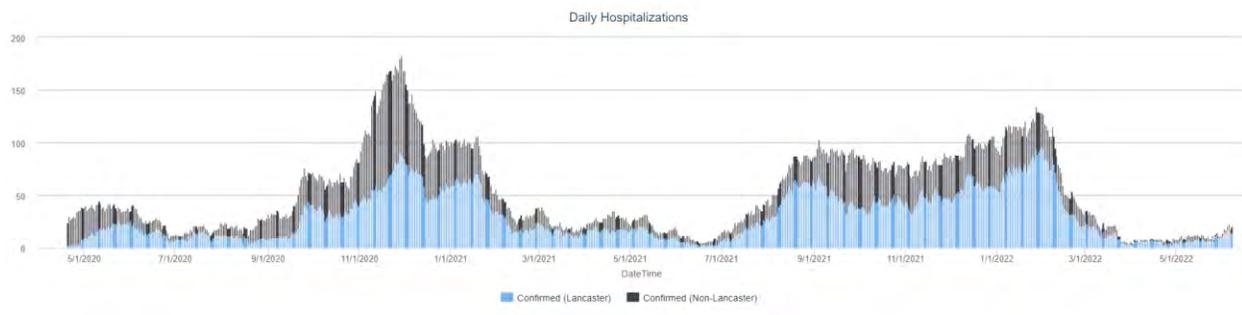
Vaccines for Hepatitis A and B are now common for younger populations, but older adults are more susceptible to these diseases. Hepatitis A affects the liver and is spread via the fecal-oral route. Small local outbreaks have occurred sporadically in recent years. Having no reported cases of Hepatitis A in 2010 was unusual as there are typically a few cases every year. Hepatitis A is generally a self-limiting disease with few long-term repercussions, but it can result in epidemics if food is contaminated by a food handler with the disease or if a food product such as lettuce is contaminated from the water supply or some other source. Hepatitis B is known to have infected up to a quarter of the world's population, but it is not as common (endemic) in North America. Unlike hepatitis A, hepatitis B is not spread by touch or contact, but is generally transmitted by the exchange of blood or other bodily fluids. Infants can contract hepatitis B from their mothers during childbirth and they need to receive the vaccine within the first 12 hours after birth and undergo a series of vaccinations. Acute cases of hepatitis B are self-limited, but persons with a chronic case of hepatitis B have a high risk of developing cirrhosis or liver cancer.

### *SARS-CoV-2 (COVID-19)*

The virus that causes COVID-19, SARS-CoV-2 (abbreviation of Severe Acute Respiratory Syndrome – Coronavirus – 2), has been responsible for the largest outbreak in the last 100 years. This viral respiratory disease was first identified in late December 2019 in Wuhan City, China at the Huanan Wholesale Seafood Market. These cases rapidly expanded to become a global pandemic. The first case was identified in Lancaster County on March 21<sup>st</sup>, 2020, from a specimen collected on March 16<sup>th</sup>, 2020. While this was the first person with a positive test in Lancaster County, testing limitations at the time suggest this was unlikely to be the index case of transmission in Lancaster County. As of August 25<sup>th</sup>, 2021, there have been 34,596 confirmed cases and 262 deaths due to SARS-CoV-2. This represents over 10% of our community's population. Also as of August 25<sup>th</sup>, over 70% of our population 16+ years has been fully vaccinated, although waning immunity and the emergence of the Delta variant in early June has resulted in a significant strain on our healthcare system yet again despite this high vaccination rate. Currently, a third dose for the immunocompromised is being administered and booster doses are to be announced soon. For more information about this pandemic, please visit [covid19.lincoln.ne.gov](https://covid19.lincoln.ne.gov). Access to the COVID-19 dashboard can be accessed there or by clicking [here](#).



The chart above shows the distribution of COVID-19 cases by lab report date. At the time of this report, cases are increasing slowly, likely due to the arrival of the BA.4 and BA.5 variants in the region. Hospitalizations are also increasing. As COVID-19 transmission fluctuates dependent on a wide array of factors and we learn more about this pathogen, that information is shared.



This report is a snapshot of the pandemic to date at the time this report was developed and is not a complete representation of the situation. If you have any other questions about the pandemic, then please email [health@lincoln.ne.gov](mailto:health@lincoln.ne.gov) or call 402-441-8006.

### Sexually Transmitted Diseases (STDs)

Sexually transmitted diseases may be underreported even though providers are required to report about patients with the disease. The data reported on sexually transmitted infections as shown in the table at the beginning of this section identifies chlamydia and gonorrhea as the most common sexually transmitted diseases (STDs) in Lancaster County followed by genital herpes. Cases of syphilis have been increasing in incidence.

#### *Chlamydia & Gonorrhea*

Chlamydia affects both men and women and occurs in all age groups but is most prevalent in young women. Many people with chlamydia do not show any symptoms, but once chlamydia is detected it is easily treated. If left untreated, chlamydia can lead to more serious health problems. In Lancaster County, chlamydia cases have been approximately 1500-1700 per year for the past 5 years. The long-term trend of chlamydia rates has been upward as shown in the table above. Lincoln has a younger population than the rest of the state, in part due to some of the state's largest colleges and universities being in Lancaster County.

Gonorrhea is the second most common sexually transmitted disease in the county. As is the case with chlamydia, both men and women may not experience any symptoms; or, if they experience symptoms,

they may be mild. When present, symptoms include a painful or burning sensation during urination and both men and women may detect a discharge. In women, symptoms may be mild, and the cases may not be quickly diagnosed as symptoms are like other conditions such as bladder infections. Women may pass the disease to babies during childbirth. Gonorrhea is treatable with antibiotics, but if untreated can lead to infertility in both men and women.

#### *HIV & AIDS*

While relatively few, cases of Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) cases are of special concern due to the life-threatening nature of AIDS. AIDS is a terminal disease, but anti-retroviral drugs have made it possible for persons with AIDS to live much longer with the disease. HIV is a virus (retrovirus) that causes AIDS. Infection with HIV occurs by the transfer of bodily fluids. The four major routes of transmission are unsafe sex, contaminated needles, breast milk and transmission from an infected mother to her baby at birth.

Most untreated people infected with HIV eventually develop AIDS. Those individuals mostly die from opportunistic infections or malignancies associated with the progressive failure of the immune system. HIV progresses to AIDS at a variable rate affected by viral, host, and environmental factors; most will progress to AIDS within ten years of HIV infection.

The first local AIDS case occurred in 1985. HIV did not begin to be reported until 1995, and there was a spike in numbers. In the last several years, the number of both AIDS and HIV cases has generally been less than ten. AIDS cases peaked in 1994 (24) and the most recent peak was in 2010, when there were 33 cases. Most cases are associated with men having sex with men although an equal number of cases have not shown an identifiable link. Heterosexual transmission cases are increasing, and cases linked to the use of injectable drug use are still found.

#### *Enteric and Other Communicable Diseases*

The section below summarizes enteric diseases, such as those spread through foodborne outbreaks, and other communicable diseases shown in the table at the beginning of this section.

#### *Enteric Diseases*

As a group the enteric diseases listed below are generally contracted through food or water, improper cooking or by poor practices by food preparers or servers. Some enteric diseases can also be acquired through animal contact or even person to person. There is more discussion of these diseases in the Environmental Health section. Since most people suffer only short-term discomfort and may not seek medical treatment, it is likely that many cases of enteric disease are not reported, but the CDC estimates (based on a 2011 study) that 1 in 6 people experience a foodborne disease during the year. These diseases generally spread through the fecal-oral route, by ingesting contaminated food or drinking contaminated water, contact with animals or their environment, or contact with feces of a person infected with the organism. Eliminating cross-contamination of food during preparation, proper hand washing and cooking or storing food at the proper temperature goes a long way in preventing many enteric diseases. Healthy individuals generally recover from these diseases quickly. However, persons with compromised immune systems, such as the elderly or AIDS patients, may experience severe illness or possibly death.

Reportable Disease	2018	2017	2016	2015	2014	2013	2012
<b>Campylobacteriosis</b>	39	49	53	69	68	76	54
<b>Cryptosporidiosis</b>	7	10	12	13	8	12	39
<b>E-coli (Shiga toxin)</b>	20	13	13	10	8	5	12
<b>Giardiasis</b>	13	17	16	41	48	55	61
<b>Listeriosis</b>	0	1	1	0	1	1	0
<b>Salmonella</b>	47	47	44	36	44	45	40
<b>Shigellosis</b>	6	1	5	9	18	3	4

Campylobacteriosis is an infectious disease caused by a bacterium (genus *Campylobacter*). One species, *Campylobacter jejuni*, is responsible for most human illness, but other species are responsible for illness in animals. *Campylobacter* is one of the most common causes of diarrheal illness in the U.S. While outbreaks are possible, most numbers of cases are associated with single or isolated case. Eating raw or undercooked chicken or cross-contamination of chicken juices and produce are the usual source of the disease.

Cryptosporidiosis and Giardiasis are parasitic diseases caused by protozoan parasites that is most spread through drinking and recreational water. The human case numbers for these two diseases are relatively few (15 or fewer cases of cryptosporidiosis excluding an outbreak in 2012 causing the total to rise to 39 cases for the year and decreasing counts of giardiasis from a high of 61 in 2012).

Salmonellosis (nontyphoidal) is an infection with *Salmonella* bacteria, excluding *Salmonella* Typhi and Paratyphi. There are different serotypes of *Salmonella*, and the most common sources are chicken products, eggs and egg products, live poultry (chickens, ducks, or other fowl), reptiles (turtles, snakes, and lizards), pet rodents or contaminated fruits, vegetables, and leafy greens. As can be seen, salmonellosis cases have generally remained stable around 40 cases per year.

In recent years, as shown in the table, the number of local cases of shigellosis have been few, excluding an outbreak of cases in 2014 causing the annual total to be 18 cases, which is the highest number of cases since 2009, when 13 cases were reported. Shigellosis is an infection caused by the bacteria *Shigella*. The usual mode of transmission is the fecal-oral route through person-to-person transmission, particularly in the setting of poor hygiene among children. *Shigella* can be transmitted through an infected food handler via ready-to-eat (RTE) foods, including salads (potato, tuna, shrimp, macaroni, and chicken), raw vegetables, milk and dairy products, and meat. The two most common causes of contamination are water contaminated with fecal material and unsanitary practices by infected food handlers. Infants, the elderly, and those in poor health are susceptible to the severest symptoms of disease, but all humans are susceptible to some degree.

The above table shows that the number of people confirmed to have contracted Shiga Toxin-Producing *E. coli* (STEC) has ranged from 1 case in 2009 to 20 cases in 2018. *E. coli* O157:H7 is the most common type of STEC, but other types exist. STEC cases are found occasionally, as can be seen in the table, there has been no large outbreak, but rather more sporadic cases from time to time. STEC can be killed by cooking meat to the proper temperature and most of the local cases have been due to undercooked meat. STEC can also be present on produce due to contaminated fields or water supply.

[In reviewing the data for enteric disease, please note that one of the common diseases known for outbreaks, norovirus, is not included. Norovirus is responsible for almost 60 percent of cases of foodborne disease, yet it is not a reportable disease except in the event of an outbreak in the community associated with a restaurant, caterer or an outbreak at a school, nursing home, childcare center. The Health Department routinely gets involved in any outbreak associated with a regulated facility; but oftentimes, especially with norovirus cases, there are no laboratory-confirmed cases. Persons infected with the virus usually recover fully within days and, if there's a food establishment, childcare center, school, hospital, or nursing home involved the usual outcome is that control measures are put in place (e.g., disinfection of the rooms and equipment, excluding sick staff or isolating attendees) to stop the spread.]

Reportable Disease	2018	2017	2016	2015	2014	2013	2012
<b>Hepatitis C (Acute/Chronic)</b>	86	103	103	153	186	240	139
<b>H. influenzae (invasive)</b>	4	6	7	5	4	1	3
<b>Meningitis (aseptic)</b>	27	43	12	5	8	6	10
<b>Rabies (animal)</b>	12	4	2	3	6	4	10
<b>Streptococcal disease (invasive)</b>	66	49	71	38	45	37	28
<b>Tuberculosis</b>	4	4	6	3	5	3	4
<b>West Nile Virus*</b>	15	5	9	10	7	14	16

(\*) West Nile Virus includes fever plus neuroinvasive disease

As for other diseases that we see in Lancaster County, hepatitis C is an infectious disease of the liver caused by the hepatitis C virus (HCV). It is spread by blood-to-blood contact. There is no vaccine for hepatitis C. Hepatitis C can progress from an acute infection to become a chronic infection (i.e., a condition lasting longer than six months). Persons with chronic hepatitis C may experience scarring of the liver or liver cancer. In 2013 and 2014, 240 in 2013 and 183 in 2014, cases are up from 139 cases in 2012, but the recent numbers are on par with those seen from 2009 (185) to 2011 (192), even lower. The increase in cases in some years may reflect the fact that clinicians are being asked to screen all people born between 1945 and 1970 for Hepatitis C as that birth cohort is most likely to have been exposed to the disease. In the recent past, treatment for Hepatitis C has allowed many individuals infected with Hepatitis C to fully recover from the infection.

Naturally acquired disease caused by *Haemophilus influenzae* seems to occur only in humans. In infants and young children, *H. influenzae* type b (Hib) causes bacteremia, pneumonia, and acute bacterial meningitis. Due to the routine use of the Hib conjugate vaccine in the U.S. since 1990, the incidence of invasive Hib disease has decreased to 1.3 cases per 100,000 in children. Locally, due to incomplete vaccination of the population, there have been a few cases confirmed each year, with the highest number of cases (11) in 2008.

Invasive streptococcal disease can be severe and sometimes results in life-threatening illness. There have been between 28 and 71 cases found in Lancaster County each of the past seven years. Invasive streptococcal disease occurs when group A *Streptococcus* (GAS) bacteria get into parts of the body where bacteria usually are not found, such as the blood, muscle, or the lungs, causing infection. Two of the most severe, but least common, forms of invasive GAS disease are necrotizing fasciitis and Streptococcal Toxic Shock Syndrome. Necrotizing fasciitis (occasionally described by the media as "the

flesh-eating bacteria") destroys muscles, fat, and skin tissue. Streptococcal toxic shock syndrome (STSS) causes blood pressure to drop rapidly and organs (e.g., kidney, liver, lungs) to fail.

Tuberculosis (TB) is a common, and in some cases, a lethal infectious disease caused by *Mycobacterium tuberculosis*. Tuberculosis usually attacks the lungs but can also affect other parts of the body. It is spread through the air when people who have an active infection cough, sneeze, or otherwise transmit their saliva through the air. Most TB infections in humans result in an asymptomatic, latent infection, and about one in ten latent infections eventually progresses to active disease, which, if left untreated, kills more than 50 percent of its victims. The table shows the active cases of TB confirmed in Lancaster County, where three to five cases have been diagnosed and treated annually over the past several years. Persons with TB are often immigrants to the U.S., but whose TB was latent when they migrated. Family members are the most at risk to contract the disease so spikes in numbers are often due to spread within a family. Treatment regimens generally last for six to nine months and persons with TB are generally monitored to make sure they are taking their medications to prevent the TB from becoming resistant to TB drugs.

West Nile virus (WNV) is spread by mosquitoes and infection caused by the virus can result in a potentially serious illness. This is especially true for persons 50 or older. Fortunately, most local cases have been West Nile fever rather than the more serious cases of West Nile Encephalitis or West Nile Meningitis. Experts believe WNV is established as a seasonal epidemic in North America that flares up in the summer and continues into the fall. Locally, after peaking at 129 in 2003, we experienced four cases in 2014 and the highest number (16) of recent cases was in 2012.

## Cancer

While we don't have a good estimate for the prevalence of Lancaster County residents who are living with cancer or those who are cancer survivors, new cases of cancer (incidence) are reported to the Nebraska Cancer Registry each year. Cancer registry data include information on children as well as adults. The section below summarizes the incidence of cancer with data available for Lancaster County and the State of Nebraska. Also, a section is available on cancer mortality, but that information is in the 'Mortality' section later in this document.

The following table shows cancer incidence over the most recent five-year period for all cancer sites as well as ten selected cancer sites.<sup>16</sup>

*2014-2018 Cancer Statistics*

Cancer Site	Frequency (Lancaster)	Rate per 100K (Lancaster)	Frequency (Nebraska)	Rate per 100K (Nebraska)
<b>All Sites</b>	1,426	448.2	10,261	467.7
<b>Lung &amp; Bronchus</b>	165	51.9	1,259	55.9
<b>Female Breast</b>	206	125.9	1,452	130.5
<b>Colon &amp; Rectum</b>	61	36.6	452	38.6
<b>Prostate</b>	199	123.7	1,365	123.3
<b>Bladder</b>	67	21.1	462	20.5
<b>Non-Hodgkin Lymphoma</b>	60	19.2	440	20.0
<b>Leukemia</b>	46	14.5	312	14.4
<b>Kidney &amp; Renal Pelvis</b>	49	15.7	397	18.3
<b>Melanoma</b>	76	25.2	577	27.9
<b>Pediatric</b>	11	18.2	74	18.7

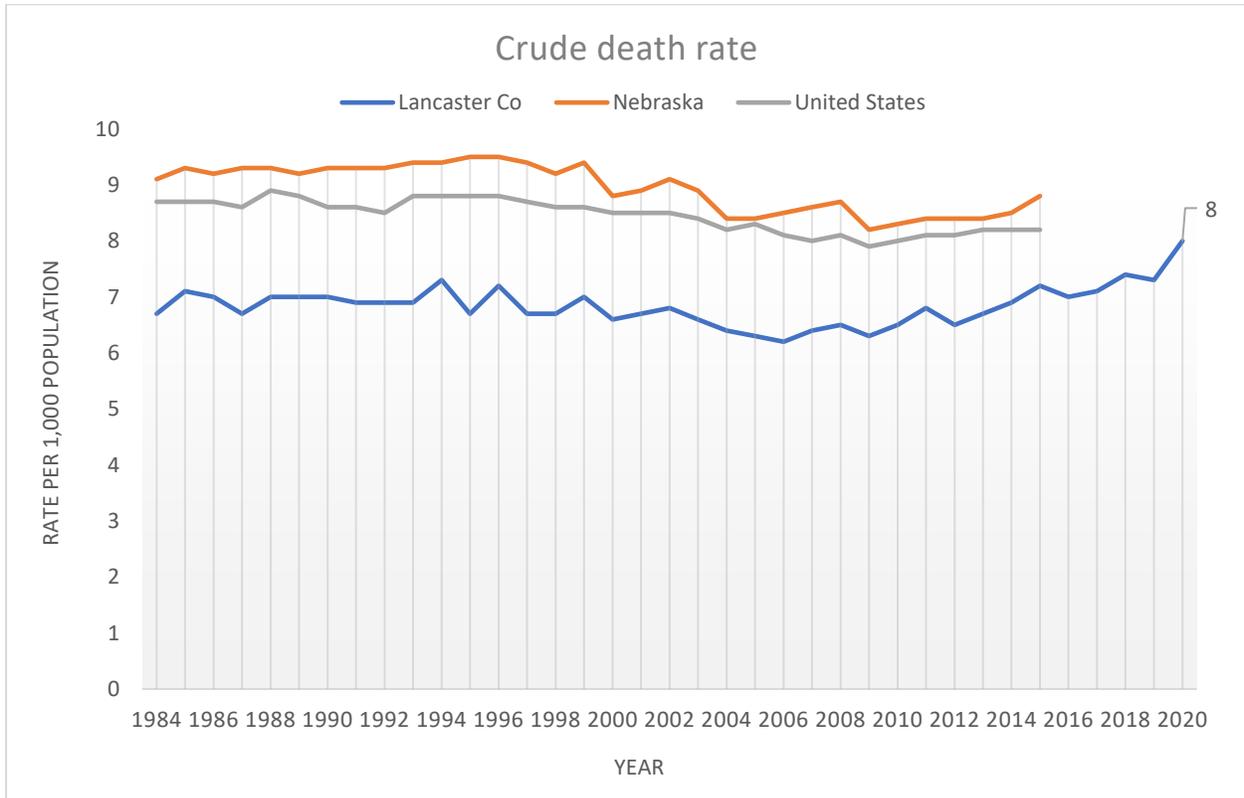
All rates in the table above are age-adjusted. As is evident in the table above, the most common cancers are female breast, prostate, lung and bronchus, and colorectal cancers. Screening for these types of cancer, except breast, is emphasized in the adult risk behavior section of this assessment.

<sup>16</sup> Source: National Program of Cancer Registries and Surveillance, Epidemiology, and End Results SEER\*Stat Database (2001-2018) - United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Based on the 2019 submission.

## Mortality

### Leading Causes of Death

The ten leading causes of death by gender are shown below. The Lincoln-Lancaster County Health Department has a dashboard with birth and death data, by year from 2005 to 2019. The crude death rate in Lancaster County has been increasing since 2006, as can be seen in the chart shown below. While the Lancaster County crude death rate is generally lower than that of the state of Nebraska, some of this variation may be explained due to the different age distribution of Lancaster County, where a younger and middle-aged population is typically larger.



Except for unintentional injuries, the leading causes of death generally increase with age. The average age at death in Lancaster County was 71.8 years for males and 79 years for females. There were totals of 1,179 deaths for males and 1,154 for females.

#### 2020 Leading Causes of Death (Male)

Cause	Frequency	Percent	Crude Rate per 100K Population
<b>Heart Disease</b>	258	19.9%	162.0
<b>Cancer</b>	246	19.0%	152.7
<b>Accidental Deaths</b>	91	7.0%	56.5
<b>COVID-19</b>	73	5.6%	45.3
<b>Chronic Lung Disease</b>	69	5.3%	42.8
<b>Cerebrovascular Disease</b>	56	4.3%	34.8
<b>Diabetes Mellitus</b>	38	2.9%	23.6

<b>Intentional self-harm (suicide)</b>	34	2.6%	21.1
<b>Parkinson's Disease</b>	32	2.5%	18.0
<b>Renal Disease</b>	29	2.2%	18.0
<b>Other</b>	369	28.5%	229.1
<b>Total</b>	1295	100.0%	804.0

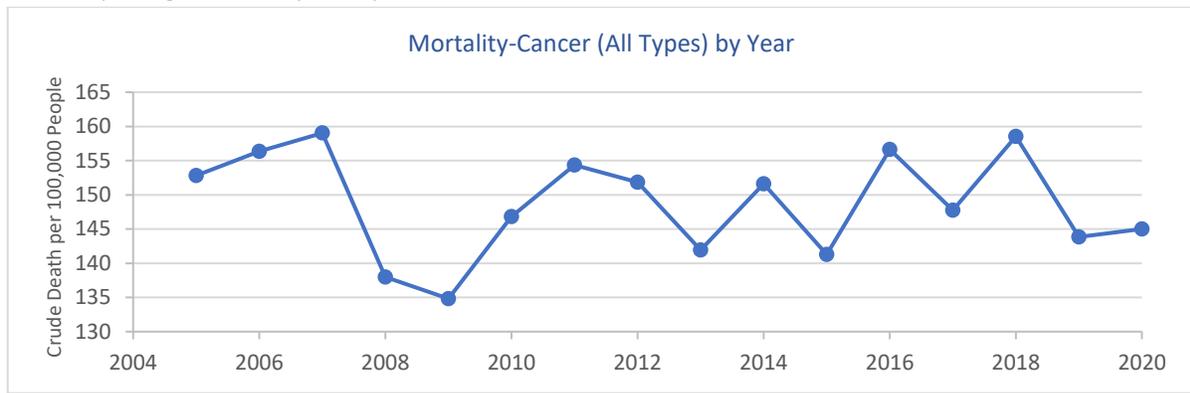
*2020 Leading Causes of Death (Female)*

Cause	Frequency	Percent	Crude Rate per 100K Population
<b>Cancer</b>	207	16.3%	131.7
<b>Heart Disease</b>	210	16.3%	129.8
<b>Chronic Lung Disease</b>	79	6.2%	49.5
<b>COVID-19</b>	75	5.9%	47.0
<b>Alzheimer's Disease</b>	54	4.3%	33.9
<b>Cerebrovascular Disease</b>	71	5.6%	44.5
<b>Accidental Deaths</b>	38	3.0%	23.8
<b>Renal Disease</b>	51	4.0%	32.0
<b>Diabetes Mellitus</b>	37	2.9%	23.2
<b>Nephritis and Nephrosis</b>	23	1.8%	13.3
<b>Other</b>	382	33.3%	264.6
<b>Total</b>	1267	100.0%	794.4

Based on the count of 264 deaths to-date from COVID-19 as of August 25<sup>th</sup>, 2021, it is expected that infectious disease will be one of the top 5 leading causes of death in Lancaster County for 2020 and 2021. By age, the leading cause of death for 20-24 years are accidental deaths (58.8% of deaths in that age group). The leading causes of death for 25-34 years were accidental deaths (28.6%) and intentional self-harm/suicide (14.3%). The leading causes of death for 35-44 years were intentional self-harm/suicide (19.6%), accidental deaths (19.6%), cancer (15.2%), and heart disease (10.9%). The leading causes of death for 45-54 years were cancer (25.4%), heart disease (15.1%), accidental deaths (13.5%), chronic liver disease or cirrhosis (6.3%), intentional self-harm/suicide (4.8%) and diabetes mellitus (4.8%). As age increases beyond the 45-54 years group, the trends remain the same. For more information about the specific counts and percentages for all the age groups, please refer to the link in the footnotes.<sup>17</sup>

<sup>17</sup> <https://www.lincoln.ne.gov/City/Departments/Health-Department/Public-Health-Informatics-and-Planning/Data-and-Reports/Vital-Statistics#Deaths>

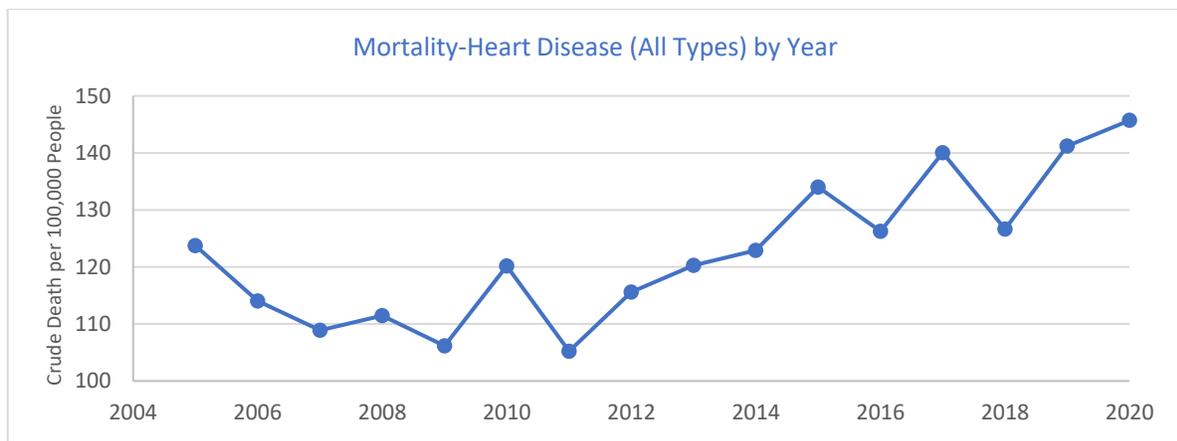
Cancer (Malignant Neoplasm)



Cancer has been the leading cause of death in Lancaster County since 1999. In 2019, cancers were the cause of death for 481 persons, and over the five-year period, 2015-2019, there were 2,343 deaths due to cancer. Earlier in this report, the incidence of cancer was discussed and there are usually about 1,200 new cases of cancer of all types each year. Available state reports show the most recent available data from 2016. In 2016, Lancaster County had 480 deaths from cancer for a crude rate of 155.0 and an age-adjusted rate of 152.7. This compares in 2016 to Nebraska’s crude rate of 182.2 and age-adjusted rate of 153.4. From 2012-2016, Lancaster County had 2,226 deaths for a crude rate of 147.6 and an age-adjusted rate of 142.0. From 2012-2016, Nebraska had a crude rate of 184.8 and an age-adjusted rate of 154.8.

In 2019, the top 7 causes of death by cancer for Lancaster County were cancers of the lung (21.3%), pancreas (8.8%), breast (8.1%), colon (7.7%), prostate (5.5%), leukemia (3.9%), esophagus (3.7%) and other (41.0%). By age, the rate of death due to cancer per 1,000 residents increases significantly starting in the 35-44 years group (25.45) to 45-54 years (76.88), 55-64 years (174.17), 65-74 years (850.74), 75-84 years (1,096.87) and 85+ years (1,713.78).

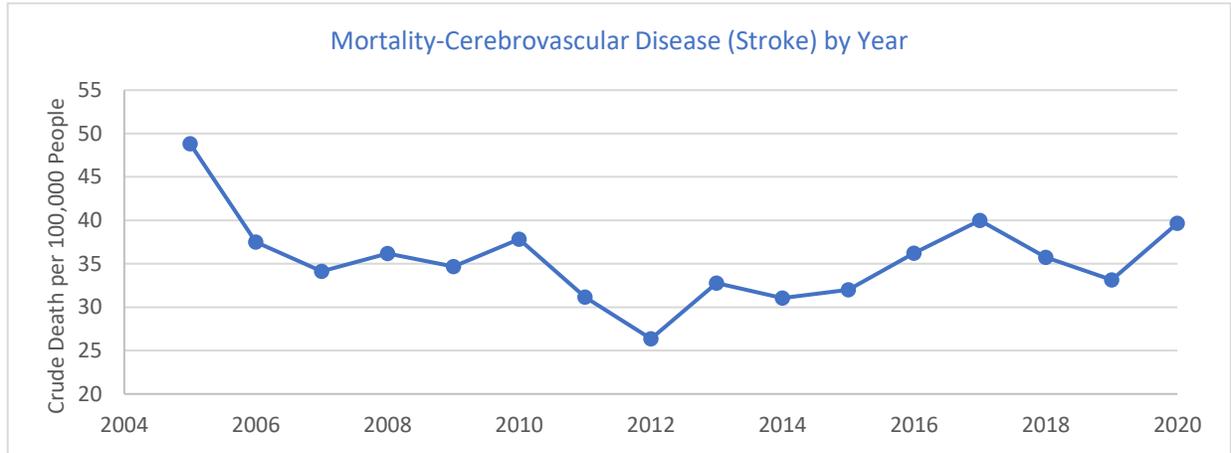
Heart Disease



Locally, heart disease is a top two cause of death for both men and women. Nationwide, heart disease is the leading cause of death. The most recent data from Nebraska’s Vital Statistics reports show the Lancaster County age-adjusted death rate due to heart disease to be 126.6 in 2016 or 122.4 in 2012-2016, compared to 140.2 in 2016 or 143.0 in 2012-2016. Since 2005, heart disease has been gradually

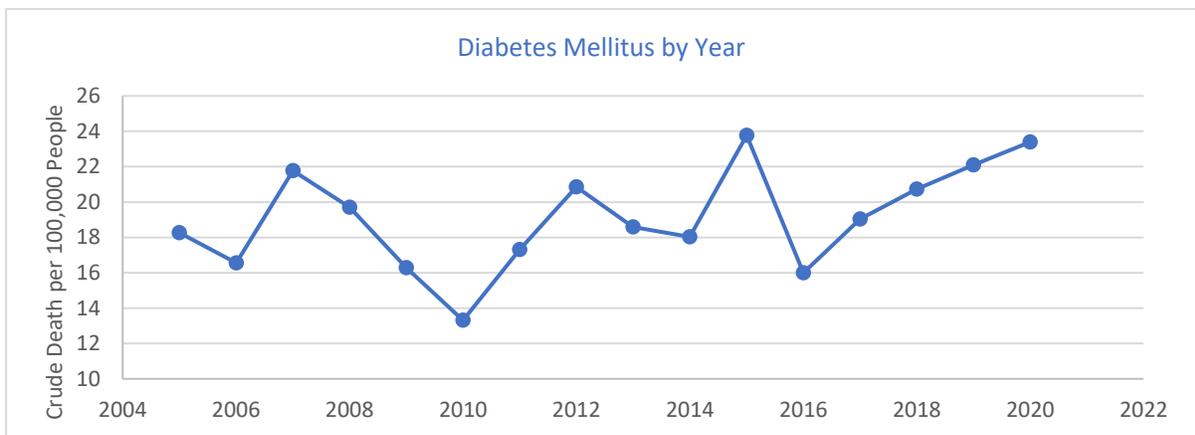
increasing to a peak in 2017 of 140.01 deaths per 100,000 population. The rate in males (135.9) was higher than females (117.28) for 2018. The risk of death due to heart disease increases rapidly beginning in the 45-54 years group (76.88) through 55-64 years (174.17) and a large jump for 65-74 years (850.74) and 75-84 years (1,096.87). Finally, for 85+ years the crude rate of heart disease deaths due to heart disease is at 1,713.78 deaths per 100,000 population.

Stroke



Cerebrovascular disease (stroke) is one of the leading causes of death in Lancaster County. In 2020, the crude rate of stroke deaths was 39.65 per 100,000 population. This shows a slight increase since 2019 when death per 100,000 population was 33.5 in Lancaster County. Females (46.78) have a higher risk of death due to stroke than males (24.77). The risk increases significantly from 55-64 years (28.63) to 65-74 years (93.91) and up to 75-84 years (233.76) and 85+ years (831.44). The crude rate of strokes per year has been stable between about 30-40 deaths per 100,000 population since 2006. The most recent publication from the state of Nebraska shows the 2012-2016 age-adjusted stroke mortality rate of 33.6, while Lancaster County had a 2012-2016 age-adjusted stroke mortality rate of 30.7. While this is lower, the overall fluctuation and chart above suggests this was a low estimate in the standard range we see year to year.

Diabetes



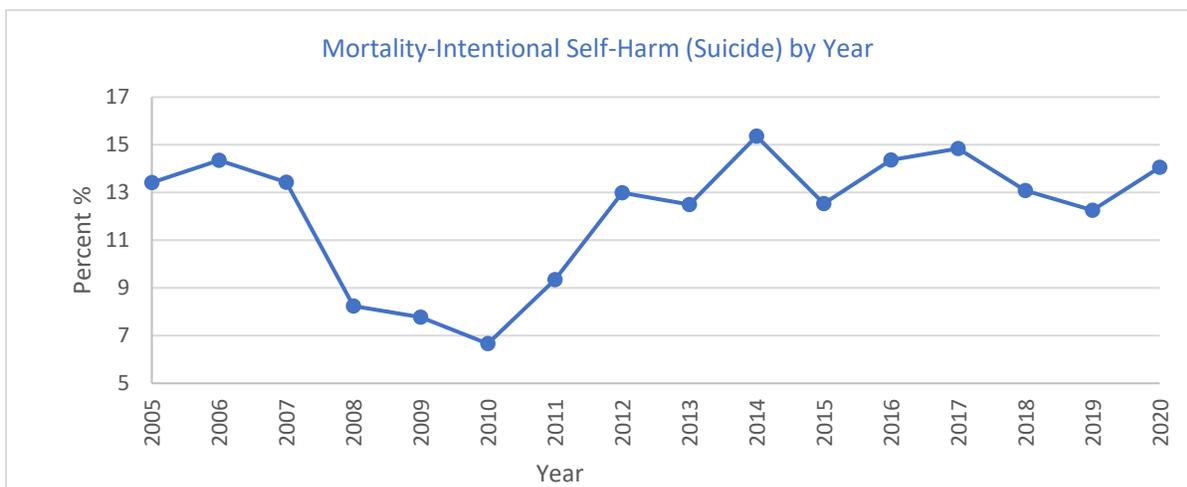
Diabetes mellitus was the 9<sup>th</sup> leading cause of death in 2020 for the crude rate per 100,000 population, with 23.4 deaths per 100,000 population. Since 2005, the crude diabetes death rate per 100,000

population in Lancaster County has remained between approximately 15-25 deaths per 100,000 population, which represents approximately 45-75 deaths per year. This does not include deaths due to cancers associated with diabetes and other conditions that may be linked to diabetes. The crude death rate due to diabetes for males (23.60) is similar to that for females (23.2). The risk of death due to diabetes increases from 11.93 for 55-64 years and continues to increase significantly in each age group from 65-74 (88.39), 75-84 (188.80) to 85+ years (254.52). From 2012-2016, the age-adjusted rate for Nebraska was 21.6 compared to 18.5 for Lancaster County.

### Injury-related Deaths



Accidental deaths, or unintentional injury deaths, were the 4<sup>th</sup> leading cause of death in Lancaster County in 2019, with a crude accidental death rate of 38.8 deaths per 100,000 population. These represent the largest fraction of injury-related deaths in Lancaster County. Also included in this category would be deaths attributable to suicide (intentional self-harm) and homicides. In 2019, there were 8 homicides, 39 suicides and 123 accidental deaths. Males represented 6 of the homicides, 31 of the suicides and 80 of the accidental deaths. In Nebraska, the 2012-2016 age-adjusted rate of unintentional injury deaths was 37.2, compared to 27.0 for Lancaster County. Regarding suicides, Nebraska’s 2012-16 age-adjusted rate of suicides was 12.3 compared to 12.9 for Lancaster County. The state of Nebraska does not appear to publish statewide estimates for homicide deaths for county comparisons. Overall, accidental deaths are most injury-related deaths, followed by suicide and then homicide.



## Infant Deaths



The death of a child younger than one year of age is a key measure of the status of maternal and child health in a community. The infant mortality rate (the number of infant deaths per 1000 live births) is often used to compare communities, states, and nations. By cause, as was indicated in the above table for leading causes of death, the principal cause of death for children under one is birth defects/congenital anomalies. The infant mortality rate in Lancaster County has remained between approximately 3.5-8 deaths per 1,000 live births, although it appears to be more volatile than many other metrics due to a smaller sample size. It should be noted that the infant mortality rate has historically declined since the 1980's when there was a rate of 10 deaths per 1,000 live births and it is typically around 5 now.

## Environmental Health

### Our Environment and Our Health

Our environment impacts our health through the air we breathe, the water we drink, the food we consume, and other environmental exposures, such as toxic materials. In addition, land use planning decisions can impact our health by affecting how much pollution is emitted through transportation choices or how close residential housing, schools or older adult living facilities are allowed to locate near environmental hazards, such as railroads, industrial zoning, and hazardous materials pipelines. The Lincoln-Lancaster County Environmental Health Division exists to protect people the health effects from environmental exposures and prevent illness and disease.

### Air Quality

It is generally recognized that air pollution can cause breathing difficulties for people with asthma and Chronic Obstructive Pulmonary Disease (COPD). However, there is also strong evidence that short term exposures to higher levels of air pollution can increase the risk of heart attack, stroke, arrhythmias, and heart failure in people with pre-existing cardiovascular disease. Furthermore, current science suggests that longer term exposure to air pollution facilitates atherosclerosis and may play a role in high blood pressure, heart failure and diabetes.

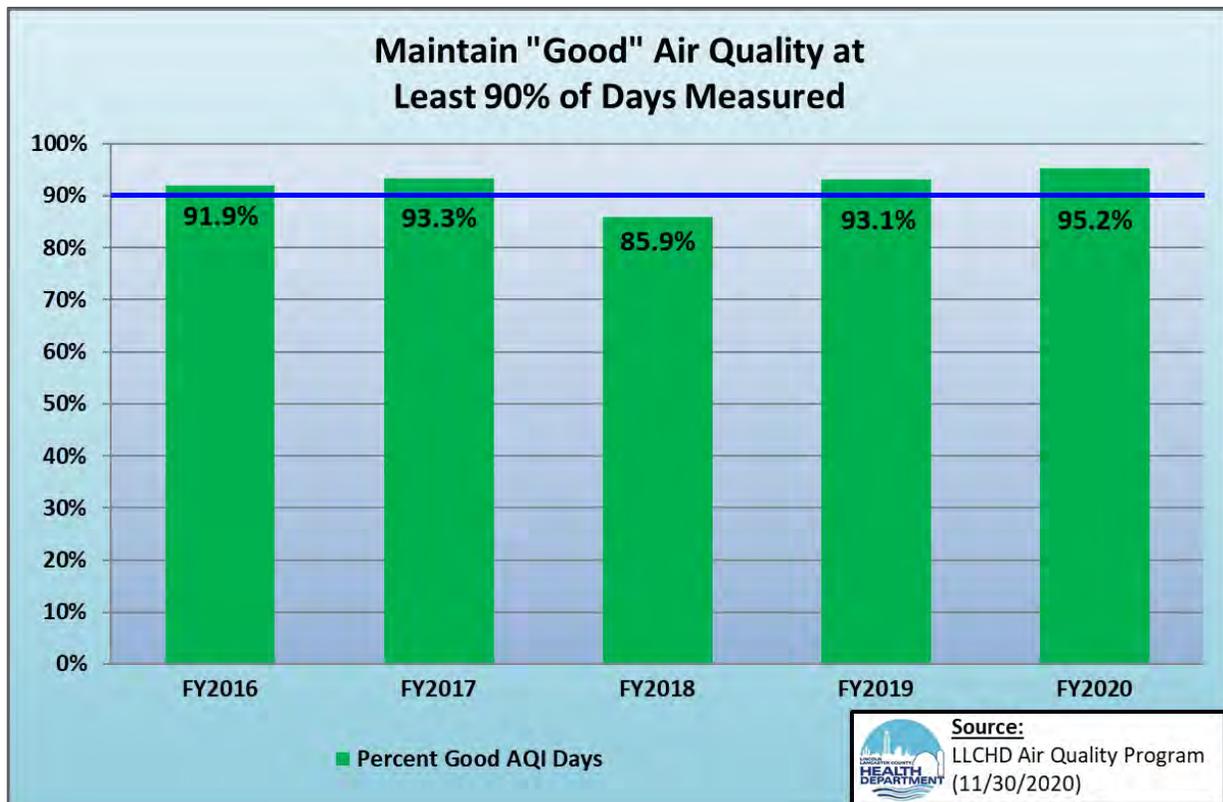
([http://www.heart.org/HEARTORG/Conditions/More/MyHeartandStrokeNews/Air-Pollution-and-Heart-Disease-Stroke\\_UCM\\_442923\\_Article.jsp](http://www.heart.org/HEARTORG/Conditions/More/MyHeartandStrokeNews/Air-Pollution-and-Heart-Disease-Stroke_UCM_442923_Article.jsp))

The Clean Air Act is the comprehensive federal law that regulates air emissions from stationary and mobile sources and requires the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. The NAAQS are reviewed every five years to assure they are protective of people’s health. EPA establishes air pollution emission requirements for cars and trucks, off road vehicles, equipment, and permanent sources of air pollution. EPA and the State of Nebraska have delegated the responsibilities of monitoring air quality, writing permits for new and existing sources of air pollution, providing compliance assistance, inspecting businesses and industry, inventorying air pollution emissions, and enforcing regulations to the Lincoln-Lancaster County Health Department. All such activities are intended to protect people from air pollution, thereby improving community health status.

The United States Environmental Protection Agency’s (US EPA) Air Quality Index (AQI) establishes color-coded characterizations of air quality based on the National Ambient Air Quality Standards (NAAQS). The Lincoln/Lancaster County area’s AQI is determined based on monitoring conducted for Ozone and PM2.5. LLCHD’s goal is to maintain “Good” air quality at least 90% of the time.

<i>When the AQI is in this range:</i>	<i>..air quality conditions are:</i>
0-50	Good
51-100	Moderate
101-150	Unhealthy for Sensitive Groups
151 to 200	Unhealthy
201 to 300	Very Unhealthy
301 to 500	Hazardous

The graph below compares the percentage of ‘Good’ days (shown in green) for the past 5 years, compared to the current indicator of 90% ‘Good’ days. In FY2020,



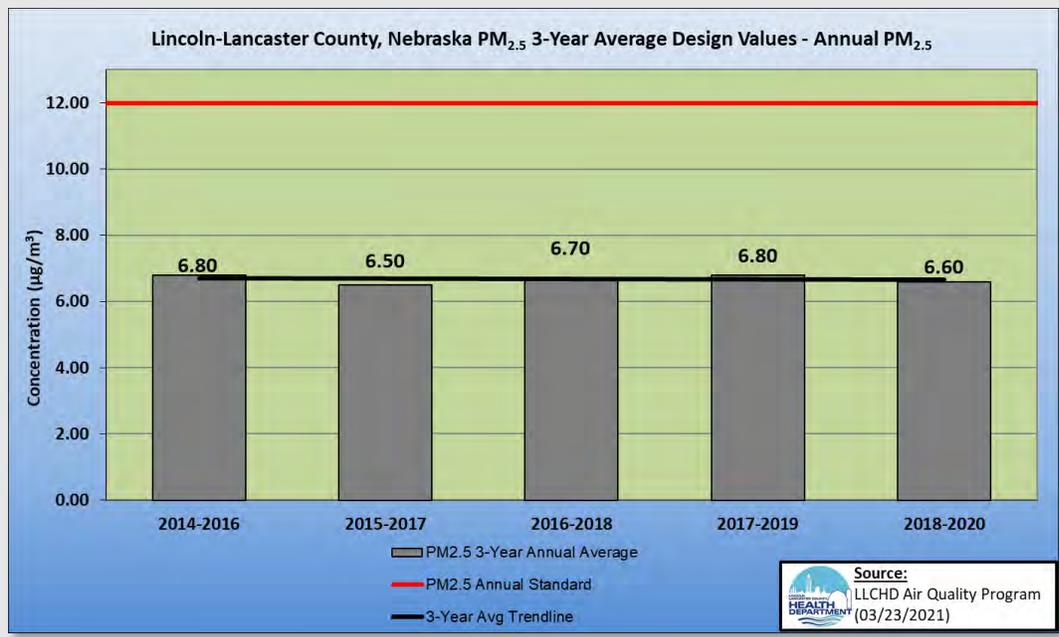
95.2% of days measured were in the ‘Good’ category for air quality based on monitoring data for both Ozone and PM2.5. Most days that were not in the ‘Good’ category of air quality were ‘Moderate’ (yellow), though there were 2 days in 2020 where the 24-hour AQI was in ‘Unhealthy for Sensitive Groups’ (orange) category. Still, air quality in Lancaster County continues to meet EPA air quality standards and does not pose significant health risks to the public.

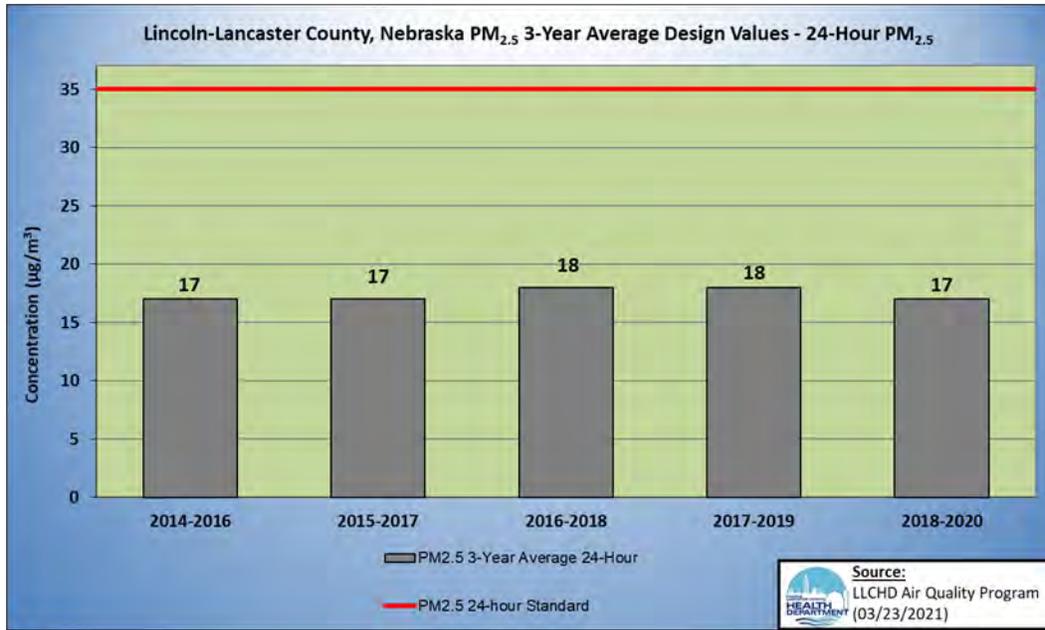
*Fine Particulate Matter Monitoring*

Lincoln’s air quality is continuously monitored for fine particulate matter, called PM2.5. Higher levels of PM2.5 can trigger heart attacks, asthma attacks and breathing problems for people with COPD. In Lancaster County, elevated levels of PM2.5 are the primary reason for poorer air quality days. There are two Federal standards (NAAQS) for PM2.5, listed as follows:

- Annual Average: 12 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )
- 24-Hour Average: 35 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

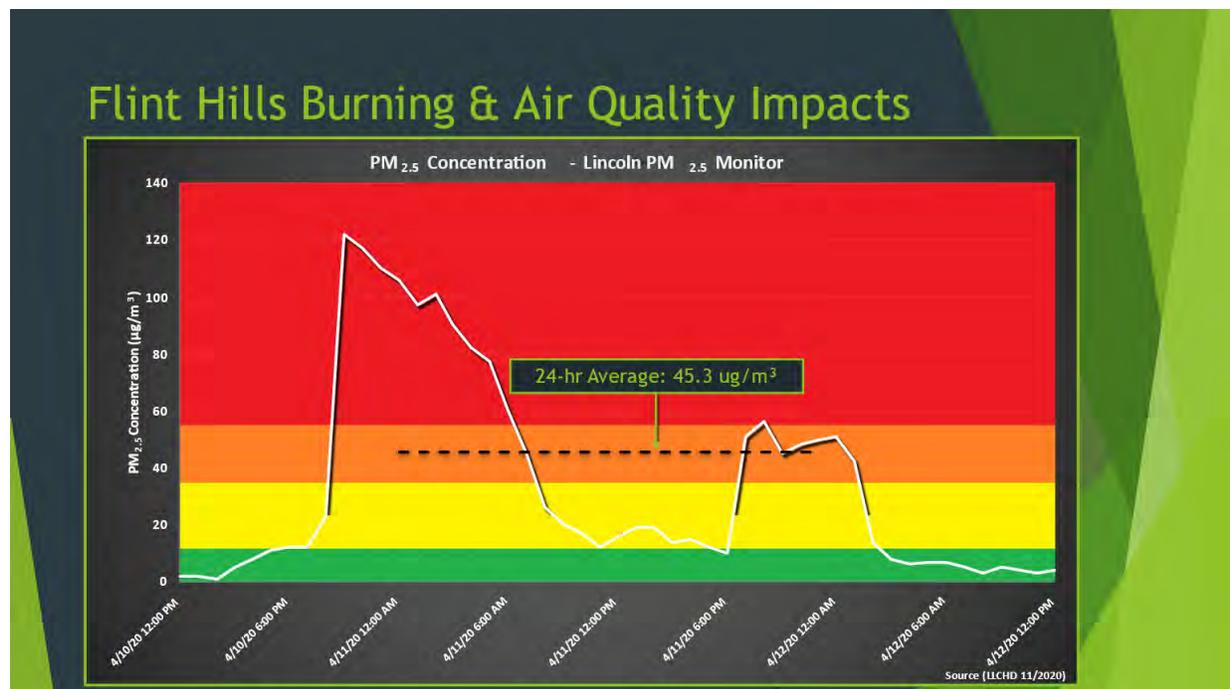
Compliance with the annual standard is based on the average of three consecutive years. Compliance with the 24-hour standard is based on the 98th percentile of the maximum daily average concentrations, averaged over 3 consecutive years. Annual PM2.5 monitoring data shows a downward trend in our community that has stabilized in recent years. Likewise, 24-hour PM2.5 monitoring data has also remained relatively stable. The 3-year averages for the past 5 years are provided in the graphs below, with each year representing the last year in the associated 3-year averaging period. As shown below, Lincoln/Lancaster County PM2.5 levels are well below both Federal standards.





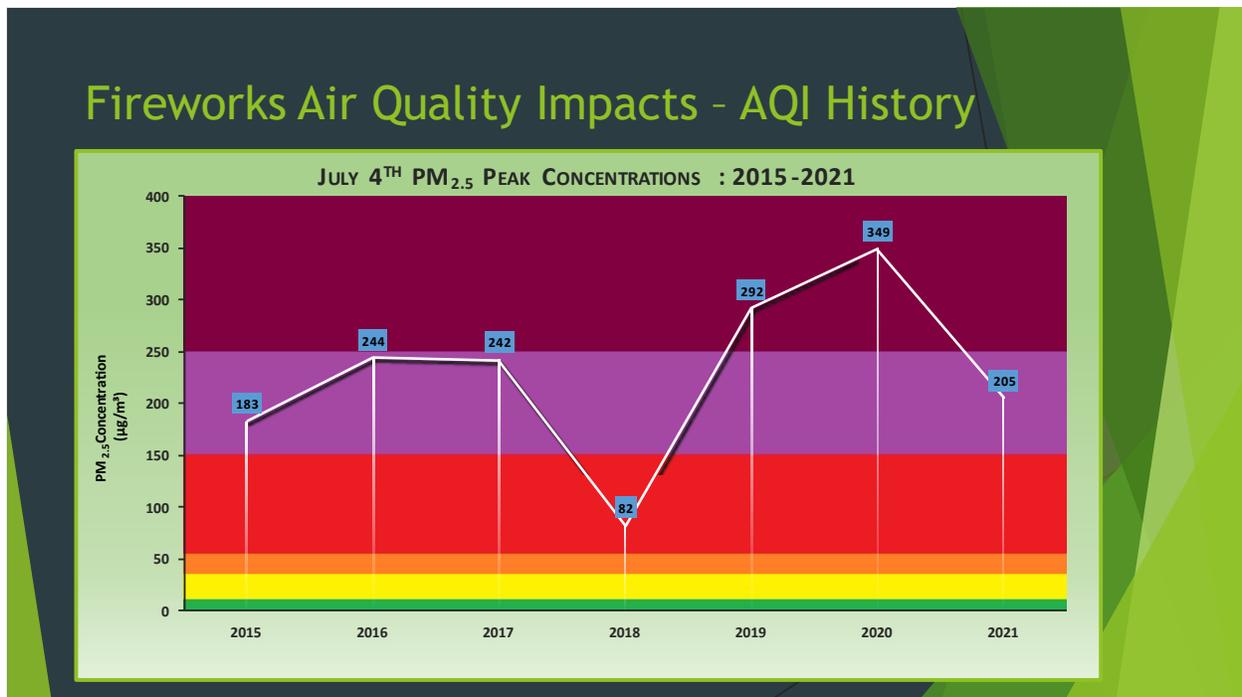
Smoke from open burning and fires produce many harmful pollutants, including PM<sub>2.5</sub> and nitrogen oxides (NO<sub>x</sub>). PM<sub>2.5</sub> can embed deep in the lungs and even pass directly into the bloodstream. Higher levels of PM<sub>2.5</sub> can trigger heart attacks, asthma attacks and breathing problems for people with COPD. Increased emissions of NO<sub>x</sub> can lead to elevated levels of Ozone, causing aggravation of COPD, asthma, and irritation of the lungs.

Prescribed agricultural and conservation burning in Lancaster County and other nearby Nebraska counties has grown steadily over the past several years, and it does contribute to PM<sub>2.5</sub> levels experienced in Lancaster County. However, it continues pale in comparison to the burning of tallgrass



prairie in the Flint Hills area of Kansas and Oklahoma. The smoke resulting from these fires often makes its way to Lincoln via southerly springtime winds, sometimes increasing our PM<sub>2.5</sub> concentrations to levels that can be unhealthy for all people, regardless of their health status. The NO<sub>x</sub> generated by this burning has also led to higher Ozone levels in Lincoln.

Thus, several days each year PM<sub>2.5</sub> does exceed levels which are known to impact people's health. In addition, fireworks in the city of Lincoln on the 4<sup>th</sup> of July also result in very high levels of PM<sub>2.5</sub>. Local burning is closely regulated by the Health Department to prevent health impacts.



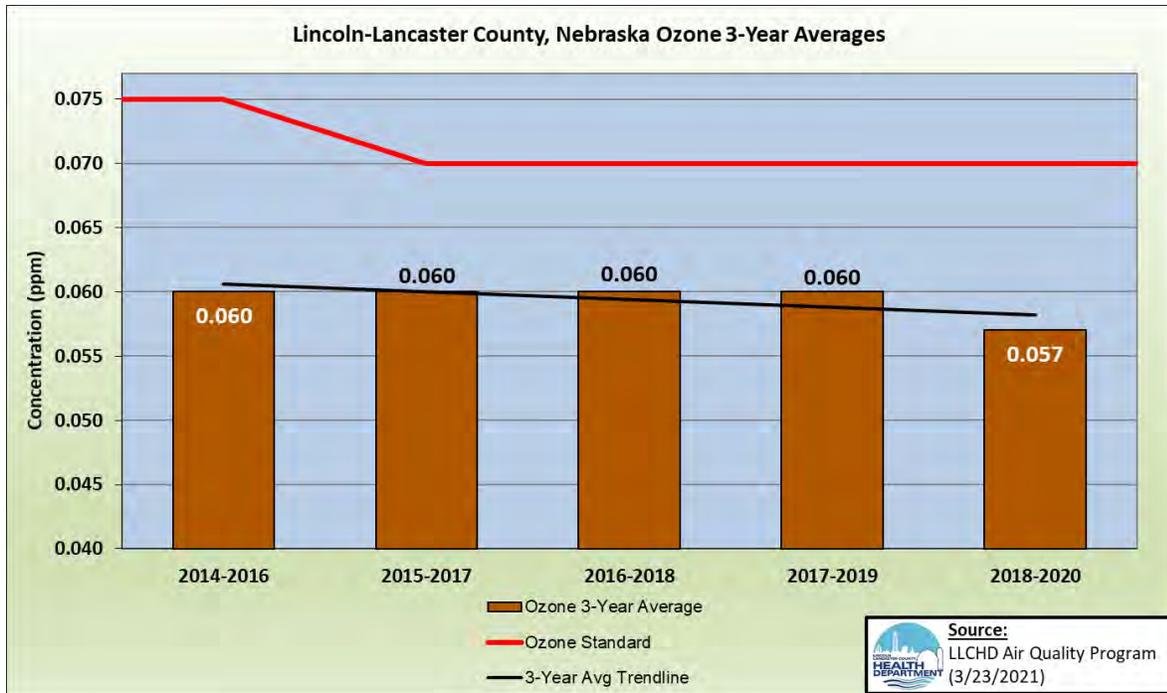
#### *Ozone Monitoring*

Ground level ozone (also referred to as 'smog') is associated with aggravation of COPD, asthma, and irritation of the lungs. Ozone forms when the sun interacts with hydrocarbons (VOCs) and Nitrogen Oxides (NO<sub>x</sub>). Ozone formation is increased when temperatures are warmer, and accordingly, ozone is not monitored during winter months. Ozone is transported by prevailing winds, which tend to be from the south and southeast during warmer months, thus the LLCHD's monitor is in Davey, NE (about 12 miles north of central Lincoln). The NAAQS for ground-level ozone is 0.070 parts per million (ppm).

Over the past 15 years, there has been a consistent trend in decreased NO<sub>x</sub> and VOC emissions from the industrial sector in Lancaster County, with the most significant factor being attributed to an approximately 70% reduction of NO<sub>x</sub> emissions from Nebraska Public Power District's Sheldon Station near Hallam. NO<sub>x</sub> is also emitted from a variety of other industrial, commercial, and residential fuel combustion sources; however, motor vehicles are now the largest source of NO<sub>x</sub> emissions.

Many growing communities see increasing levels of ozone primarily due more vehicles and urban sprawl, which increases fuel consumption due to vehicle miles driven, thus increasing air pollution. Newer, more efficient vehicles with more stringent pollution control and better fuel economy, and efforts to promote commuting by bicycle, bus, and walking will help ensure our ongoing compliance with the NAAQS.

Lincoln/Lancaster County have maintained Federal “attainment” status for air quality for over a decade, and our levels of ozone are still significantly lower than the NAAQS standard. As shown in the graph below, ozone concentrations for Lincoln/Lancaster County remained stable for the past several years,



though decreased slightly in 2020. Compliance with the ozone NAAQS is based on a 3-year average of the 4th highest daily maximum 8-hour concentration. The 3-year averages for the past 5 years are provided in the graphs below, with each year representing the last year in the associated 3-year averaging period.

### Water Quality

Much like air, water is required for human life. Safe uncontaminated water is of utmost importance to the health of every person. Numerous disease-causing organisms and chemical contaminants can be transmitted via water and can have serious health effects. These contaminants may enter the water at the source, during transmission in pipes, and at the point of use.

The Federal Safe Drinking Water Act (SDWA) requires the U.S. EPA to establish regulations intended to protect the public’s health. This includes setting maximum contaminant levels (MCLs) for drinking water for microorganisms and chemicals known or suspected to cause acute or chronic human health impacts. Public water supply systems are required to test the water they provide to their community. If violations are identified, the water system is required to notify the public of the violation and provide guidance on what actions they should take, such as boiling their water. In addition, all regulated community water

systems must provide their customers a “consumer confidence report” annually, which includes what contaminants were found in their water and how these contaminants might affect their health.

More than 90% of people residing in Lancaster County drink water that is regulated by the Nebraska Department of Health and Human Services under the SDWA. This includes all the residents of Lincoln, Hickman, Waverly, and all villages. In addition, the SDWA applies to Lancaster County Rural Water District (RWD) No. 1, Cass County RWD No. 2 and other “community” systems that serve larger numbers of people.

The City of Lincoln Water System provides drinking water to all residents of the city. The Lincoln Water System has maintained compliance with all SDWA requirements for many years. Lincoln’s water source is groundwater that is naturally high in quality. It comes from wells along the Platte River near Ashland. Approximately one-half of the supply is groundwater and approximately one-half is groundwater under the direct influence of surface water. In 2020, more than 12.5 billion gallons of water were pumped from these wells to serve the 292,000 people who used an average of about 34.2 million gallons of water each day.

However, there have been several SDWA violations in other community systems in Lancaster County, ranging from inadequate sampling to microbial contamination requiring boil orders. There has not been a confirmed outbreak of illness associated with a community water supply in Lancaster County for over 20 years.

Lincoln Water System 2020 Annual Drinking Water Quality Report can be found here:

<https://www.lincoln.ne.gov/City/Departments/LTU/Utilities/LWS/Water-Quality-Report>

Lincoln’s drinking water does not contain detectable levels of lead and copper in its source water or after treatment. However, the presence of lead and copper used in plumbing systems can introduce detectable levels of these contaminants into the drinking water at individual homes or businesses. Water testing conducted by Lincoln Water System has found detectable levels of lead and copper in homes built before 1988. These homes are more likely to have pipes, fixtures, and solder that contain lead. In Nebraska, plumbing materials containing high concentrations of lead were banned in 1987. Homes built before 1950 may have a portion of the water service line constructed using lead pipes, and these homes may have higher levels of lead in their drinking water.

Safe drinking water properties vary across the country depending on the water source. Lincoln’s drinking water chemistry does not promote excessive lead and copper leaching from plumbing systems. As a result, Lincoln Water System remains in compliance with USEPA requirements for lead and copper.

In January 2021, the U.S. Environmental Protection Agency (EPA) published a revised Lead and Copper Rule that public water systems must comply with starting in 2024. The rule will help water systems better identify high levels of lead, expand consumer awareness, and improve risk communication. The revised rule also includes lead testing in schools and childcare facilities, requires water systems to identify the locations of lead service lines, and establishes a new trigger level that may require systems to perform lead service line replacements. Because lead service lines found in older homes and buildings can contribute significant amounts of lead to water, the revised rule re-focuses on sampling water from these locations.

## Lincoln Water System Test Results

## Test Results (2020 data unless otherwise noted)

## Regulated Contaminants Detected

Tested and Detected	Units	Regulatory Limit (MCL)	Goal (MCLG)	Ashland Plants	Lincoln (a)	Violation Yes/No	Likely Source (in U.S. drinking water systems)
<b>Inorganic Contaminants</b>							
Arsenic - Ashland	ppb	10	N/A	6.13-6.35	N/A	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production
Atrazine	ppb	3	3	ND-0.085	N/A	No	Runoff from herbicide used on row crops
Barium - Ashland (07/19)	ppb	2000	2000	110-112	N/A	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper (a) - Lincoln 90th percentile (06/19)	ppm	1.3 (AL)	1.3	N/A	0.006-1.56 0.724	No	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives
Fluoride	ppm	4	4	0.913-0.969 (07/19)	0.89-0.97 (b)	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead (a) - Lincoln 90th percentile (06/19)	ppb	15 (AL)	0	N/A	ND-13.7 3.12	No	Corrosion of household plumbing; erosion of natural deposits
Nitrate+Nitrite - Ashland	ppm	10	10	0.59-0.78	N/A	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Radioactive Contaminants</b>							
Gross Alpha (including Radon & U)	pCi/L	15	0	14.7	N/A	No	Erosion of natural deposits
<b>Disinfection - Byproducts</b>							
Trihalomethanes - Lincoln max RAA (e)	ppb	80	N/A	32.4 (05/19)	29.2-49.9 37.2	No	Byproduct of drinking water chlorination
Total Haloacetic Acid Lincoln max RAA (e)	ppb	60	N/A	N/A	13.7-35.2 21.4	No	Byproduct of drinking water chlorination
Bromate (d)	ppb	10	0	ND - 1.1	N/A	No	Byproduct of drinking water ozonation
<b>Clarity</b>							
Turbidity (c)	NTU	0.3	N/A	0.02-0.12	N/A	No	Soil runoff
<b>Disinfectant</b>							
Chloramine (as Cl2) Lincoln max RAA	ppm	4 (MRDL)	4 (MRDLG)	N/A	ND-3.4 2.0	No	Water additive to control microbes

Microbiological	Total Coliform Maximum Contaminant Level	Goal (MCLG)	Highest Monthly Positive Coliform Samples	Total Positive E. Coli or Fecal Coliform Samples in 2020	Violation	Fecal Coliform or E. Coli Maximum Contaminant Level	Likely Source of Contamination
Coliform Bacteria	5% of monthly samples are positive	0	1 (0.66%)	0	No	Fecal Coliform or E. Coli MCL; A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. Coli positive.	Total Coliform bacteria are naturally present in the environment. Fecal coliform and E. Coli are present in human and animal fecal waste.

For those persons relying on private wells for their drinking water, contamination with bacteria and nitrates are the primary concerns. Local inspections of private wells have found some wells with contamination from E. coli bacteria or nitrate levels above the EPA MCL for public water supplies. Over the past decade, several local investigations of gastrointestinal illnesses in families have been associated with private wells that were found to be contaminated with *E. coli* bacteria. In addition, private wells are not fluoridated, thus increasing the risk for dental caries for young children.

## Food Safety

Key factors in the food system, including an increasingly diverse industry, importing 60% of our produce and 80% of our seafood, newly emerging pathogens, and an increasing reliance on food prepared by others for our meals, place every person at risk of foodborne illness. As with many environmental risks,

young children, pregnant women, and our growing population of older adults are more susceptible to foodborne illness than the general population. CDC estimates that each year roughly 48 million people (1 in 6) gets sick from a foodborne illness, 128,000 are hospitalized, and 3,000 die. According to CDC estimates, the most common foodborne illnesses are caused by Norovirus, *Salmonella*, *Clostridium perfringens*, *Campylobacter*, and *Staphylococcus aureus*. The USDA estimates that foodborne illness costs around \$15 billion each year. (<http://www.ers.usda.gov/media/1204383/eib-118-summary.pdf>) Thus, foodborne illness poses a significant burden of illness and costs to our country and to Lincoln and Lancaster County. Applying CDC estimates to our community, each year approximately 50,000 people contract foodborne illness, 120 are hospitalized and 3 die. This in turn, results in significant medical costs and loss of productivity (lost work and school days).

While more than 250 different foodborne diseases have been described, eight known pathogens account for most illnesses, hospitalizations, and deaths.

Table 1. Top five pathogens contributing to foodborne illnesses in the U.S.

Pathogen	Estimated number of illnesses	90% Credible Interval	%
<u>Norovirus</u>	5,461,731	3,227,078–8,309,480	58
<i>Salmonella</i> , nontyphoidal	1,027,561	644,786–1,679,667	11
<i>Clostridium perfringens</i>	965,958	192,316–2,483,309	10
<i>Campylobacter spp.</i>	845,024	337,031–1,611,083	9
<i>Staphylococcus aureus</i>	241,148	72,341–529,417	3
Subtotal			91

(Source: CDC <http://www.cdc.gov/foodsafety/facts.html>)

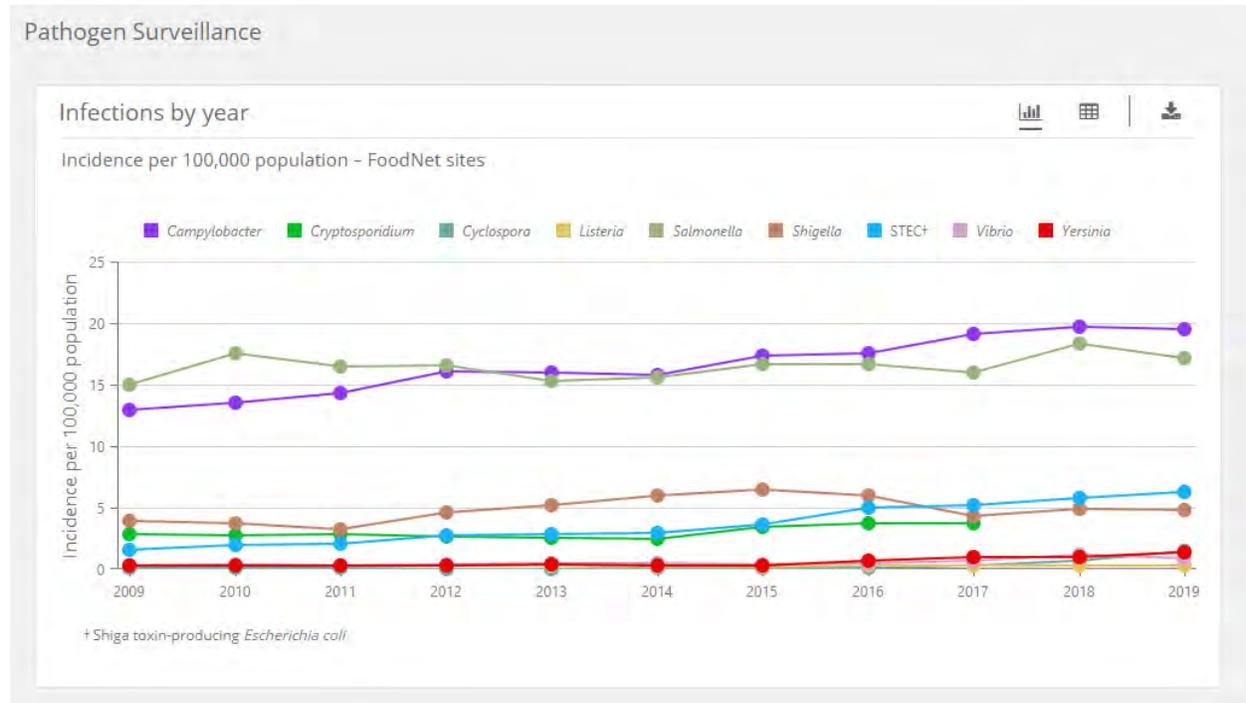
The top five pathogens associated with hospitalizations include: *Salmonella*, Norovirus, *Campylobacter*, Toxoplasma, and *E. coli* O157:H7. The top five pathogens causing death are: *Salmonella*, Toxoplasma, *Listeria*, Norovirus and *Campylobacter*. (Source: CDC <http://www.cdc.gov/foodsafety/facts.html>). In addition to microbes, food poisoning can be caused by harmful toxins or chemicals that have contaminated the food, such as botulinum toxin or even pesticides.

Tremendous effort has been made both nationally and locally to reduce this disease burden. The FDA Food Safety Modernization Act (FSMA) of 2011 was the most sweeping reform of food safety laws in more than 70 years. FSMA is transforming the nation's food safety system by shifting the focus from responding to foodborne illness to preventing it. FDA finalized seven major rules to implement FSMA, recognizing that ensuring the safety of the food supply is a shared responsibility among many different points in the global supply chain for both human and animal food. The FSMA rules are designed to make clear specific actions that must be taken at each of these points to prevent contamination. It aims to ensure the U.S. food supply is safe by shifting the focus from responding to contamination to preventing it. Key aspects of the FSMA include:

- comprehensive, prevention-based controls across the food supply.
- science-based standards for the safe production and harvesting of fruits and vegetables.
- risk-based inspection strategies.
- significant enhancements on imported food oversight.

- mandatory recall authority for all food products.
- strengthening existing collaboration among all food safety agencies – Federal, state, local, territorial, tribal, and foreign – to achieve our public health goals.

Despite these efforts, overall incidence of foodborne illness has not dropped significantly.



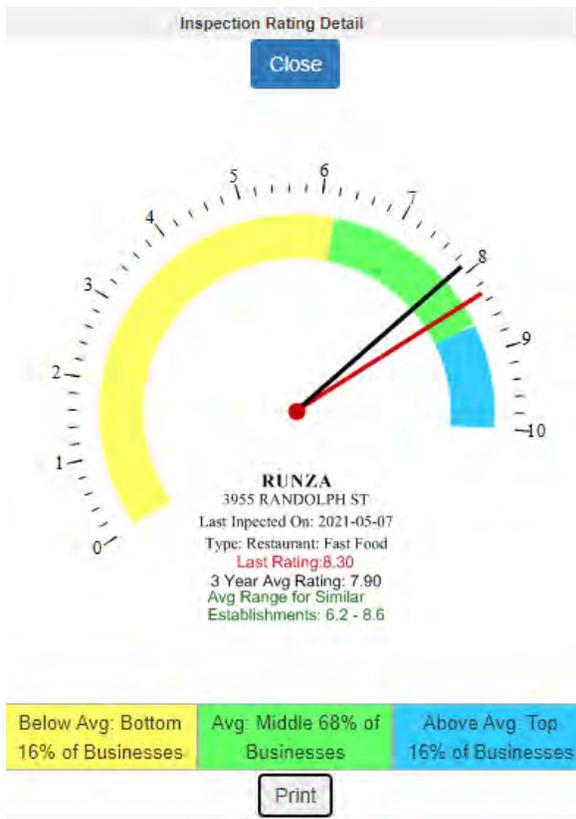
Source: <https://www.cdc.gov/foodnetfast/>

The ability to accurately measure the incidence of foodborne illnesses over time locally is hampered by the fact that most foodborne illnesses go unreported to health officials, human testing is typically not performed, and most foodborne illnesses are self-limiting, with symptoms subsiding in a few days. However, one to four outbreaks per year are identified through public reports of possible illnesses due to food. As with the CDC data, most local outbreaks are caused by norovirus. When outbreaks are identified, our multi-faceted Epi Team quickly investigates and implements control measures to stop further spread of disease. LLCHD collaborates with State and Federal officials in multi-jurisdictional outbreaks. Employing new technology, such as Polymerase Chain Reaction (PCR) testing for microbes, and electronic surveys of affected individuals, has sped up investigations, led to rapid identification of the causes of outbreaks, and reduced secondary transmission of illnesses.

#### Local Food Safety Program

To meet the goal of protecting human health by reducing the risk of foodborne illness, the Food Safety Program issues permits, conducts inspections, educates food handlers works with the Food Advisory Committee, and takes enforcement actions when necessary. In FY20, the Food Safety Program permitted 1,167 food establishments in Lancaster County, including restaurants, grocery stores, temporary booths, events, and farmers' markets.

Inspection intervals are risk based and range from one to three times per year. Staff performed 1,879 total inspections. About 12% of inspections (224) resulted in Notices of Violation being issued, with the

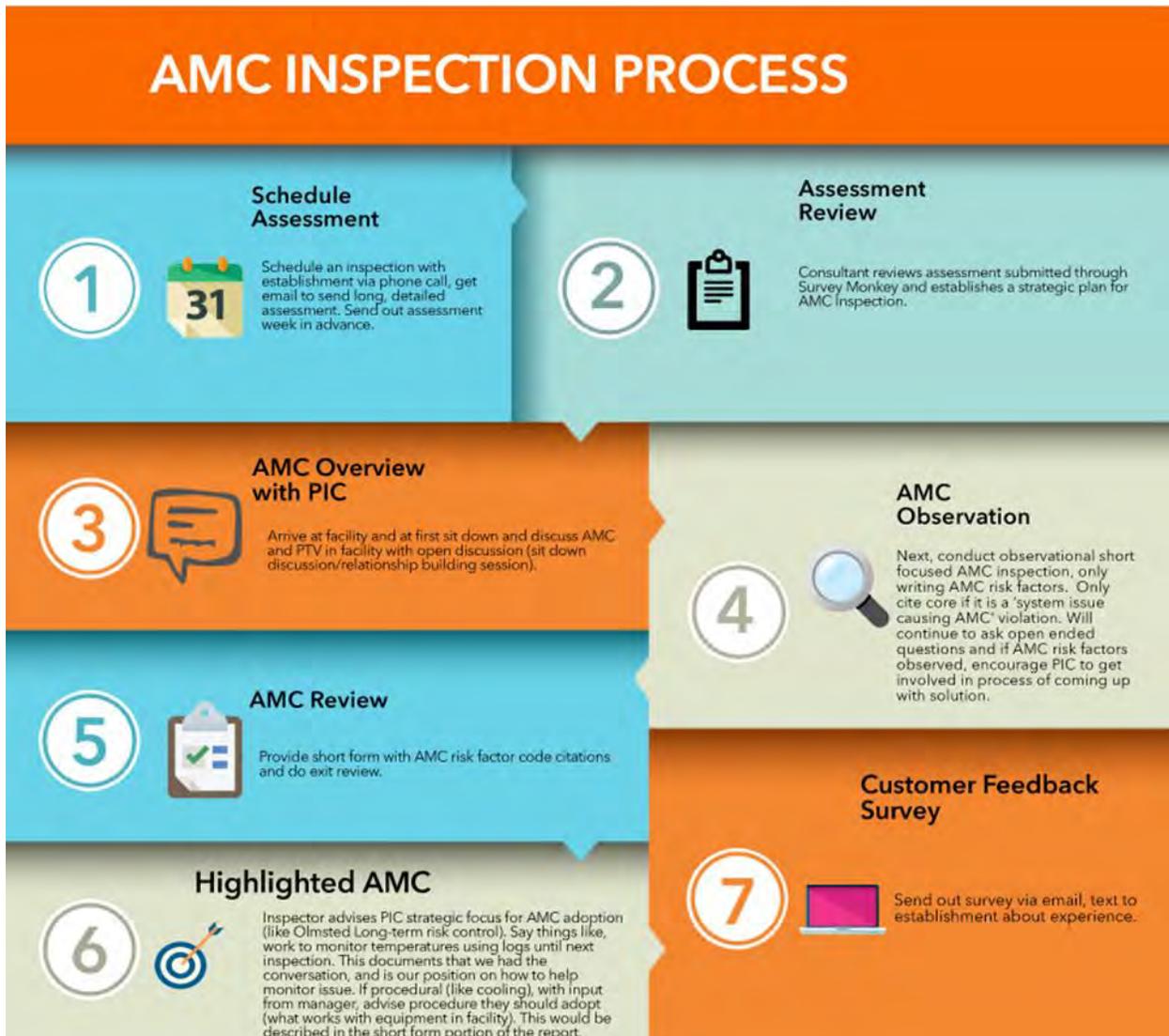


majority for lack of compliance with Food Handler Permits. Stronger enforcement action, the Food Enforcement Notice (FEN) is taken when violations pose an imminent risk to the public’s health. About 2.4% of inspections (45) resulted in a FEN, which were issued for serious or repeat higher risk food code violations.

The inspection findings for all food establishments are available to the public on the Internet. A dial provides the most recent rating and the three-year average. The LLCHD Food Safety hybrid consultation-enforcement process focuses on the establishments that have a 3-year average rating that falls in the ‘Below Average’ category. An establishment that is in this category clearly demonstrates an ongoing inability or unwillingness to change behaviors to meet regulatory requirements. When an establishment is in the ‘Below Average’ category and has Active Managerial Control (AMC) related priority violations associated with the 5 Key Risk Factors for

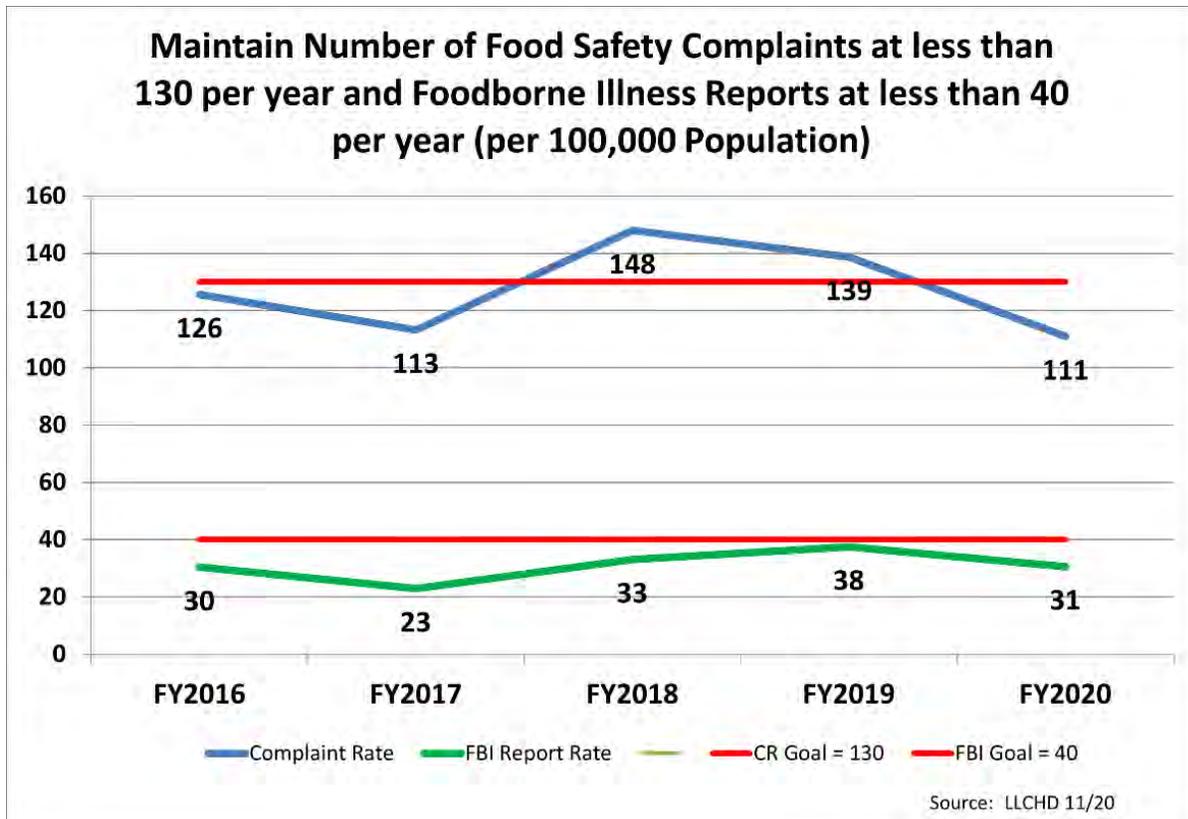
Foodborne Illness, they are required to participate in the hybrid consultation-enforcement process.

A modified inspection approach is being piloted to build upon the increased focus on AMCs in facilities through a consultation process provided by each inspector. This pilot approach uses the same Nebraska Food Code but focuses on practices and procedures that are the greatest risk for causing foodborne illness, combined with a focus on consultation



**Food Handler and Food Manager Permits**

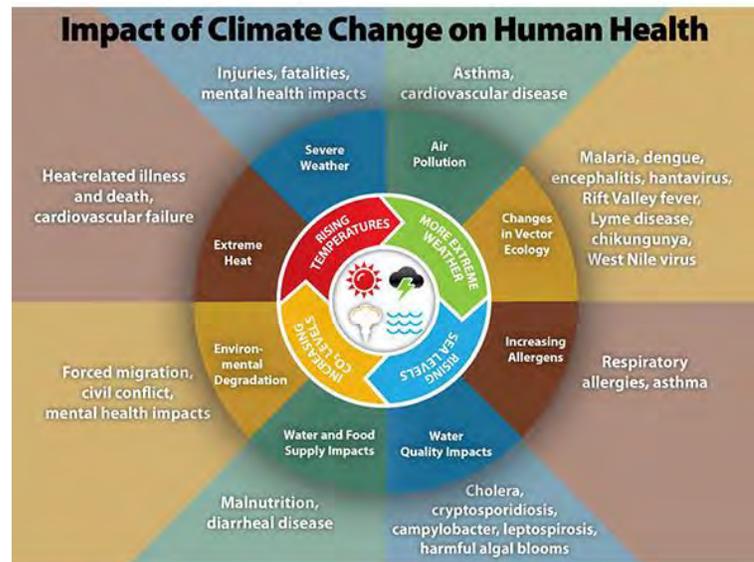
All food establishment employees must have food handler permits and each establishment must have a Food Manager in charge of the operation. Training food managers and food handlers in safe food handling practices, hygiene, and sanitization is critical to preventing foodborne illnesses in our community. 13,399 Food Handler and Food Manager Permits were issued in FY2020. Food Managers received continuing education through our Food Manager classes taught by LLCHD staff. Food handler training and permits are available only on-line through an interactive training program developed with University of Nebraska-Lincoln. In-person Spanish language classes are also offered.



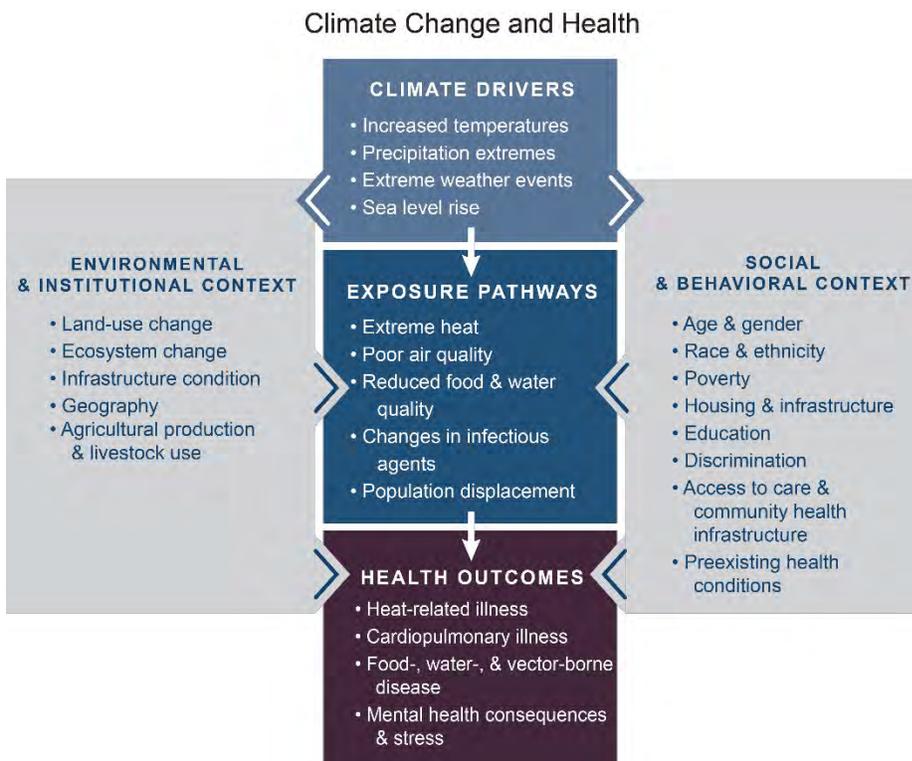
LLCHD’s Food Safety Program’s primary goal is to prevent foodborne illness. Communication and collaboration with the food industry and consumers greatly enhances food safety for our community. The regulatory foundation is the FDA Food Code. The structural framework for quality assurance is FDA’s Retail Program Standards. LLCHD is the only jurisdiction in Nebraska requiring food handler training and food manager certification. LLCHD’s Food Safety Team conducts inspections using HACCP principles, focusing on risk factors known to be most associated with foodborne illness. Consultative assistance is offered to assist food establishments in adopting Active Managerial Controls focused on preventing violations known to pose highest risk of foodborne illness. When enforcement is needed, LLCHD uses a progressive approach, issuing enforcement notices in the field, and taking administrative action as necessary to achieve compliance. These efforts are usually successful in preventing foodborne illness outbreaks.

### Climate Change and Health

The health and well-being of the residents of Lincoln and Lancaster County are already affected by climate change, with the adverse health consequences projected to worsen with additional climate change. Climate change affects human health by altering exposures to heat waves, floods, droughts, and other extreme events; vector-, food- and waterborne infectious diseases; changes in the quality and safety of air, food, and water; and stresses to mental health and well-being. The health effects of these exposures include increased respiratory and cardiovascular disease, injuries and premature deaths related to extreme weather events, changes in the prevalence of infectious diseases, and threats to mental health.



Not everyone is equally at risk. Climate change disproportionately impacts residents living in areas with high Social Vulnerability Indexes and who have health disparities. By understanding the connection



between demographics, accessibility and affordability of housing, food security, mobility, employment, health status, and healthcare, Lincoln and Lancaster County can develop adaptations for climate-related risks faced by its most vulnerable people, helping achieve the goal of health equity.

The Lincoln Climate Action Plan (2021) identified climate hazards that pose significant health risks

to residents, including:

- **Extreme Heat** - In 2050, Lincoln is projected to have 44 days with a heat index over 100°F (a 340% increase) and an average temperature 5 F warmer than in 1990.

- **Extreme Storms – Flooding** - By 2050, Lincoln is expected to see a 15 to 30% increase in heavy precipitation events.
- **Poor Air Quality** - Degradation of air quality (increased PM2.5 levels) caused by climate change will compound the health hazards posed by drought, extreme heat, and warmer temperatures. (Source: climatetoolbox.org and Lincoln-Lancaster County Health Department (LLCHD))

Lincoln has several current planning initiatives related to climate and health. The **Lincoln Climate Action Plan** (LCAP) was the culmination of a three-year community stakeholder process led by the Mayor’s Office. LCAP was approved by the City Council on March 22, 2021. LCAP includes this goal **“Assess health equity impacts of climate change in Lincoln. Utilize Center for Disease Control and Prevention’s Building Resilience Against Climate Effects model to develop strategies to reduce impacts on human health.”** LCAP addresses health equity, vulnerable groups, extreme heat and weather, floods, drought, and food security to increase local resilience and reduce health risks from climate change. **PlanForward 2050** – The Lincoln-Lancaster County Planning Department will complete the update of 30-year Comprehensive Plan 2021. This community-based planning process establishes priorities and strategies for growth and land use and incorporates the LCAP. LLCHD is actively involved in this process, ensuring health impacts are addressed. **Salt Creek Floodplain Resiliency Study 2020.** Lincoln and the Lower Platte South Natural Resources District (LPSNRD) conducted a comprehensive study of Salt Creek, the primary stream bisecting Lincoln. Best management practices, climate change impacts, and ways to increase floodplain resiliency and reduce flooding impacts were assessed and analyzed. A diverse stakeholder group reviewed the study’s conclusions and recommended actions. These community planning processes will inform the **Community Health Assessment (CHA) and Improvement Plan (CHIP).**

Given these initiatives, LLCHD was well-positioned to apply the U.S. Centers For Disease Control and Prevention Building Resilience Against Climate Effects (BRACE) framework to further enhance local efforts protect human health from climate change by developing, implementing, and evaluating adaptation strategies.

Lincoln Mayor Leirion Gaylor Baird has made Climate Change a top priority. In February of 2021, she

*“While it has not arrived as a distinct event like the pandemic, our planet’s accelerated rate of climate change also poses a global threat and one of the greatest challenges humanity has ever faced. We know now that flooding, drought, extreme heat, and public health problems are some of the most significant climate-related risks Lincoln faces...”* Lincoln Mayor Leirion Gaylor Baird, March 2021

released two documents: Lincoln’s Vision for a Climate Smart Future (a comprehensive analysis of future climate changes, projected impacts, vulnerabilities, and risks) and the Lincoln Climate Action Plan (LCAP), which has 118 Key Initiatives, many of which are adaptation strategies addressing climate and health. These were developed over three years of stakeholder engagement involving over 200 people representing diverse constituencies, including racial and ethnic minorities and vulnerable populations. LLCHD participated in the entire process.

Broad community support for the LCAP was demonstrated by City Council approval on March 22, 2021. Following that, Mayor Gaylor Baird appointed an eight-member Climate Action Team led by the Mayor’s Senior Policy Advisor and Managers

from six city departments: Information Systems, Law, LLCHD, Parks & Recreation, Planning, Transportation & Utilities, Urban Development. The Team is charged with championing LCAP initiatives.

Cross-jurisdictional collaboration needs to occur to integrate climate and health into the Lincoln/Lancaster County Local Emergency Operations Plan (LEOP) All-Hazards Preparedness Plan (2017), the local Hazard Mitigation Plan (HMP), and LEOPs in Nebraska. The current LEOP does not address extreme heat.

### *Stakeholder Relationships*

To better protect the health of vulnerable populations, key stakeholders and representatives of disproportionately impacted populations will need to participate in planning and developing effective adaptation actions, communications, and evaluation. One of the most important stakeholders will be the Cultural Centers of Lincoln (CCL), which includes the Asian Community and Cultural Center, El Centro De Las Americas, Good Neighbor Community Center, Indian Center, Malone Center, and Ponca Tribe of Nebraska. Each center represents a distinct constituency, but share many characteristics, values, and goals. CCL serves as a model of multicultural collaboration, encouraging dialogue to increase understanding of health, behavioral health, social, economic, and educational needs. The COVID-19 pandemic strengthened relationships and trust between CCL, their constituencies, and LLCHD. CCL has been an extremely valuable partner in outreach and education on preventing COVID-19 and supporting vaccination clinics held at cultural centers, churches, and points of service in target areas.



### *Data Needs: Create a Climate Impact Compendium*

LLCHD will create a digitally based Climate Impact Compendium. CalBRACE's

Adaptation Toolkit will be used as a framework for building data sets for the Climate Impact Compendium and choosing indicators on environmental exposures, population sensitivity, and adaptive capacity. CDC's Climate & Health Program and EPH Tracking will be looked to for guidance. The Compendium will include the following (data source partners are in parenthesis): **1) Local climate forecasting/projections** (HPRCC, NOAA); **2) Current and potential climate-related health impacts**, including health disparities (CDC's *Projecting Climate Related Disease Burden*, CDC's EPH Tracking, CDC's Climate & Health Program, CalBRACE tools, NDHHS); **3) Affected systems and social determinants of health** conferring health disparities (US Census, CDC Social Vulnerability Index, Climate and Health Work Group, LLCHD Community Health Assessment, Lincoln Public Schools); and, **4) Adaptive capacity** as they relate to climate hazards of interest for stakeholders (CDC, CalBRACE, CCI, CHWG, Aging Partners, child care providers.)

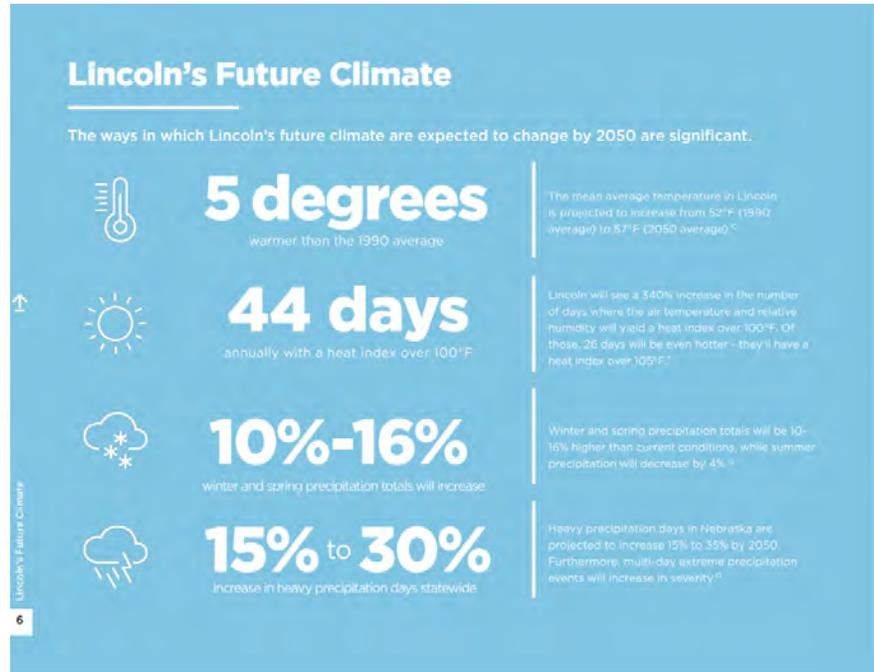
*Specific Climate-Related Threats to Health to be Addressed*

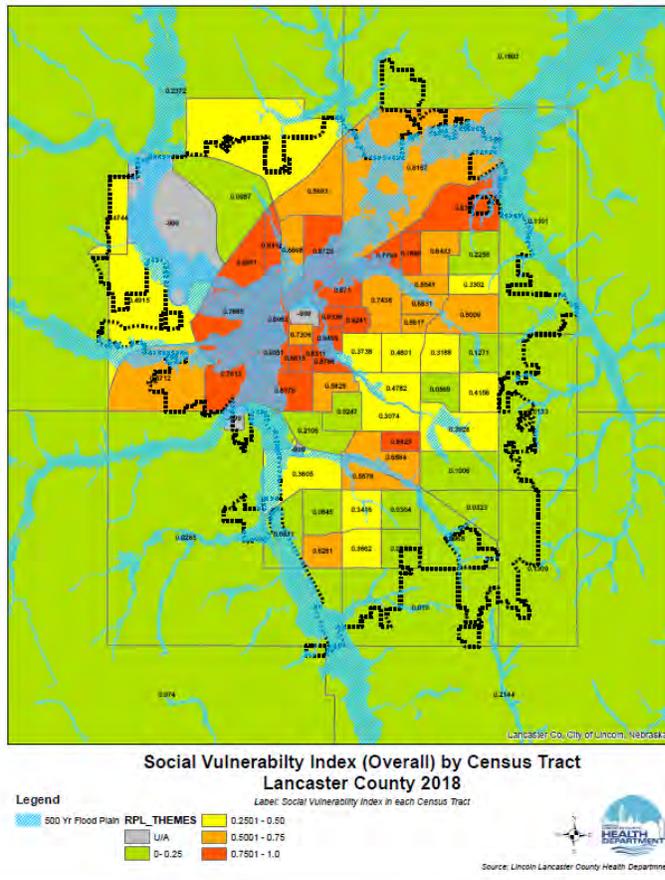
Lincoln’s Vision for a Climate Smart Future included an analysis of climate impacts and socio-economic characteristics. Stakeholders developed and prioritized 11 specific climate-related risks. Public Health Risks ranked #4 and included extreme heat, extreme storms, floods, and air pollution. Disproportionate Impacts on Vulnerable Populations ranked #5. Top issues locally include extreme heat, flooding, and air pollution, and achieving health equity.

*Health effects from exposure to excessive heat/heat events*

Lancaster County was ranked high for increasing numbers of heat wave days between 1979-2016 and averages over 70 days above 90 F (CDC Climate & Health Program). In the year 2050, Lincoln is projected to have 44 days with a heat index over 100°F (340% increase) and have a mean average temperature 5 F warmer than in 1990 (LCAP).

Hospital discharge data on heat-related illness and death will be analyzed and serve as a baseline. Ideally real-time analysis of hospital emergency room visits would be available for heat related illness. Additional locally specific data on population exposure and vulnerability will be incorporated into the compendium.





*Health effects from extreme storms and events, specifically flooding*

Lincoln was built at the confluence of multiple streams, thus flooding events are common. Since 1900, the largest stream Salt Creek, which bisects Lincoln, flooded 100 times - 17 were major floods. More than 75,000 people (23%) in Lancaster County live in a floodplain. If the levees along Salt Creek were breached, it would cause dangerous flooding in nearby neighborhoods, most of which rank high on CDC’s SVI.

Flooding can cause injuries and death, expose people to contaminated water, cause sewage backups, contaminate wells, and expose people to moist conditions and mold in homes. Major flooding events damage housing, schools and businesses, cause displacement and impacts behavioral health.

*Health Effects from Fine Particulate Air Pollution (PM2.5)*

When nearly 7 inches of rain fell in Lincoln over a 24-hour period May 6-7, 2015, the city saw severe flash flooding, leading to evacuations in parts of the city. Salt Creek rose rapidly.... Lincoln Journal Star March 25, 2019

Climate change will degrade air quality and will compound health hazards posed by drought and extreme heat. LLCHD’s Air Quality Program monitors PM2.5, known to cause cardiovascular disease and exacerbate respiratory disease in children and older adults. Fifteen

percent of Lincoln’s population suffers from asthma (LLCHD Behavioral Risk Factor Survey, 2018), almost double the national average of 7.8% (CDC). Pregnant women, young children, older adults, people with underlying health conditions, and communities with high SVI are more at risk from health impacts of poor air quality.

Air quality health advisory issued because of smoke – Lincoln JournalStar - April 18, 2014



Each spring, an average of over two million acres of grassland and trees are intentionally burned in the Flint Hills of Kansas resulting in high levels of PM2.5 in Nebraska. Prescribed burning is being promoted in Nebraska to control invasive eastern red cedar. This will lead to exposure to high levels of PM2.5. A thorough analysis of air quality data and health impacts needs to be conducted.

### Lead Poisoning Prevention

Protecting children from exposure to lead is important to lifelong good health. No safe blood lead level in children has been identified. Even low levels of lead in blood have been shown to affect learning, ability to pay attention, and academic achievement. While some of the effects of lead poisoning may be permanent, if caught early there are actions that can be taken to prevent further exposure and reduce the impact on health.

The most important step that parents and caregivers, healthcare providers, and public health professionals can take is to prevent lead exposure before it occurs. CDC supports primary and secondary lead poisoning prevention.

- **Primary prevention** is the removal of lead hazards from the environment, especially the home, before a child is lead exposed. It is the most effective way to ensure that children do not experience harmful long-term effects of lead exposure.
- **Secondary prevention** includes blood lead testing and follow-up care and referral. It remains an essential safety net for children who may already be exposed to lead.

#### *Preventing Lead Poisoning in Children*

A blood test is the easiest way to determine if your child has been exposed to lead. The amount of lead in blood is referred to as a blood lead level, which is measured in micrograms of lead per deciliter of blood ( $\mu\text{g}/\text{dL}$ ). Most children with lead in their blood have no obvious symptoms.

Preventing childhood lead exposure is cost-effective. According to an analysis from the 2017 PEW Charitable Trusts and Robert Wood Johnson Foundation Health Impact Project eliminating lead hazards from the places where children live, learn, and play could generate approximately \$84 billion in long-term benefits per birth cohort. Additionally, permanently removing lead hazards from the environment would benefit future birth cohorts, and savings would continue to grow over time.<sup>18</sup>

#### *Sources of Lead Exposure*

Lead can be found throughout a child's environment.

- Homes built before 1978 (when lead-based paints were banned) may contain lead-based paint. When the paint peels and cracks, it makes lead dust. Children can be poisoned when they swallow or breathe in lead dust.
- Certain water pipes may contain lead.
- Lead can be found in some products such as toys and jewelry.
- Lead is sometimes in candies imported from other countries or traditional home remedies.
- Certain jobs and hobbies involve working with lead-based products, like stain glass work, and may cause parents to bring lead into the home.
- Children who live near airports may be exposed to lead in air and soil from aviation gas.

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<sup>18</sup> <https://www.pewtrusts.org/en/projects/health-impact-project/health-impact-assessment>

### Lead in Paint

Lead-based paint and lead-contaminated dust are the most widespread and hazardous sources of lead exposure for young children in the United States.

Lead-based paints were banned for residential use in 1978. Homes built in the U.S. before 1978 are likely to have some lead-based paint. When the paint peels and cracks, it makes lead paint chips and dust. Any surface covered with lead-based paint where the paint may wear by rubbing or friction is likely to cause lead dust including windows, doors, floors, porches, stairways, and cabinets.

Children can be poisoned if they chew on surfaces coated with lead-based paint, such as windowsills and door edges. They can also be poisoned if they eat flaking paint chips or eat or breathe in lead dust.

Approximately 29 million housing units in the U.S. have significant lead-based paint hazards including deteriorated paint and lead-contaminated house dust. About 2.6 million of these are home to young children.<sup>19</sup>

### Populations at Higher Risk

Across the United States, there are a variety of childhood lead exposure sources and risk factors.

Children from low-income households and those who live in housing built before 1978 are at the greatest risk of lead exposure. Houses built before 1978, the time before the use of lead in paint was banned, and houses in low-income areas, many of which have homes built before 1978, are more likely to contain lead-based paint and have pipes, faucets, and plumbing fixtures containing lead. Also, some African American persons are at a higher risk of lead exposure due to poor housing stock.

Children less than six years old are at a higher risk of lead exposure. This is because their bodies are rapidly developing and more susceptible to taking in lead if exposed. Young children also tend to put their hands or other objects into their mouths. Therefore, the most common source of lead exposure in young children is lead dust that they swallow after placing their lead-contaminated hands or other objects in their mouths.

Immigrant and refugee children from less developed countries are at higher risk of being exposed to lead due to less strict rules protecting children from lead exposure, in their country of origin. Because of this, children who are immigrants, refugees, or recently adopted from less developed countries are also at risk for lead exposure.

Pregnant women should know the risk of lead exposure because lead can pass to their baby during pregnancy. Breastfeeding can also be a source of lead exposure to babies. Adults who are or have been exposed to lead can also pass lead to their babies when breastfeeding. Formula prepared using water contaminated with lead from leaded pipes and plumbing parts can also result in a baby being exposed to lead.

Some adults work in industries or have hobbies that expose them to lead. These adults may bring lead home with them and expose their families to lead without knowing. For example, a parent who works in battery manufacturing or renovation of older homes could bring home lead dust on their clothes, shoes, skin, hair, and hands. This dust can be tracked onto carpets, floors, furniture, and other surfaces that a

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<sup>19</sup> <https://www.cdc.gov/nceh/lead/prevention/sources/paint.htm>

child may touch. Adults who are exposed to lead in their workplace or from hobbies should take steps to keep them and their families safe from lead.

#### *Blood Lead Levels in Children*

CDC recommends testing blood for lead exposure. There are often no apparent symptoms when a child is exposed to lead. Because of this, a blood test is the easiest way to determine if a child has been exposed to lead.

During a blood lead test, a small amount of blood is taken from the finger, heel, or arm and tested for lead. Two Types of blood tests may be used.

- A finger-prick or heel-prick (capillary) test is usually the first step to determine if a child has lead in their blood. While finger-prick tests can provide fast results, they also can produce higher results if lead on the skin is captured in the sample. For this reason, a finger-prick test that shows a blood lead level at or above the CDC's blood lead reference value is usually followed by a second test to confirm.
- A venous blood draw takes blood from the child's vein. This type of test can take a few days to receive results and is often used to confirm blood lead levels seen in the first capillary test.

#### *Treating Children with Elevated Blood Lead Levels*

If a child has lead in their blood above the CDC blood lead reference value, their doctor may recommend follow-up services. These include finding and removing lead from the child's environment, feeding the child a diet high in iron and calcium, connecting the child to early educational services, and scheduling follow-up blood testing. Early identification of lead in the blood is key to reducing the long-term effects of lead exposure. Blood lead levels are reported to the Nebraska Department of Health and Human Services and LLCHD. LLCHD offers case management and environmental assessment.

If a child has very high levels of lead in their blood, health care providers may recommend other types of testing and treatment to remove some of the lead from the blood. This may include getting an x-ray to determine if they have high levels of lead in their blood. If a child does have high levels of lead in their blood, they may receive chelation therapy, which is a medical treatment used to remove lead from the body.

#### *Blood Lead Reference Value (BLRV)*

The amount of lead in blood is referred to as the blood lead level, which is measured in micrograms of lead per deciliter of blood ( $\mu\text{g}/\text{dL}$ ). In 2021, CDC updated their blood lead reference value from 5  $\mu\text{g}/\text{dL}$  to 3.5  $\mu\text{g}/\text{dL}$  to identify children with blood lead levels that are higher than most children's levels. This level is based on the on the 97.5th percentile of the blood lead values among U.S. of children ages 1-5 years from the 2015-2016 and 2017-2018 National Health and Nutrition Examination Survey (NHANES) cycles. Children with blood lead levels at or above the BLRV are among the top 2.5% of U.S. children with the highest blood lead levels.

#### *Health Effects of Lead Exposure*

Lead exposure occurs when a child comes in contact with lead by touching, swallowing, or breathing in lead or lead dust. Exposure to lead can seriously harm a child's health and cause well-documented adverse effects such as:

- Damage to the brain and nervous system
- Slowed growth and development
- Learning and behavior problems
- Hearing and speech problems

This can cause:

- Lower IQ
- Decreased ability to pay attention
- Underperformance in school

There is also evidence that childhood exposure to lead can cause long-term harm. The health effects of exposure are more harmful to children less than six years of age because their bodies are still developing and growing rapidly. Young children also tend to put their hands or other objects, which may be contaminated with lead dust, into their mouths, so they are more likely to be exposed to lead than older children.

#### *Lead in the Blood and Body*

Lead quickly enters the blood and can harm a child's health. Once a child swallows lead, their blood lead level rises. Once a child's exposure to lead stops, the amount of lead in the blood decreases gradually. The child's body releases some of the lead through urine, sweat, and feces. Lead is also stored in bones. It can take decades for lead stored in the bones to decrease.

Many things affect how a child's body handles exposure to lead, including the following:

- Child's age
- Nutritional status
- Source of lead exposure
- Length of time the child was exposed
- Presence of other underlying health conditions.

Although lead in blood represents only a portion of the total amount of lead present in the body, a blood lead test is the easiest way to assess a person's exposure to lead.

#### *Lead in Lincoln*

Since 2015, the Lincoln-Lancaster County Health Department (LLCHD) has received a total of 1,093 laboratory results of an Elevated Blood Lead Level (EBLL) above 3.5 µg/dL reported in children six (6) years of age and younger. Of these EBLLs, 587 laboratory results were between 3.5 and 5 µg/dL and 506 laboratory results were 5 µg/dL or greater.

Much of the lead exposure is concentrated in the core of the city corresponding with the oldest home built in Lincoln. LLCHD identified fourteen (14) priority census tracts where 484 of the cases have been identified. These census tracts are the densest and most racially and ethnically diverse areas of Lincoln with the highest density of homes built before 1978. Lead based paints are common in these older homes and present a primary health risk for lead exposure.

### Interventions in Lincoln

LLCHD works in partnership with the City of Lincoln Urban Development Department on the HUD Lead Hazard Control Grant. This grant provides resources in targeted Census Tracts to mitigate the risk of lead from lead-based paint that is a primary source of lead exposure in young children.

These Census Tracts are in the core of the city and have a high percentage of pre-1979 housing, lower income populations, and a high number of children identified with elevated blood lead levels. Within these identified 15 tracts there are 21,772 housing units built before 1979. The median poverty rate of the area is approximately 19%, or 10% greater than the city average and 61.3% of the population is low-to moderate-income. The median race and ethnic minority rate of the area is approximately 32%, or 12% greater than the city average. Lastly, the median foreign-born population is approximately 17%, or 8% greater than the city average. (Source 2018 5-year ACS Data). The target area has 4,298 children under age six years and between 2015-2020, 443 children under age six years with a confirmed EBLL compared to 546 children with confirmed EBLL outside the target area.

In June of 2022, Mayor Leirion Gaylor Baird launched “Lead Safe Lincoln”, a multi-faceted approach to reducing lead exposures in young children. A key aspect of Lead Safe Lincoln in the City’s HUD Grant funded Lead Hazard Control Program, which has the following goals:

1. Protect children under six years of age from lead poisoning by providing assistance for lead-based paint hazard control to eligible households in conjunction with increasing health screening and public education.
2. Increase the number of lead-safe and healthy housing units resulting in preservation of Lincoln’s affordable housing stock.
3. Promote training and employment for area residents to meet the need for contractors and to hire their employees.

The Lead Hazard Control Program is seeking to address an estimated 165 units to receive lead hazard control intervention. The interventions will be primarily interim controls with component replacement where most effective.

The Healthy Homes component will be led by LLCHD in collaboration with the City Urban Development Department (UDD) in homes where lead hazard control work is being conducted. LLCHD Environmental Health Specialists will work closely with families and property owners where children have been identified with EBLLs and address other residential hazards including mold clean up, insect infestation, smoke and carbon monoxide detector checks and installations, lead-containing fixture and/or private water service replacement and address other unsafe and unhealthy conditions within the home.

The LLCHD Community Health Services Division has a small grant from the Nebraska Department of Health and Human Services (NDHHS) to conduct case management and follow-up for children with EBLLs. The role of the Public Health Nurse (PHN) in the childhood lead prevention program includes monitoring BLLs within the National Electronic Disease Surveillance System (NEDSS), initiating investigations, and providing case management for children with EBLLs. LLCHD receives data on all children that test positive for lead. This will allow LLCHD to identify families for referrals to the Lead

Hazard Control Program. In addition to case management activities, the PHN also promotes public awareness and prevention of childhood lead poisoning in the community through education and outreach.

When a child is identified as having an EBL, the LLCHD Community Health Services staff contacts the parent or legal guardian by phone or letter to provide lead prevention education, recommendations for follow-up testing, and, if needed, community referrals. The PHN also contacts the child's health care provider to provide medical management, confirmation testing, and repeat venous testing recommendations. If a child's venous BLL is  $\geq 10 \mu\text{g}/\text{dL}$ , the PHN administers a lead exposure history interview, refers the case for environmental lead inspection by LLCHD Environmental Health Specialists, and attends the environmental lead inspection home visit to provide additional education and support. The child's follow-up testing for BLLs is monitored within NEDSS to ensure repeat testing is performed and to monitor if the BLLs are changing. Case management continues until the child's BLL falls below  $5 \mu\text{g}/\text{dL}$  or the child moves out of jurisdiction.

The LLCHD has also received a grant from the Nebraska Department of Environment and Energy (NDEE), in cooperation with the Nebraska Department of Health and Human Services (DHHS) to test drinking water in childcare centers and preschools for lead. This funding came from US EPA's Water Infrastructure Improvements for the Nation (WIIN) Act grant and will be used by DHHS to provide sample kits and laboratory analysis of drinking water samples from childcare centers and preschools. Guidance will be provided to owners and operators to address fixtures or plumbing issues that may be contributing to lead in the water.

The Lincoln Transportation and Utilities Department's Lincoln Water System (LTU/LWS) provides water to almost all residents living in the City of Lincoln. Lincoln's drinking water does not contain detectable levels of lead and copper in its source water or after treatment. However, the presence of lead and copper used in plumbing systems can introduce detectable levels of these contaminants into the drinking water at individual homes or businesses. Water testing conducted by Lincoln Water System has found detectable levels of lead and copper in homes built before 1988. These homes are more likely to have pipes, fixtures, and solder that contain lead. In Nebraska, plumbing materials containing high concentrations of lead were banned in 1987. Homes built before 1950 may have a portion of the water service line constructed using lead pipes, and these homes may have higher levels of lead in their drinking water.

Safe drinking water properties vary across the country depending on the water source. Lincoln's drinking water chemistry does not promote excessive lead and copper leaching from plumbing systems. As a result, Lincoln Water System remains in compliance with USEPA requirements for lead and copper.<sup>20</sup>

LTU/LWS has provided lead service line replacement for homes during street water main replacement projects. The EPA Drinking Water State Revolving Fund (DWSRF) has provided loans that directly supported lead pipe replacement projects in cities across the United States. LTU/LWS has proposed replacing lead line replacement through this and other funding sources.

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<sup>20</sup> <https://www.lincoln.ne.gov/City/Departments/LTU/Utilities/LWS/Water-Quality-Report>

## Health Disparities

In the sections above, some health disparities have been pointed out such as the vast difference in low birth weight (LBW) babies; where teen moms have more LBW babies than moms in their twenties and African American mothers have a higher percentage of LBW babies than moms of other races and ethnicities. Health disparities are often looked at as differences in health status between the white population and racial/ethnic minorities. However, race and ethnicity, gender, age, disability, social and economic status, and geographic location all contribute to an individual's ability to achieve good health. The following description comes from the CDC in discussing school health, but provides an overall context:

“Health disparities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations.<sup>1</sup> Populations can be defined by factors such as race or ethnicity, gender, education or income, disability, geographic location (e.g., rural, or urban), or sexual orientation.

Health disparities are inequitable and are directly related to the historical and current unequal distribution of social, political, economic, and environmental resources. Health disparities result from multiple factors, including

- Poverty
- Environmental threats
- Inadequate access to health care
- Individual and behavioral factors
- Educational inequalities

Overall statistics for the community often mask differences among persons of different gender, race/ethnicity, or age group. Differences are also present when we look at the data about persons with different education, family incomes and neighborhoods. While disparities are often discussed in terms of differences among race and ethnic groups, having enough data from minority populations, especially from surveys but also from disease registries, is a problem for interpretation and for making any generalizations. In the examples below, when data are presented by race/ ethnicity several years of data are used or data are combined into an aggregated category such as “minority” or “non-White” if sample size is a significant concern.

In this section we discuss some of the differences in morbidity, mortality and health behaviors that are apparent in the data we have available for subpopulations (e.g., by gender, by race/ethnicity) or groups of persons by income, education, or age group. Differences by census tract are also presented with maps to highlight distinct differences across the community. It is by no means an exhaustive list of differences, but instead highlights some of the disparities in the community.

## Gender Disparities

From examining BRFSS data, we're able to provide an overview of how different health behaviors and outcomes vary by gender. Below is a table showing the estimate and 95% confidence intervals for each of these selected metrics. If the 95% confidence intervals overlap, the difference is not considered statistically significant. For more information about these metrics and to view the estimates in more

detail potentially, please see the Nebraska Department Health and Human Services BRFS Atlas website.<sup>21</sup>

Measure	Female	Male
Binge drinking (past 30 days)	17.0% (15.5%-18.6%)	30.2% (28.3%-32.1%)
Limitations due to arthritis	44.0% (39.7%-48.5%)	33.5% (28.2%-39.2%)
Asthma (currently)	10.9% (9.7%-12.2%)	6.3% (5.4%-7.4%)
High blood pressure	23.9% (22.1%-25.9%)	28.8% (26.6%-31.0%)
High cholesterol	27.7% (25.1%-30.4%)	31.2% (28.2%-34.3%)
Cancer (all types – ever)	12.1% (11.0%-13.2%)	9.8% (8.8%-10.9%)
Cancer (skin – ever)	5.6% (4.9%-6.4%)	6.2% (5.4%-7.0%)
Up-to-date breast cancer screening (50-74 yrs.)	77.2% (73.9%-80.2%)	N/A
Up-to-date cervical cancer screening (21-65 yrs.)	79.5% (76.4%-82.2%)	N/A
Up-to-date colon cancer screening (50-75 yrs.)	72.8% (70.1%-75.3%)	70.2% (67.1%-73.1%)
Chronic obstructive pulmonary disease (ever)	5.6% (4.8%-6.5%)	4.3% (3.6%-5.0%)
Diabetes (ever)	7.8% (6.9%-8.8%)	7.8% (6.8%-8.8%)
Heart attack/coronary heart disease (ever)	3.3% (2.8%-4.0%)	5.7% (5.0%-6.6%)
Stroke (ever)	2.2% (1.8%-2.8%)	2.2% (1.7%-2.8%)
Kidney disease (ever)	3.0% (2.4%-3.8%)	1.9% (1.5%-2.4%)
Marijuana use (past 30 days)	3.5% (2.4%-5.2%)	11.1% (8.8%-13.9%)
Opioid misuse (past year)	3.4% (2.2%-5.1%)	3.5% (2.2%-5.6%)
General health fair or poor	12.6% (11.4%-14.0%)	10.3% (9.2%-11.6%)
No health care coverage (18-64 yrs.)	12.0% (10.5%-13.7%)	13.3% (11.8%-15.0%)
Flu vaccination (past year)	49.7% (47.7%-51.7%)	39.9% (37.9%-41.9%)
Texting while driving	26.3% (23.1%-29.6%)	34.3% (30.6%-38.1%)
Fall past year (45+ years)	25.9% (23.3%-28.6%)	23.6% (20.8%-26.7%)
Seat belt use	86.3% (84.8%-87.7%)	75.4% (73.5%-77.3%)
Depression (ever)	24.4% (22.7%-26.1%)	12.6% (11.3%-14.0%)
Teeth extracted due to decay or gum disease	30.5% (28.4%-32.8%)	32.0% (29.7%-34.5%)
Obese (BMI=30+)	30.1% (28.3%-32.0%)	29.3% (27.5%-31.1%)
Met aerobic/strength exercise recommendations	23.4% (21.2%-25.6%)	24.5% (22.2%-26.8%)
Less than 7 hours of sleep per day	30.7% (28.3%-33.1%)	32.4% (29.9%-35.0%)
Current cigarette smoking	13.3% (12.0%-14.7%)	16.3% (14.8%-18.0%)
Current e-cigarette use	5.4% (4.4%-6.6%)	7.6% (6.4%-9.1%)

Cancer mortality over the most recent five-year period for all cancer sites as well as ten selected cancer sites are shown below. The yearly frequencies and the age-adjusted mortality rate from the National Cancer Institute's State Cancer Profiles are annual average estimates reported by state cancer registry programs.<sup>22</sup> The most recent estimates shown are from 2015-2019. This table shows that cancer rates in Lancaster County are lower than cancer rates in Nebraska overall and that lung and bronchus cancers are the leading sites involving cancer mortality, followed by cancers of the prostate, breast (women), prostate (men), and colon and rectum.

Cancer Site	Frequency (Lancaster)	Rate per 100K (Lancaster)	Frequency (Nebraska)	Rate per 100K (Nebraska)
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<sup>21</sup> <https://dv-brfss-dhhs.ne.gov/rdPage.aspx>

<sup>22</sup> National Program of Cancer Registries and Surveillance, Epidemiology, and End Results SEER\*Stat Database (2001-2018) - United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Based on the 2020 submission.

<b>All Sites</b>	465	143.6	3,498	152.6
<b>Lung &amp; Bronchus</b>	106	32.9	831	36.2
<b>Female Breast</b>	33	19.2	244	19.8
<b>Colon &amp; Rectum</b>	39	12.0	332	14.5
<b>Male Prostate</b>	22	16.8	173	17.8
<b>Bladder</b>	2	4.7	95	4.0
<b>Non-Hodgkin Lymphoma</b>	5	4.3	122	5.4
<b>Leukemia</b>	22	6.9	156	6.8
<b>Kidney &amp; Renal Pelvis</b>	11	3.5	100	4.3
<b>Melanoma</b>	8	2.6	57	2.5
<b>Pediatric</b>	*	*	14	2.6

*\*Data has been suppressed due to low numbers to ensure confidentiality and stability of rates estimates.*

### Income Disparities

Income and poverty differences may be due to a host of influences (inheritance, education, disability, race, gender, old age, etc.) so looking at the differences by income is a key to understanding other relationships. The table below shows how income affects each metric. Typically, behaviors and outcomes are better for individuals with higher household incomes. For more information about these metrics and to view the estimates in more detail potentially, please see the Nebraska Department Health and Human Services BRFSS Atlas website.<sup>23</sup>

Measure	Under \$25K	\$25K-\$49K	\$50K-\$75K	\$75K+
<b>Binge drinking (past 30 days)</b>	18.6%	23.5%	23.3%	25.8%
<b>Limitations due to arthritis</b>	61.4%	49.7%	21.5%	26.8%
<b>Asthma (currently)</b>	12.5%	9.4%	9.0%	5.8%
<b>High blood pressure</b>	31.4%	30.2%	26.8%	22.9%
<b>High cholesterol</b>	33.5%	24.4%	25.7%	27.1%
<b>Cancer (all types – ever)</b>	10.1%	11.3%	11.8%	11.1%
<b>Cancer (skin – ever)</b>	4.3%	5.2%	6.7%	6.6%
<b>Up-to-date breast cancer screening (50-74 yrs.)</b>	62.0%	73.6%	80.7%	83.6%
<b>Up-to-date cervical cancer screening (21-65 yrs.)</b>	66.1%	80.4%	83.3%	89.0%
<b>Up-to-date colon cancer screening (50-75 yrs.)</b>	56.9%	66.8%	71.3%	79.3%
<b>Chronic obstructive pulmonary disease (ever)</b>	10.9%	6.7%	4.2%	1.9%
<b>Diabetes (ever)</b>	11.1%	11.4%	6.7%	5.5%
<b>Heart attack/coronary heart disease (ever)</b>	6.5%	5.3%	4.7%	3.1%
<b>Stroke (ever)</b>	5.1%	2.6%	1.2%	1.1%
<b>Kidney disease (ever)</b>	4.4%	2.7%	1.5%	2.1%
<b>Marijuana use (past 30 days)</b>	9.4%	7.8%	8.8%	5.9%
<b>Opioid misuse (past year)</b>	8.0%	4.5%	2.4%	1.0%
<b>General health fair or poor</b>	28.8%	13.1%	8.0%	4.6%
<b>No health care coverage (18-64 years)</b>	37.5%	14.7%	5.6%	2.6%
<b>Flu vaccination (past year)</b>	36.1%	40.2%	45.5%	50.6%
<b>Texting while driving</b>	18.5%	24.0%	33.4%	38.2%
<b>Fall past year (45+ years)</b>	36.8%	24.3%	25.6%	18.3%
<b>Seat belt use</b>	78.7%	77.7%	82.4%	83.6%
<b>Depression (ever)</b>	32.8%	19.9%	18.2%	11.8%

<sup>23</sup> <https://dv-brfss-dhhs.ne.gov/rdPage.aspx>

<b>Teeth extracted due to decay or gum disease</b>	49.6%	36.6%	30.1%	21.2%
<b>Obese (BMI=30+)</b>	36.4%	35.6%	31.0%	25.5%
<b>Met aerobic/strength exercise recommendations</b>	14.1%	21.6%	22.6%	30.2%
<b>Less than 7 hours of sleep per day</b>	43.8%	32.9%	28.5%	26.9%
<b>Current cigarette smoking</b>	28.9%	19.2%	13.7%	7.1%
<b>Current e-cigarette use</b>	9.2%	6.5%	5.3%	3.3%

As a footnote for this section, persons with higher levels of education earn higher incomes or at least have the potential to do so. As we discovered in the earlier sections of the assessment, minorities in general make less money and have higher rates of poverty than Non-Hispanic Whites.

### Racial and Ethnic Disparities

A major set of initiatives occurred in the last few years to promote equity among racial and ethnic populations throughout Lancaster County. These initiatives include the Minority Health Initiative and another effort to promote health literacy among racial and ethnic populations throughout Lancaster County. These efforts are summarized in the Appendix with a detailed description. Below in this Community Health Status Assessment the standard data sources are reviewed, but these important efforts including the Community Health Survey and focus groups (Community Conversations) in partnership with the Cultural Centers of Lincoln (CCLs) were critical assessments for helping determine priorities for interventions promoting racial & ethnic health equity throughout Lancaster County.

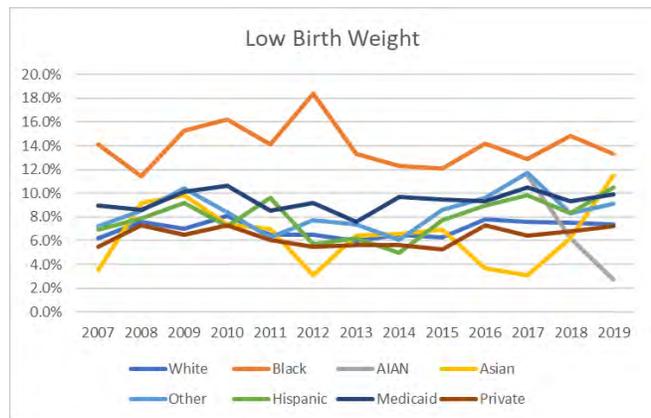
Any single year's BRFSS does not provide a large enough sample of persons from various racial or ethnic groups (there are fewer than 50 respondents to the BRFSS survey each year except for Hispanics) and we often don't have information on race and ethnicity from other sources such as hospital discharge data or insurance claims to say anything meaningful. In the charts that follow, BRFSS data are combined for 2015 to 2019 to increase the sample size and provide comparisons by race and ethnicity. Another way to look at the data is to aggregate all races and Hispanics into a category called "Minority," as shown in the table below.

Measure	Non-Hispanic White	Minority
<b>Binge drinking (past 30 days)</b>	24.7% (23.4%-26.1%)	17.0% (14.2%-20.3%)
<b>Limitations due to arthritis</b>	40.1% (33.8%-46.7%)	52.6% (35.3%-69.2%)
<b>Asthma (currently)</b>	8.5% (7.7%-9.4%)	10.3% (7.7%-13.5%)
<b>High blood pressure</b>	26.1% (24.7%-27.6%)	32.8% (27.9%-38.0%)
<b>High cholesterol</b>	26.7% (24.8%-28.7%)	25.8% (20.0%-32.6%)
<b>Cancer (all types – ever)</b>	11.5% (10.8%-12.4%)	8.0% (5.6%-11.3%)
<b>Cancer (skin – ever)</b>	6.4% (5.8%-7.0%)	1.7% (0.7%-3.8%)
<b>Up-to-date breast cancer screening</b>	78.2% (74.9%-81.1%)	64.8% (48.0%-78.5%)
<b>Up-to-date cervical cancer screening</b>	82.0% (79.1%-84.6%)	70.2% (60.3%-78.5%)
<b>Up-to-date colon cancer screening</b>	72.7% (70.7%-74.6%)	58.9% (49.7%-67.5%)
<b>Chronic obstructive pulmonary disease (ever)</b>	4.9% (4.4%-5.5%)	6.8% (4.6%-9.9%)
<b>Diabetes (ever)</b>	7.5% (6.8%-8.2%)	13.5% (10.6%-17.2%)
<b>Heart attack/coronary heart disease (ever)</b>	4.4% (3.9%-4.9%)	7.4% (5.1%-10.7%)
<b>Stroke (ever)</b>	2.0% (1.7%-2.5%)	4.4% (2.8%-6.9%)
<b>Kidney disease (ever)</b>	2.5% (2.1%-3.0%)	3.2% (1.7%-5.6%)
<b>Marijuana use (past 30 days)</b>	6.8% (5.4%-8.5%)	7.9% (4.9%-12.6%)
<b>Opioid misuse (past year)</b>	3.0% (2.1%-4.4%)	6.4% (3.4%-11.5%)
<b>General health fair or poor</b>	10.6% (9.7%-11.5%)	18.9% (15.5%-22.8%)
<b>No health care coverage</b>	9.2% (8.2%-10.3%)	27.6% (23.9%-31.6%)

<b>Flu vaccination (past year)</b>	46.2% (44.7%-47.7%)	38.2% (33.9%-42.7%)
<b>Texting while driving</b>	31.2% (28.6%-33.8%)	21.8% (15.4%-29.9%)
<b>Fall past year (45+ years)</b>	24.3% (22.3%-26.4%)	26.3% (18.7%-35.7%)
<b>Seat belt use</b>	81.2% (79.9%-82.4%)	83.0% (79.3%-86.2%)
<b>Depression (ever)</b>	19.1% (18.0%-20.4%)	15.7% (12.9%-18.9%)
<b>Teeth extracted due to decay or gum disease</b>	29.8% (28.2%-31.4%)	46.1% (40.7%-51.5%)
<b>Obese (BMI=30+)</b>	30.0% (28.6%-31.4%)	34.5% (30.5%-38.7%)
<b>Met aerobic/strength exercise recommendations</b>	24.3% (22.6%-26.0%)	17.6% (13.9%-22.0%)
<b>Less than 7 hours of sleep per day</b>	30.4% (28.6%-32.2%)	39.4% (34.0%-45.1%)
<b>Current cigarette smoking</b>	14.9% (13.8%-16.1%)	17.5% (14.3%-21.3%)
<b>Current e-cigarette use</b>	6.2% (5.4%-7.1%)	4.5% (3.2%-6.5%)

Another reliable source of data for racial and ethnic disparities, besides BRFSS, are birth certificates.

One of the clearest disparities by race and ethnicity is for low birthweight births. Non-Hispanic Black mothers give birth to low birthweight babies nearly twice as often as non-Hispanic White mothers. This 2-fold increase in risk is a global, national, state, and local disparity that represents a wide array of health factors. One of those factors is access to care. Mothers who have Medicaid are typically 2-3% more likely than those with Private insurance to have a low birthweight baby (2019: 9.9% Medicaid, 7.2% private insurance). The table



below highlights a range of maternal and child health metrics using combined birth certificate data from 2017-2019 and compares by race and ethnicity. The merged 3-year percentages help to smooth the data estimates for trend comparison and helps reduce volatility from year-to-year estimates when the sample sizes are smaller. Confidence intervals are not included to present these data in as concise a manner as possible and show the comparison between race and payor status (Medicaid/Private Insurance).

Metric	White	Black	AIAN	Asian	Other	Hispanic	Medicaid	Private
<b>Breastfeeding</b>	94.3%	84.8%	82.6%	91.0%	91.3%	92.6%	89.2%	95.7%
<b>Labor Induction</b>	31.5%	23.8%	26.2%	24.6%	30.9%	29.4%	32.4%	31.1%
<b>Labor Induction (&lt;39 wks.)</b>	24.8%	17.6%	36.1%	14.4%	23.1%	18.6%	22.0%	21.9%
<b>Cesarean</b>	20.8%	36.0%	31.0%	26.1%	29.7%	31.2%	31.0%	31.6%
<b>Cesarean (first child)</b>	32.2%	33.9%	33.0%	25.9%	31.8%	33.7%	32.9%	32.6%
<b>Gestational diabetes</b>	5.2%	4.8%	7.5%	11.1%	6.0%	5.9%	6.0%	5.5%
<b>Low birth weight</b>	7.5%	13.7%	6.8%	6.9%	9.7%	9.5%	9.9%	6.8%
<b>Gestational age (&lt;38 wks.)</b>	20.9%	24.3%	29.6%	16.3%	20.9%	21.4%	23.4%	19.9%
<b>At least 10 prenatal visits</b>	68.4%	53.3%	56.2%	54.8%	62.3%	60.2%	61.8%	69.8%
<b>First trimester care</b>	79.6%	67.2%	69.0%	72.8%	67.8%	67.6%	69.5%	82.4%
<b>Adequate prenatal care</b>	65.8%	60.3%	58.8%	60.2%	64.0%	63.6%	66.3%	69.6%
<b>Teenage mothers</b>	2.8%	5.4%	8.3%	1.6%	10.6%	9.0%	8.0%	1.3%

As the table above shows, birth outcomes are typically worse for Black, Hispanic, Asian, and American Indian or Alaska Native mothers in comparison to White mothers. We also see that typically mothers who are using Medicaid have worse outcomes in comparison to mothers using private insurance, which is typically used as a proxy for household income when analyzing birth data.

The table below highlights the top 6 causes of mortality in Lancaster County by race and ethnicity.

Metric	White	Black	AIAN	Asian	Other
Cancer	18.4%	12.0%	22.2%	22.1%	6.7%
Heart Disease	18.2%	12.0%	-	11.1%	-
Accidental Deaths	4.5%	15.7%	22.2%	2.8%	13.3%
COVID-19	5.5%	10.8%	11.1%	5.6%	13.3%
Chronic Lung Disease	5.8%	4.8%	-	11.1%	6.7%
Cerebrovascular Disease	4.8%	4.8%	-	13.9%	6.7%

**TABLE 3: Cancer Incidence**  
**Number of Cases and Rates, All Sites and Top Ten Primary Sites, by Race and Ethnicity**  
**Nebraska (2009-2018)**

Rank	Site	White		African-American			Native American			Asian/Pacific Islander			Hispanic		
		Number	Rate	Site	Number	Rate	Site	Number	Rate	Site	Number	Rate	Site	Number	Rate
	All Sites	92,286	461.1	All Sites	3,457	509.0	All Sites	572	410.7	All Sites	817	298.7	All Sites	2,394	285.4
1	Female Breast	13,033	127.5	Prostate	644	201.9	Female Breast	84	105.3	Female Breast	116	64.6	Female Breast	335	77.6
2	Prostate	11,958	120.7	Lung & Bronchus	480	75.9	Lung & Bronchus	76	68.0	Lung & Bronchus	91	40.4	Prostate	243	74.4
3	Lung & Bronchus	11,779	57.3	Female Breast	423	116.5	Colon & Rectum	59	44.1	Colon & Rectum	83	33.8	Colon & Rectum	222	28.5
4	Colon & Rectum	8,727	43.3	Colon & Rectum	350	53.8	Prostate	41	72.2	Thyroid	65	16.2	Lung & Bronchus	164	26.7
5	Melanoma	4,592	24.4	Kidney & Renal Pelvis	190	27.8	Kidney & Renal Pelvis	40	22.6	Liver & Intrahepatic Bile Ducts	55	21.6	Thyroid	139	11.1
6	Urinary Bladder	4,338	21.0	Non-Hodgkin Lymphoma	116	16.3	Liver & Intrahepatic Bile Ducts	38	21.9	Prostate	54	58.5	Kidney & Renal Pelvis	124	14.4
7	Non-Hodgkin Lymphoma	4,109	20.5	Pancreas	110	18.1	Leukemia	22	12.1	Non-Hodgkin Lymphoma	35	14.4	Non-Hodgkin Lymphoma	120	15.2
8	Kidney & Renal Pelvis	3,442	17.3	Liver & Intrahepatic Bile Ducts	101	13.6	Uterine Corpus & Unspecified	17	17.9	Leukemia	34	10.9	Leukemia	116	9.2
9	Uterine Corpus & Unspecified	2,911	27.6	Myeloma	99	15.5	Non-Hodgkin Lymphoma	17	13.4	Oral Cavity & Pharynx	32	9.6	Uterine Corpus & Unspecified	77	15.2
10	Leukemia	2,890	14.7	Leukemia	89	12.0	Thyroid	15	6.7	Uterine Corpus & Unspecified	26	15.8	Brain & Central Nervous System	72	6.0

Rates are per 100,000 population, excluding gender-specific sites (prostate, female breast, uterine corpus), which are per 100,000 male or female population. All rates are age-adjusted to the 2000 US population.

**TABLE 6: Cancer Mortality  
Number of Deaths and Rates, All Sites and Top Ten Primary Sites, by Race and Ethnicity  
Nebraska (2009-2018)**

Rank	Site	White		African-American			Native American			Asian/Pacific Islander			Hispanic		
		Number	Rate	Site	Number	Rate									
	All Sites	32,750	157.8	All Sites	1,202	201.3	All Sites	168	139.6	All Sites	253	103.5	All Sites	623	95.8
1	Lung & Bronchus	8,311	40.3	Lung & Bronchus	313	52.6	Lung & Bronchus	42	38.8	Lung & Bronchus	49	21.1	Lung & Bronchus	101	17.7
2	Colon & Rectum	3,178	15.2	Colon & Rectum	131	23.2	Colon & Rectum	26	18.5	Liver & Intrahepatic Bile Ducts	42	15.6	Colon & Rectum	52	8.4
3	Pancreas	2,255	10.9	Pancreas	92	16.0	Female Breast	14	22.1	Colon & Rectum	19	8.0	Liver & Intrahepatic Bile Ducts	51	7.3
4	Female Breast	2,201	19.4	Female Breast	87	25.8	Liver & Intrahepatic Bile Ducts	8	6.1	Pancreas	14	5.9	Leukemia	38	4.5
5	Prostate	1,690	19.3	Prostate	85	41.3	Leukemia	6	4.1	Leukemia	13	5.2	Female Breast	34	8.6
6	Leukemia	1,432	7.0	Liver & Intrahepatic Bile Ducts	64	8.7	Stomach	6	3.8	Female Breast	12	6.9	Pancreas	34	5.3
7	Non-Hodgkin Lymphoma	1,223	5.8	Myeloma	44	7.8	Prostate	5	12.3	Stomach	11	4.0	Brain & CNS	34	3.9
8	Brain & CNS	1,007	5.1	Esophagus	32	4.8	Uterine Cervix	5	3.9	Oral Cavity & Pharynx	11	3.2	Stomach	31	4.1
9	Esophagus	948	4.5	Stomach	30	5.2	Kidney & Renal Pelvis	5	3.5	Prostate	8	7.3	Prostate	30	15.9
10	Kidney & Renal Pelvis	930	4.4	Leukemia	30	5.0	Pancreas	5	3.3	Ovary	7	5.0	Non-Hodgkin Lymphoma	28	5.4

Rates are per 100,000 population, excluding gender-specific sites (prostate, female breast, ovary), which are per 100,000 male or female population. All rates are age-adjusted to the 2000 US population.  
Abbreviation: CNS, central nervous system

The tables above show the cancer incidence and mortality in Nebraska by race and ethnicity. Due to sample size limitations, these data may represent a more accurate estimate of risk by race and ethnicity than samples limited to death certificate data in Lancaster County.<sup>24</sup> The table above shows us that the risk of death due to cancer is highest among African-Americans (201.3), followed by White (157.8) and Native American (139.6) populations. The rate is lower among Asian and Pacific Islanders (103.5) with the lowest mortality rate found among Hispanics (95.8).

African American women were more likely to die from female breast cancer (25.8) than were Whites (19.4) even though they were slightly less likely to be diagnosed with breast cancer (116.5 African-American, 127.5 White). This is contributed to by the higher rate of breast cancer screening among non-Hispanic White women in Lancaster County when compared to non-Hispanic Black women.

#### *Minority Health Initiative*

The Minority Health Initiative is a grant that is provided by the State of Nebraska intended to assess the health of the minority populations in Lancaster County and to help improve the health of those populations and further reduce minority disparities. This is part of a series of funding sources being used (Minority Health Initiative, CDC COVID-19 Health Disparities Subaward and Advancing Health Literacy) to expand upon the assessment being conducted in Lancaster County for the minority population. This will include a range of assessment activities (e.g., directed surveys of cultural center service populations, cultural center liaisons improving health literacy of the community, community conversations with various minority communities) that will add depth to our understanding of minority health in Lancaster

<sup>24</sup> [Cancer Incidence and Mortality in Nebraska 2018 \(NE DHHS\)](#)

County. More detailed information about the Minority Health Initiative is available in the [Assessments](#) section of the Executive Summary.

The data collected with specialty populations for the Community Health Survey has the same structure as the broader survey administered using a geospatial sampling approach. Since these surveys were administered at different times, comparing the data for major issues is difficult, particularly since the pandemic continued to fluctuate in severity throughout the course of data collection.

For Question 1 (What was the last major health issue you or your family experienced?), COVID-19 was the leading reported issue. This was 70.9% of all responses categorized as infectious & parasitic diseases. Below is a table showing the overall distribution of responses by category.

Categorized Responses	Percent
<b>Infectious &amp; Parasitic Disease</b>	25.08%
<b>Circulatory System</b>	17.46%
<b>Nothing</b>	13.97%
<b>Diabetes Related Conditions and Procedures</b>	8.89%
<b>Cancer/Neoplasms</b>	8.25%
<b>Other</b>	6.35%
<b>Mental, Behavioral and Neurodevelopmental Disorders</b>	3.49%
<b>Injury, Poisoning &amp; Certain Other Consequences of External Causes</b>	3.17%
<b>Musculoskeletal System</b>	3.17%
<b>General Health and Other or Unspecified Health Conditions</b>	2.86%
<b>Digestive System</b>	2.22%
<b>OB/GYN</b>	1.27%
<b>Surgery/Other Medical Treatment/Procedure w/o Specified Cause</b>	0.95%
<b>Conditions of the Eye and Ear</b>	0.63%
<b>Healthcare Access</b>	0.63%
<b>Nervous System</b>	0.63%
<b>Urinary System</b>	0.63%
<b>Respiratory System</b>	0.32%

For Question 2 (What worries you most about your or your family's health?), COVID-19 again was the most reported issue (92.3% of infectious disease responses). Healthcare access (15.24%) and general health & wellbeing (12.06%) were the only other two responses that made up more than 10% of responses.

Categorized Responses	Percent
<b>Infectious Disease</b>	28.89%
<b>Healthcare Access</b>	15.24%
<b>General Health &amp; Well-being</b>	12.06%
<b>Nothing</b>	9.52%
<b>Circulatory System</b>	7.94%
<b>Other</b>	6.67%
<b>Diabetes Related Conditions and Procedures</b>	5.71%
<b>Cancer/Neoplasms</b>	4.13%

<b>Behavioral/Mental</b>	2.54%
<b>Social Connectedness</b>	1.59%
<b>Concrete Support</b>	1.27%
<b>Musculoskeletal System</b>	1.27%
<b>Environment</b>	0.95%
<b>Aging</b>	0.63%
<b>Conditions of the Eye and Ear</b>	0.63%
<b>Consequences of Illness</b>	0.32%

For Question 3 (What are the top 3 health concerns in Lincoln and Lancaster County?), mental health was by far the most common health condition selected. Respondents were asked to three conditions from the prescribed list, so response rates will not add up to 100%.

<b>Categorized Responses</b>	<b>Percent</b>
<b>Mental Health (for example Depression, Anxiety, Post-Traumatic Stress, Suicide)</b>	57.14%
<b>Diabetes</b>	41.90%
<b>Heart Disease (for example high blood pressure &amp; stroke)</b>	38.41%
<b>Cancer</b>	36.51%
<b>Getting enough exercise</b>	34.29%
<b>Alcohol, Drug, and Tobacco Use</b>	28.25%
<b>Challenges getting healthy and affordable food</b>	26.98%
<b>Getting around town safely (driving, walking, &amp; riding)</b>	25.71%
<b>Asthma</b>	8.89%

Question 4 (What is something you do to be healthy?) showed that exercise (49.2%) and healthy diet (35.2%) were the leading activities that these populations undertook to stay healthy.

<b>Self-Initiative</b>	<b>Percent</b>
<b>Exercise</b>	49.21%
<b>Healthy Diet</b>	35.24%
<b>Other or Unspecified</b>	8.57%
<b>Reducing Exposure to Risk Factors</b>	2.86%
<b>None</b>	2.54%
<b>Regular Preventive Care</b>	1.59%

Question 5 (What would make your neighborhood a healthier place for you or your family?) showed that a cleaner environment (20%), physical activity infrastructure (parks, gyms, sidewalks, etc.) (15.6%) and neighborhood connectedness (10.5%) were the leading interventions that were desired.

<b>What need to be done</b>	<b>Percent</b>
<b>Cleaner Environment</b>	20.00%
<b>Physical Activity Infrastructure</b>	15.56%
<b>Nothing</b>	13.02%
<b>Neighborhood Connectedness</b>	10.48%

<b>Neighborhood Safety</b>	8.57%
<b>Other</b>	7.62%
<b>Don't Know</b>	6.03%
<b>Access to Healthy Food</b>	5.71%
<b>Physical Activity Programming</b>	5.40%
<b>Reduced Access to Drugs &amp; Alcohol</b>	2.86%
<b>Traffic Safety</b>	2.22%
<b>Access to Healthcare</b>	1.90%
<b>Higher Vaccination Rates</b>	0.63%

Each question was reported by minority group surveyed as well. Which minority group the survey responses are for is based on the partner and the population they serve (e.g., El Centro conducted two distributions to Mexican and El Salvadorian, Guatemalan and Spanish other groups). For more information about what each group reported for each question, please refer to the Appendices' [Minority Survey Results](#).

### Age Disparities

Aging issues ranked high in our surveys and the demographics indicate that the elderly population is growing faster now and will be growing at a higher rate than any other group over the next several decades. Data in the table below includes the 18-44 years, 45-64 years, and 65+ years groups. These groups ensure adequate sample size. The 95% confidence intervals are not included. These estimates are based on 2015-2019 data that is available. Some metrics are asked every year or every other year.

Measure	18-44 years	45-64 years	65+ years
<b>Binge drinking (past 30 days)</b>	33.6%	16.6%	4.9%
<b>Limitations due to arthritis</b>	46.4%	40.9%	36.3%
<b>Asthma (currently)</b>	8.6%	9.2%	8.1%
<b>High blood pressure</b>	11.3%	34.5%	58.5%
<b>High cholesterol</b>	11.8%	39.2%	51.8%
<b>Cancer (all types – ever)</b>	2.7%	12.6%	33.4%
<b>Cancer (skin – ever)</b>	1.1%	6.4%	19.5%
<b>Up-to-date breast cancer screening (50-74 yrs.)</b>	N/A	74.4%	83.7%
<b>Up-to-date cervical cancer screening (21-65 yrs.)</b>	78.5%	81.3%	N/A
<b>Up-to-date colon cancer screening (50-75 yrs.)</b>	N/A	66.0%	82.9%
<b>Chronic obstructive pulmonary disease (ever)</b>	1.9%	6.2%	12.3%
<b>Diabetes (ever)</b>	2.5%	11.0%	18.5%
<b>Heart attack/coronary heart disease (ever)</b>	0.7%	5.5%	14.7%
<b>Stroke (ever)</b>	0.5%	2.2%	7.6%
<b>Kidney disease (ever)</b>	1.1%	3.2%	5.4%
<b>Marijuana use (past 30 days)</b>	12.4%	1.8%	1.5%
<b>Opioid misuse (past year)</b>	4.4%	2.9%	1.2%
<b>General health fair or poor</b>	8.4%	14.2%	16.8%
<b>No health care coverage</b>	14.7%	9.1%	N/A
<b>Flu vaccination (past year)</b>	35.1%	49.0%	67.0%
<b>Texting while driving</b>	43.9%	20.7%	5.3%
<b>Fall past year (45+ years)</b>	N/A	23.0%	28.0%
<b>Seat belt use</b>	77.0%	84.0%	87.6%

<b>Depression (ever)</b>	19.0%	20.0%	14.8%
<b>Teeth extracted due to decay or gum disease</b>	18.3%	38.1%	60.1%
<b>Obese (BMI=30+)</b>	26.0%	37.3%	28.8%
<b>Met aerobic/strength exercise recommendations</b>	25.3%	21.0%	24.3%
<b>Less than 7 hours of sleep per day</b>	34.4%	33.2%	19.9%
<b>Current cigarette smoking</b>	16.8%	16.5%	5.8%
<b>Current e-cigarette use</b>	10.1%	3.4%	0.9%

Note: In the table above, up-to-date colorectal cancer screenings are for 50-64 years and 65-75 years. For up-to-date cervical cancer screening it is only for females 21-44 years and 45-65 years. For up-to-date breast cancer screenings, the age groups are 50-64 years and 65-74 years. For more information about these metrics and to view the estimates in more detail potentially, please see the Nebraska Department Health and Human Services BRFSS Atlas website.<sup>25</sup>

Information about cancer mortality by age is also available for the state of Nebraska. Due to sample size, this provides a potentially more accurate representation of the risk of death due to certain cancers by age group than data available for Lancaster County. This information is from the Nebraska DHHS Cancer Incidence and Mortality in Nebraska 2018 report.<sup>26</sup>

**TABLE 5: Cancer Mortality**  
Number of Deaths and Percentage Distribution, by Selected Primary Site and Age at Death  
Nebraska (2014-2018)

	<u>0-17 Yrs.</u>		<u>18-44 Yrs.</u>		<u>45-64 Yrs.</u>		<u>65+ Yrs</u>		<u>TOTAL</u>	
	<u>Number</u>	<u>%</u>	<u>Number</u>	<u>%</u>	<u>Number</u>	<u>%</u>	<u>Number</u>	<u>%</u>	<u>Number</u>	<u>%</u>
All Sites	58	0.3	447	2.6	4,186	24.1	12,673	73.0	17,364	100.0
Oral Cavity & Pharynx	0	0.0	9	3.1	94	32.8	184	64.1	287	100.0
Esophagus	0	0.0	7	1.4	159	31.5	339	67.1	505	100.0
Stomach	1	0.4	15	6.2	66	27.2	161	66.3	243	100.0
Colon & Rectum (Colorectal)	0	0.0	60	3.6	369	22.4	1,219	74.0	1,648	100.0
Liver & Intrahepatic Bile Ducts	0	0.0	15	3.0	182	36.5	302	60.5	499	100.0
Pancreas	0	0.0	22	1.8	316	25.4	908	72.9	1,246	100.0
Lung & Bronchus	0	0.0	27	0.6	1,069	25.2	3,139	74.1	4,235	100.0
Melanoma of the Skin	0	0.0	9	3.2	80	28.9	188	67.9	277	100.0
Female Breast	0	0.0	60	5.1	326	27.4	802	67.5	1,188	100.0
Uterine Cervix	0	0.0	18	14.8	62	50.8	42	34.4	122	100.0
Uterine Corpus & Unspecified	0	0.0	2	0.7	83	28.4	207	70.9	292	100.0
Ovary	0	0.0	11	2.7	118	29.3	274	68.0	403	100.0
Prostate	0	0.0	0	0.0	83	9.7	776	90.3	859	100.0
Kidney & Renal Pelvis	1	0.2	6	1.2	140	28.2	349	70.4	496	100.0
Urinary Bladder	0	0.0	3	0.7	50	10.9	406	88.5	459	100.0
Brain & Central Nervous System	20	3.7	54	10.1	184	34.3	278	51.9	536	100.0
Thyroid	0	0.0	0	0.0	11	25.0	33	75.0	44	100.0
Hodgkin Lymphoma	0	0.0	3	9.7	11	35.5	17	54.8	31	100.0
Non-Hodgkin Lymphoma	1	0.2	15	2.5	107	17.5	489	79.9	612	100.0
Leukemia	14	1.8	27	3.5	106	13.7	628	81.0	775	100.0
Myeloma	0	0.0	2	0.6	66	19.0	279	80.4	347	100.0

NOTE: Due to rounding, percentages may not sum to 100.0.

### Geographic Disparities

Lincoln has grown over the decades and despite significant rejuvenation, economic development, and modernization in the older neighborhoods; in general, health outcomes in those older parts of town are not as good as elsewhere in the community. Since our last Community Health Assessment was conducted, a wide array of geographic based approaches to identifying disparities have been used

<sup>25</sup> <https://dv-brfss-dhhs.ne.gov/rdPage.aspx>

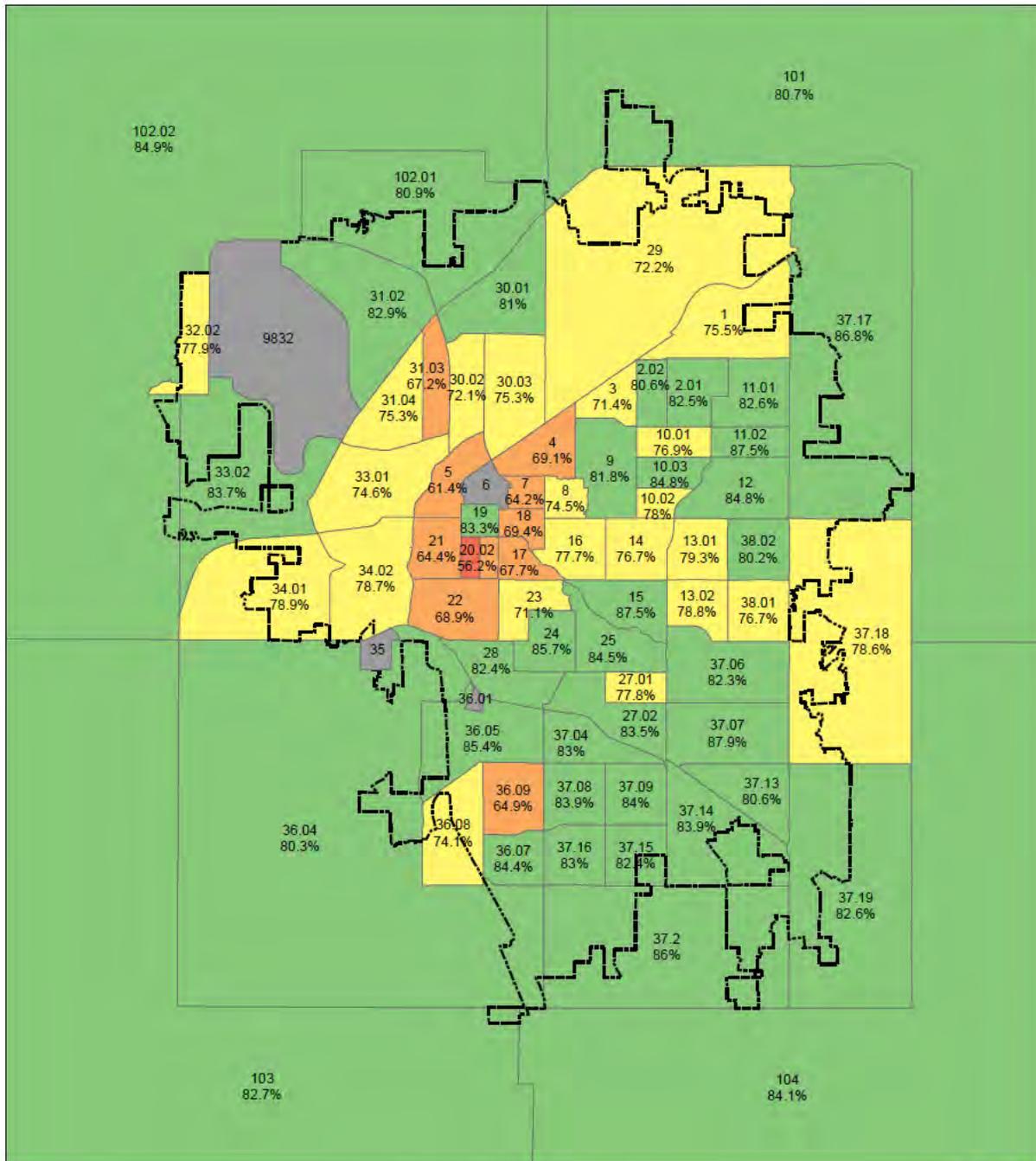
<sup>26</sup> [Cancer Incidence and Mortality in Nebraska 2018 \(NE DHHS\)](#)

across Lancaster County. This includes the Place Matters initiative<sup>27</sup> that is currently on version 4.0 as well as a geospatial sampling process used in a community survey that is designed to provide information about different neighborhoods health. The maps in this section help summarize what we've learned about geographic disparities.

The following maps are a sample of the geographic analysis conducted in Lancaster County to identify where health disparities exist.

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<sup>27</sup> <https://www.chelincoln.org/placematters/maps.html>



**Legend**

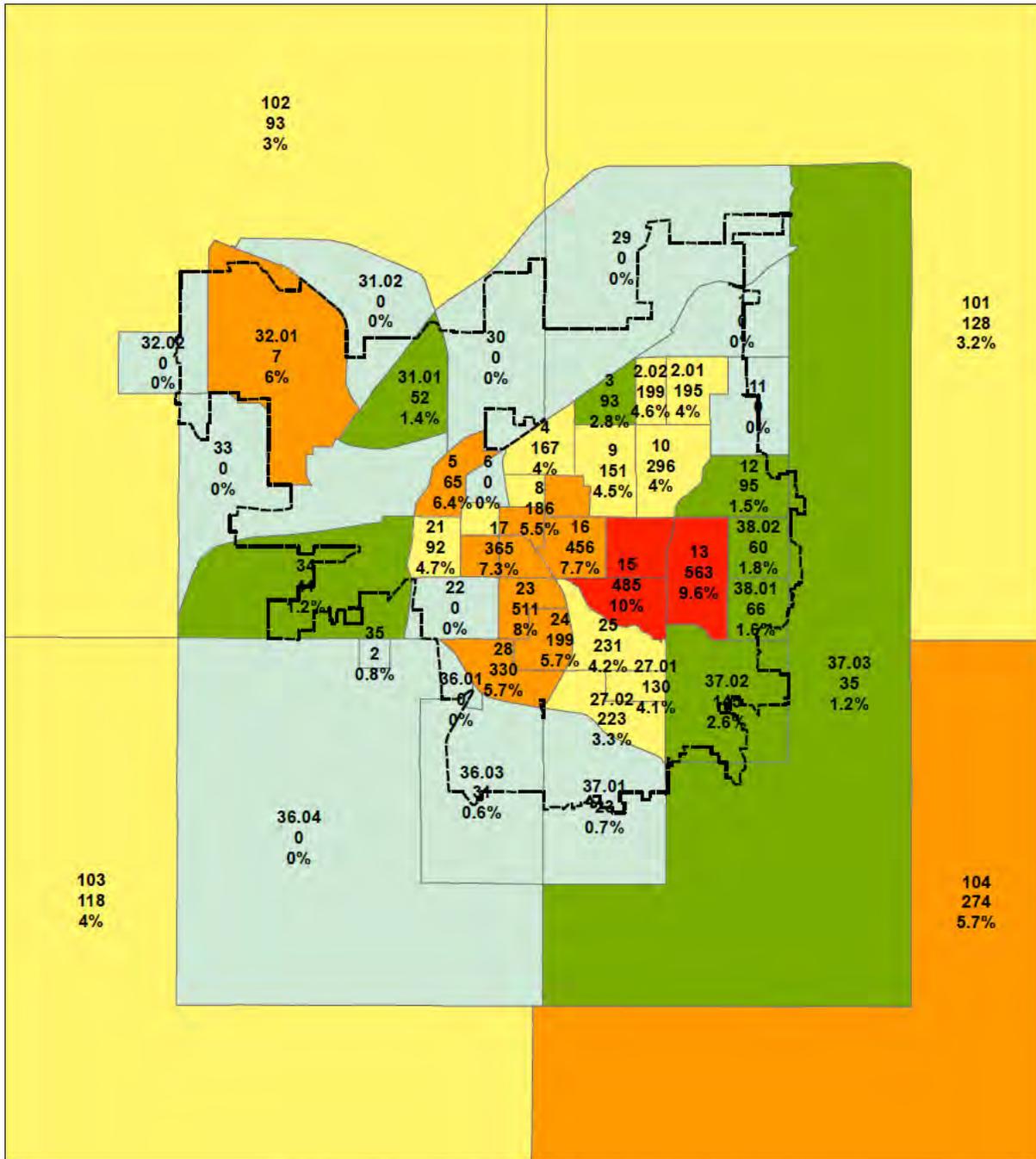
- 50 - 59.9%
- 60 - 69.9%
- 70 - 79.9%
- 80 - 89.9%
- City Limits
- Excluded CTrs

### First Trimester Care 2017 - 2019

Overall Prenatal Care = 78.9%



Source: Lincoln Lancaster County Health Department  
Mapped by LLCHD GIS  
06/2021



Population Aged 75 Years and Over  
Lancaster County, NE 1980  
Per Census Tract

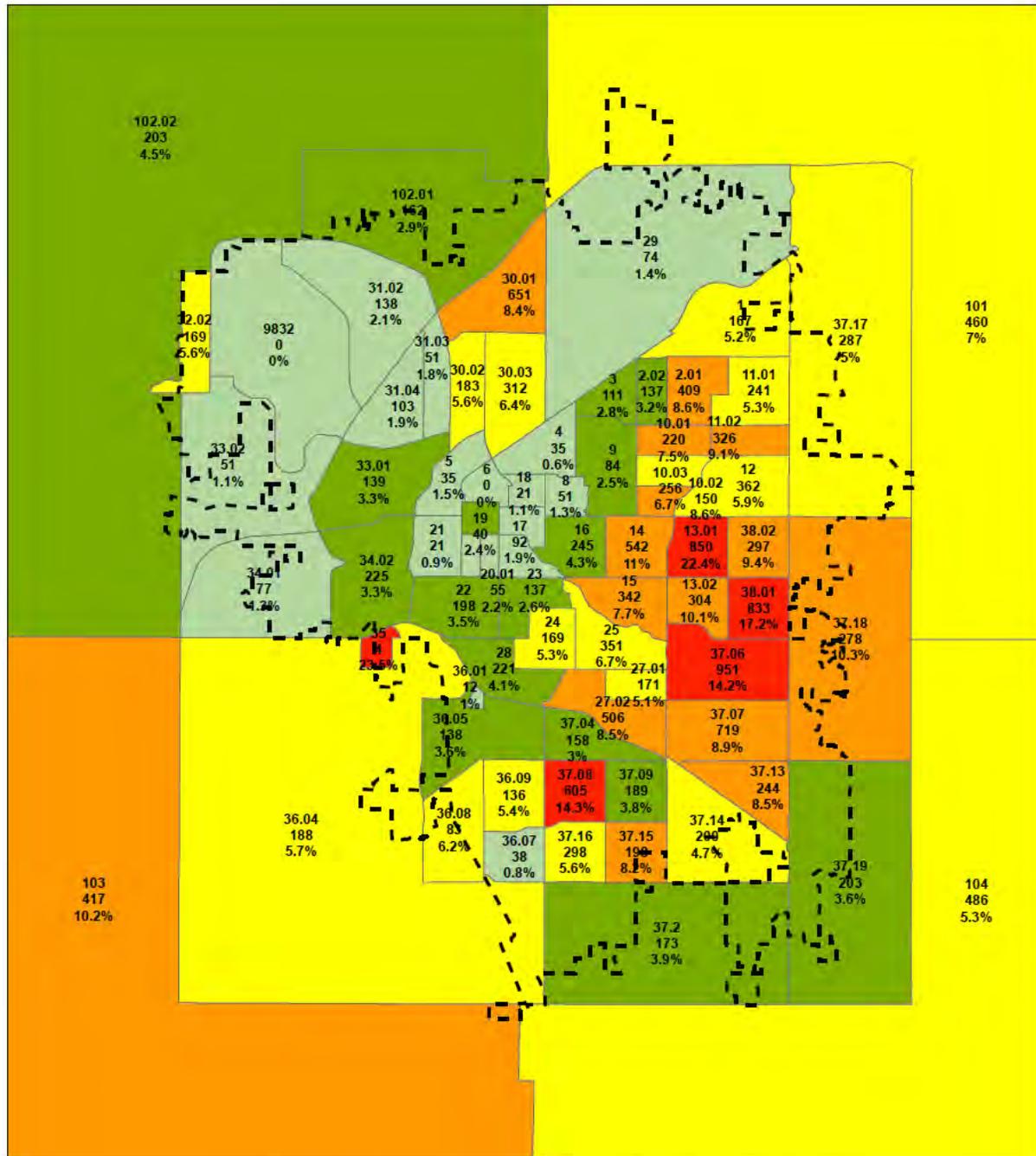
Legend

- 0.0% - 0.8%
- 0.9% - 2.8%
- 2.9% - 4.7%
- 4.8% - 8.0%
- 8.1% - 12.2%
- City Limits

Labels: CT; # Persons 75 & Over, Percent 75 & Over



Source: IPUMS  
Mapped by LLCHD GIS  
07/2021



### Population Aged 75 Years and Over Lancaster County, NE 2019 Per Census Tract

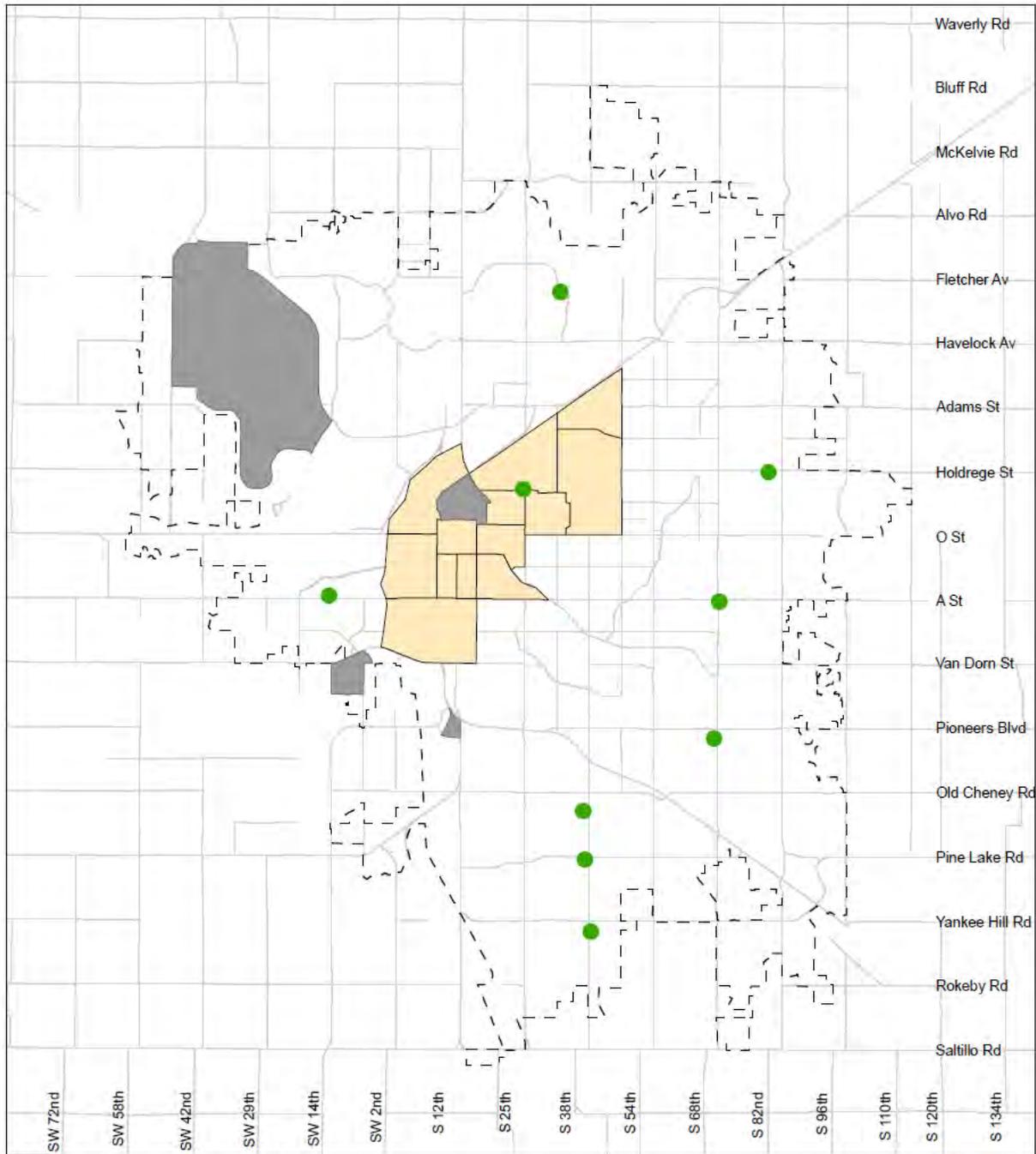
**Legend**

- 0% - 2.2%
- 2.3% - 4.5%
- 4.6% - 7%
- 7.1% - 11%
- 11.1% - 23.5%
- City Limits

Labels: CT; # Persons 75 & Over; Percent 75 & Over



Source: ACS  
Mapped by LLCHD GIS  
07/2021



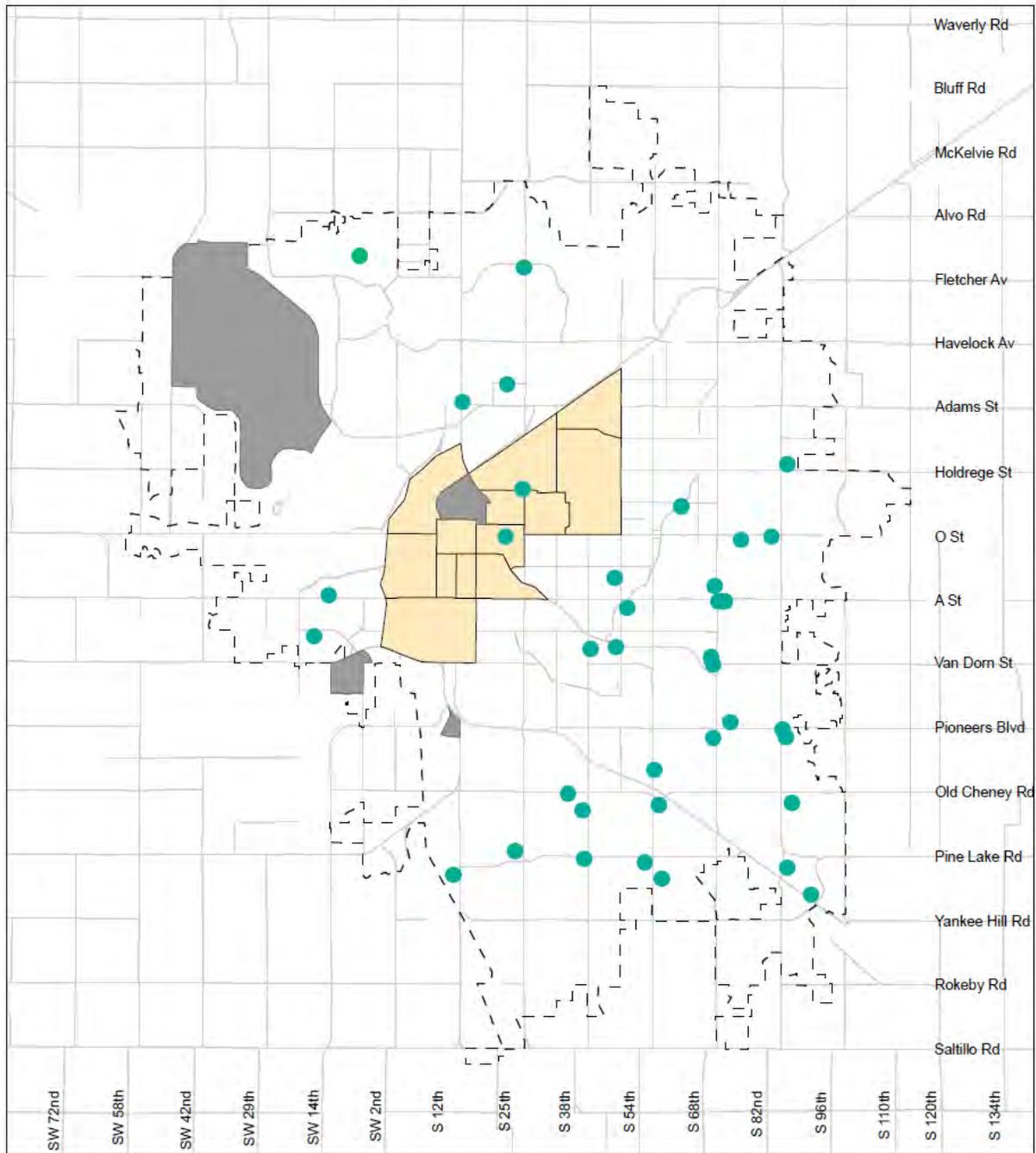
**Legend**

- Pediatric Clinic
- City Limits
- ExcludedCTs
- MUAs

# Access To Care 2021



Source: LCMS  
Mapped by LLCHD GIS  
04/2021



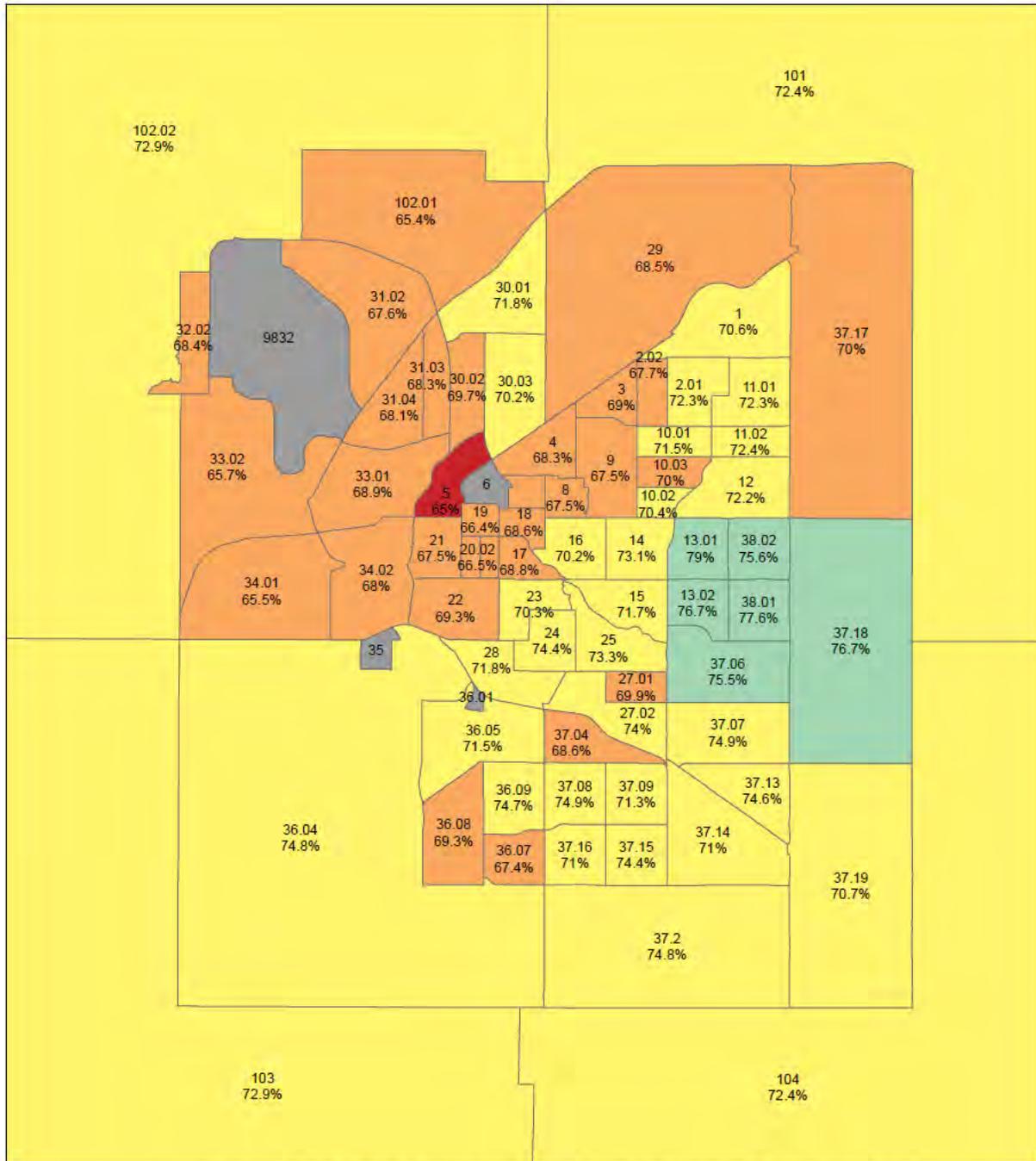
**Legend**

-  Primary Care or Internal Medicine Practice
-  City Limits
-  Excluded CTS
-  MUAs

# Access To Care 2021



Source: LCMS  
Mapped by LLCHD GIS  
04/2021



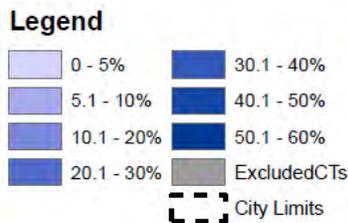
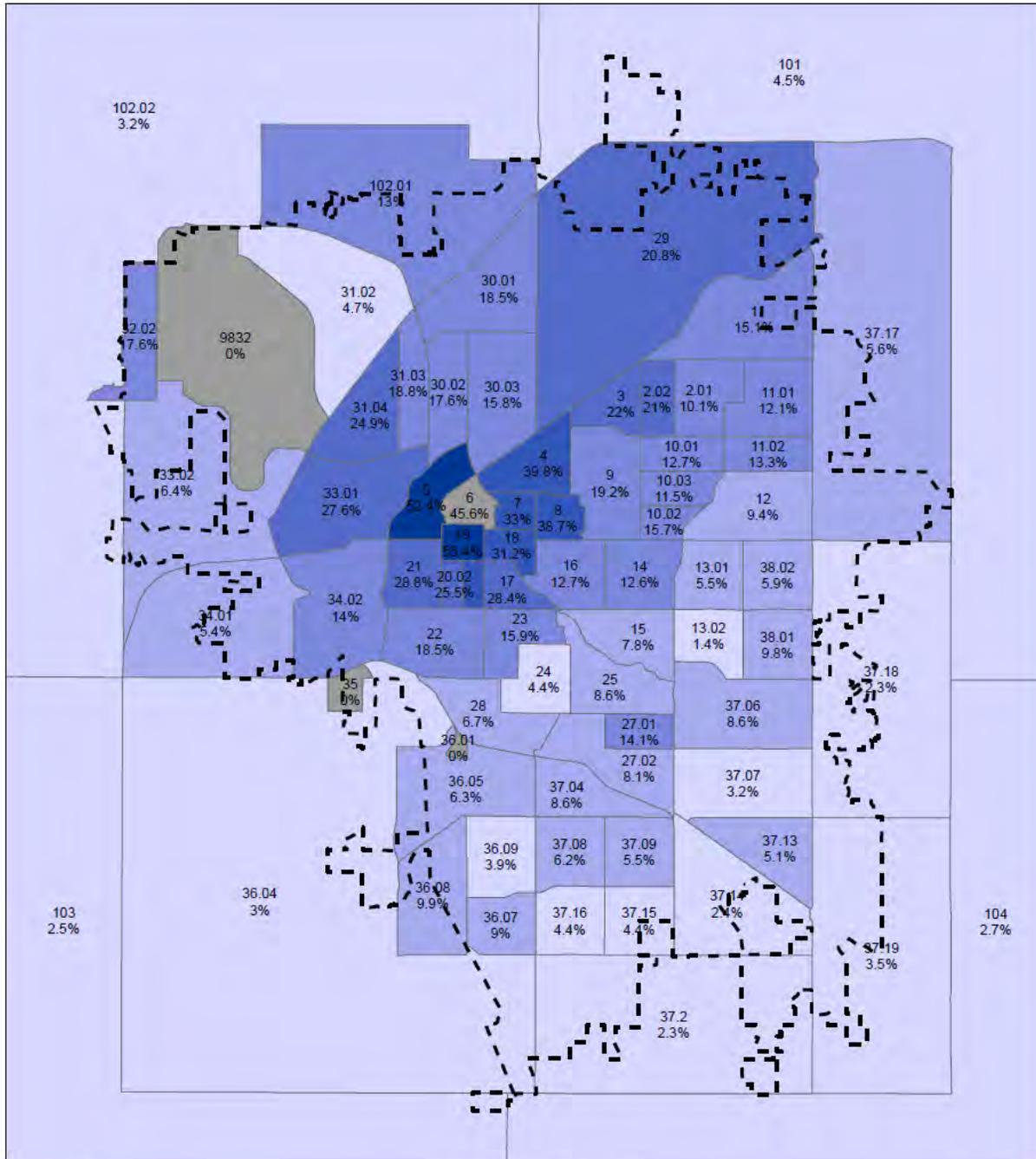
Visits to Doctor for Routine Checkup Within the Past Year Among Adults Aged >=18 years.

**Legend**

- 60 - 65%
- 70.1 - 75%
- City Limits
- 65.1 - 70%
- 75.1 - 80%
- Excluded CTs



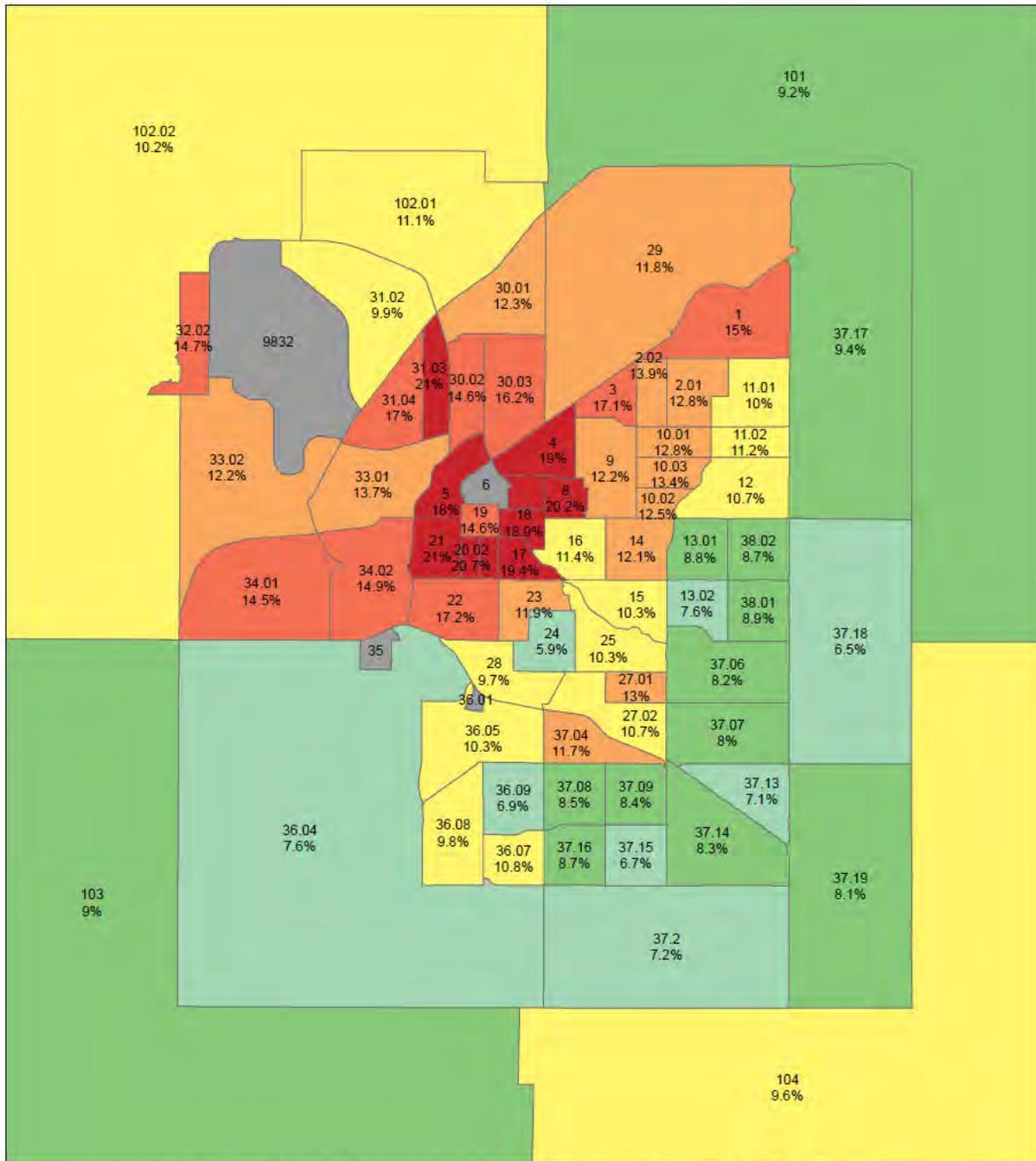
Source: BRFSS 2018  
Mapped by LLCHD GIS



**Percent Poverty**  
**Per Census Tract (All Age Groups)**  
**Lancaster County 2019**  
 Overall Poverty = 12.5%



Source: US Census  
 Mapped by LLCHD GIS  
 08/2021



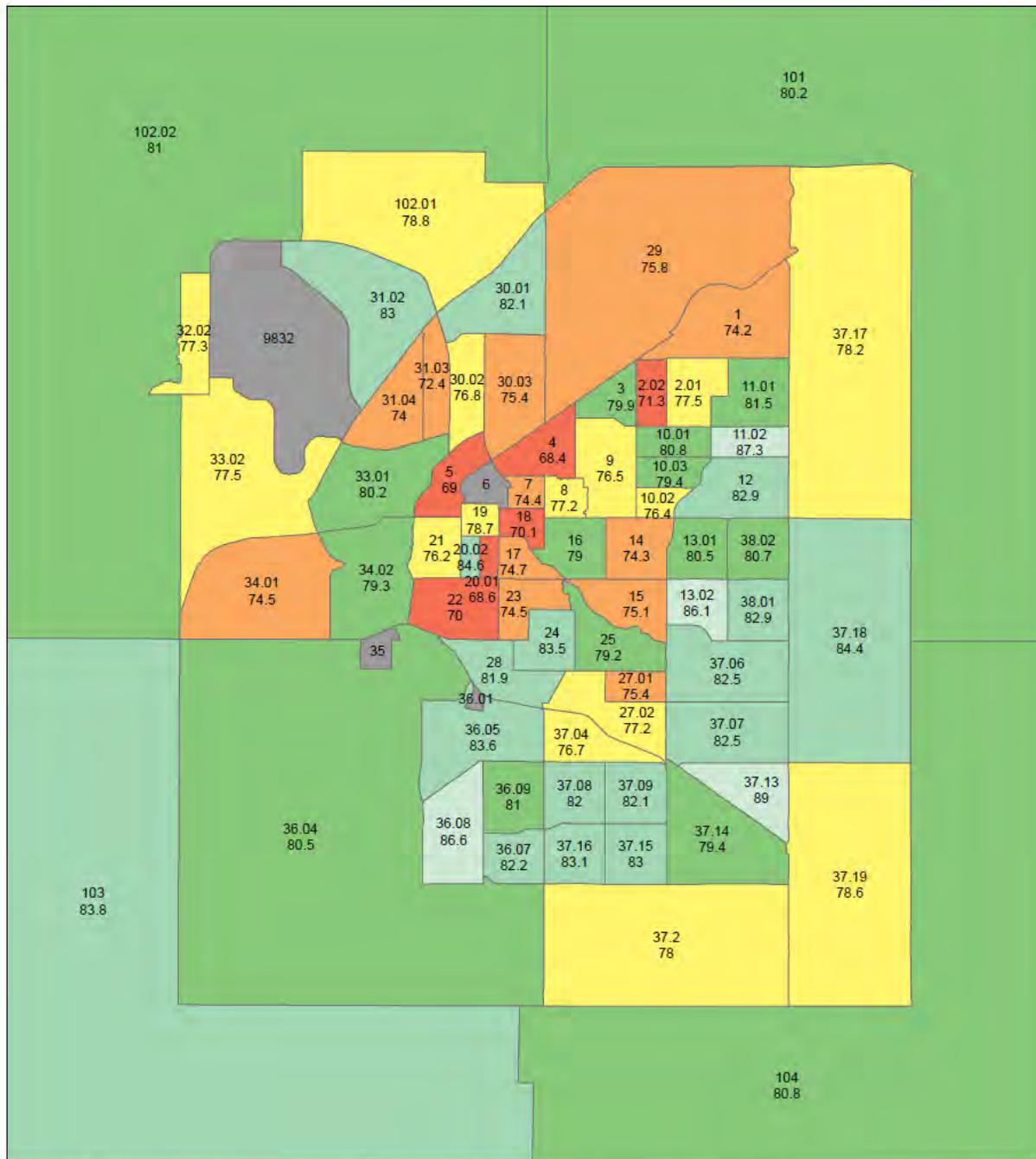
### Current Lack of Health Insurance Among Adults Ages 18 - 64 years

**Legend**

- 5.9 - 7.6
- 11.5 - 13.9
- City Limits
- 14.0 - 17.2
- ExcludedCTs
- 9.5 - 11.4
- 17.3 - 22.3



Source: BRFSS 2018  
Mapped by LLCHD GIS  
03/2021



**Legend**

- 68.4 - 71.3
- 71.31 - 75.8
- 75.81 - 78.8
- 78.81 - 81.5
- 81.51 - 84.6
- 84.61 - 89
- ExcludedCTs
- City Limits

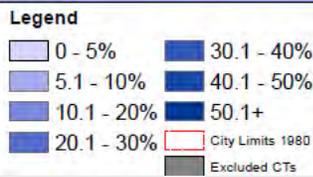
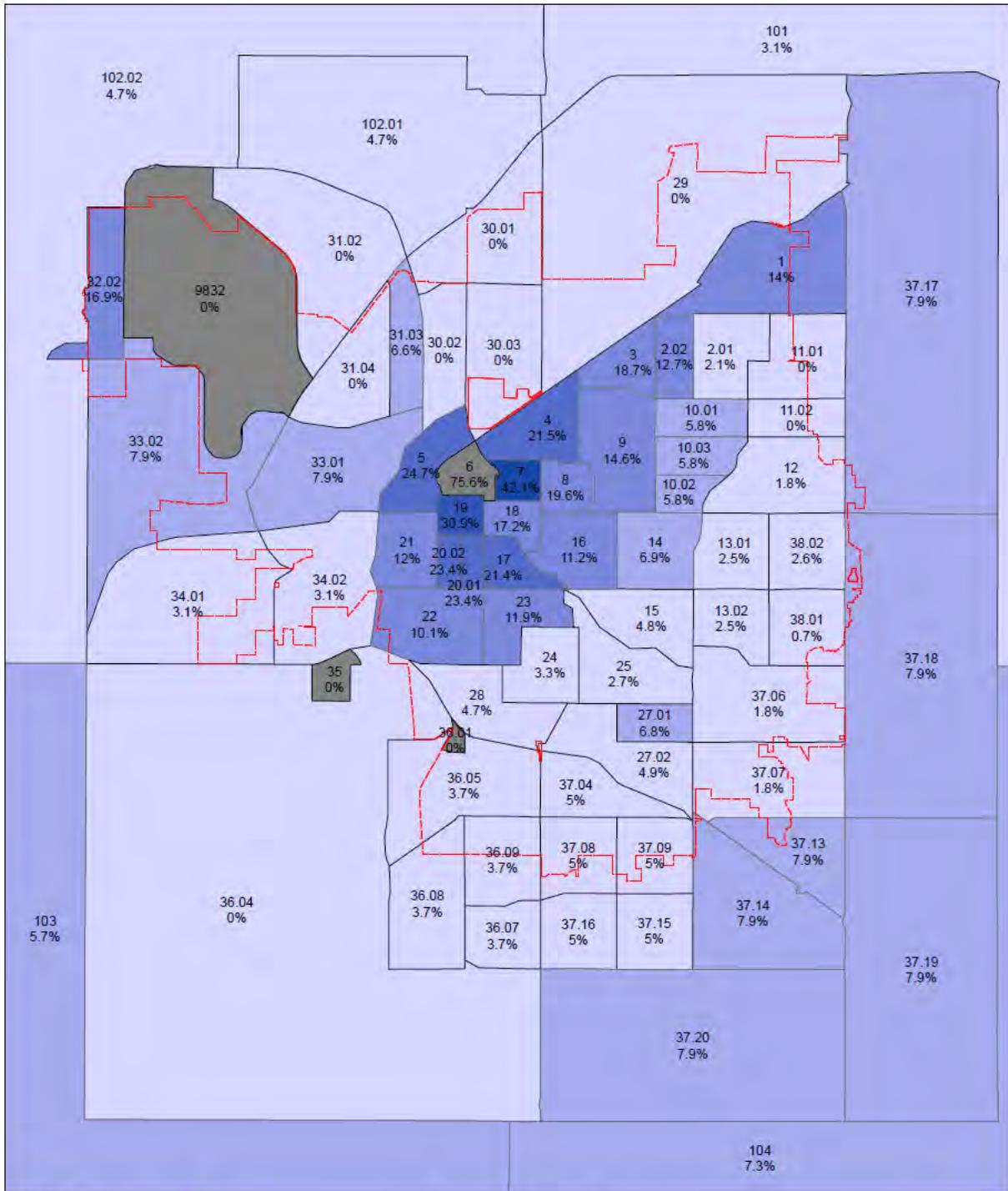
### Life Expectancy by Census Tracts Lancaster County 2015 - 2019

Label: Census Tract #, Life Expectancy in Years  
LE is Calculated by: REED-MERRILL AND GREVILLE METHOD

Overall LE = 79.9 years

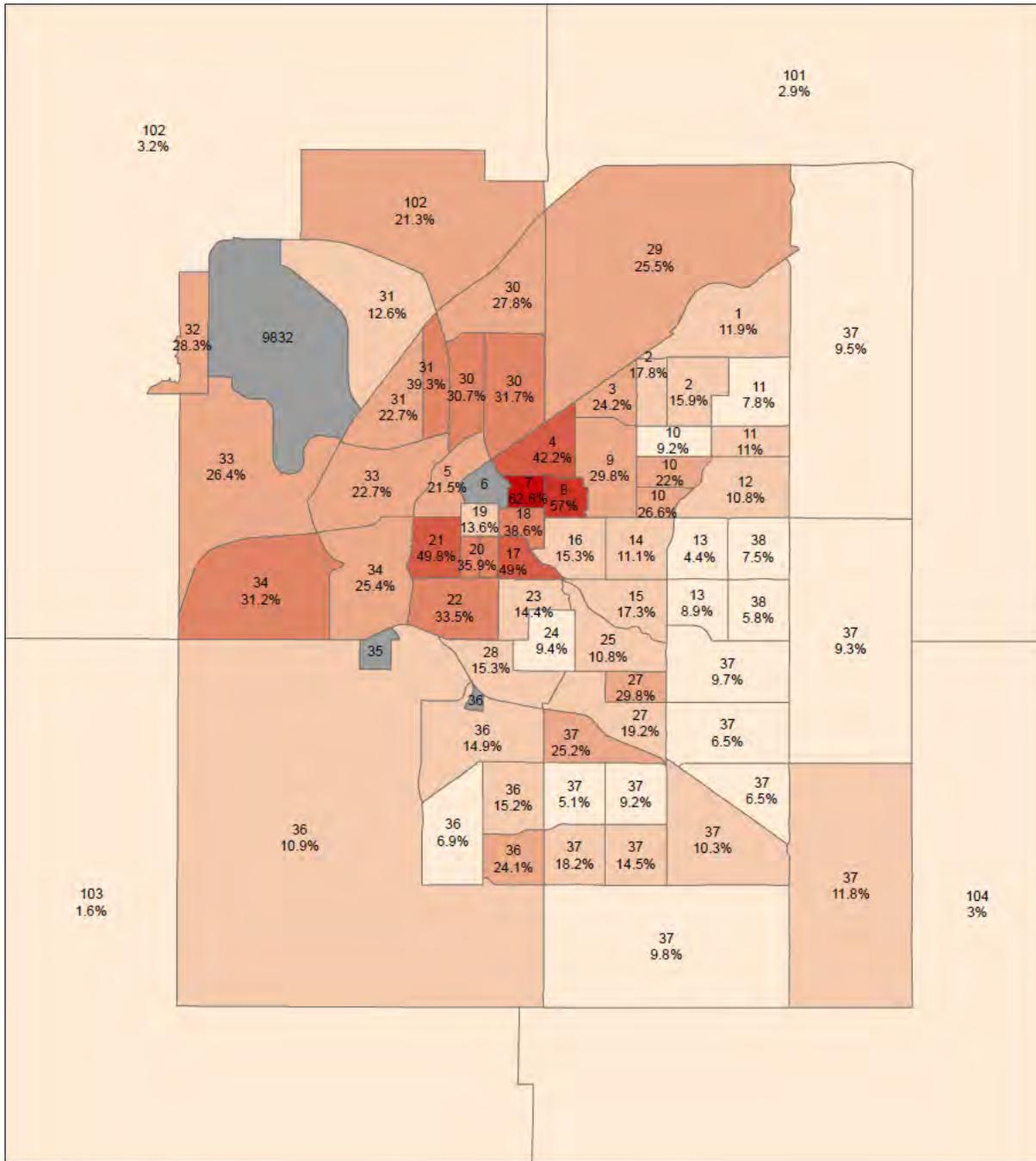
Source: Lincoln Lancaster County Health Department  
Mapped by LLCHD GIS  
06/2021





**Percent Poverty  
Per Census Tract (All Age Groups)  
Lancaster County 1980**

  
 Source: US Census  
 Mapped By LLCHD GIS  
 03/19/2021



**Legend**

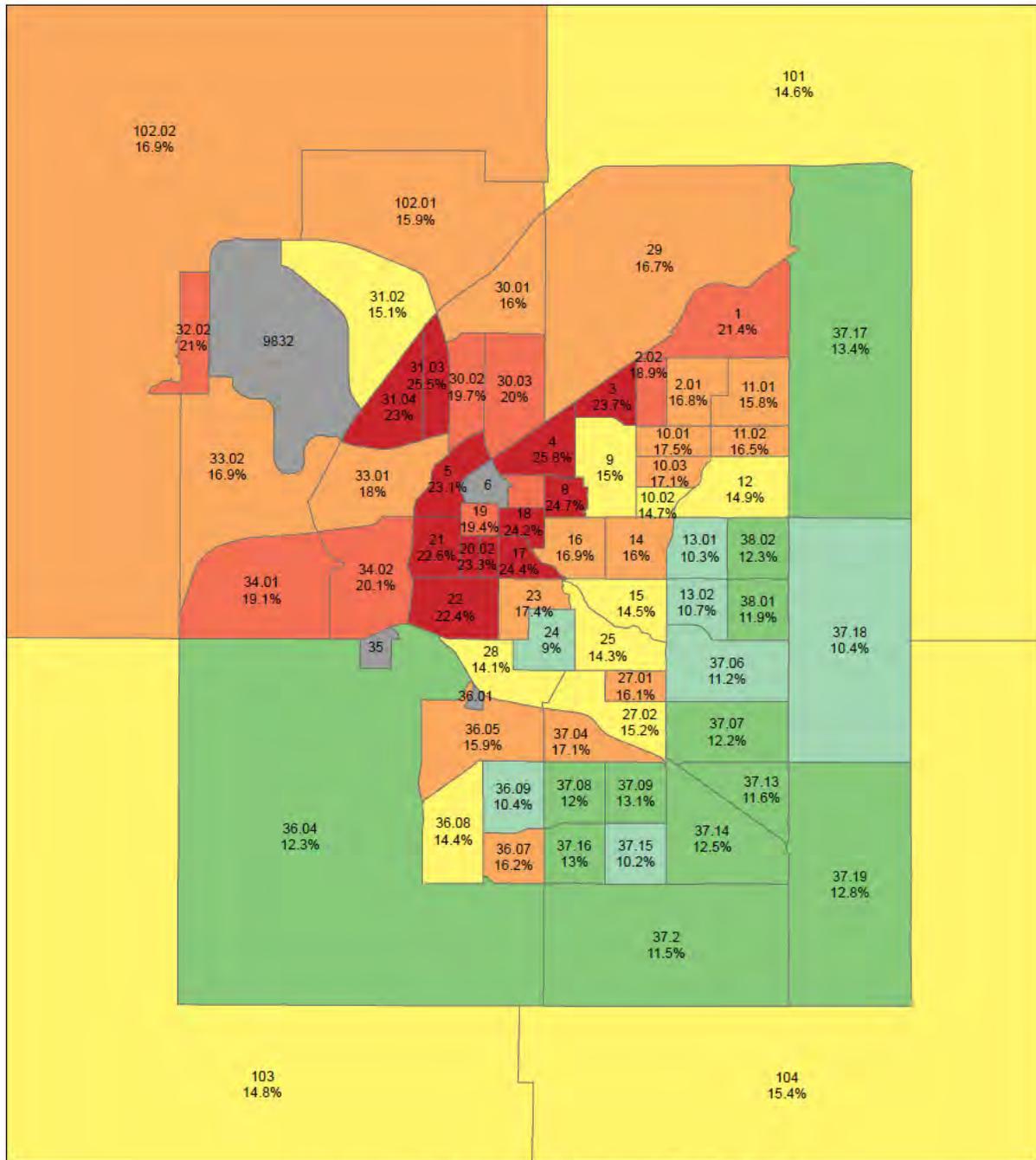
- 0 - 10%
- 10.1 - 20%
- 20.1 - 30%
- 30.1 - 40%
- 40.1 - 50%
- 50.1 - 60
- 60.1 - 65%
- ExcludedCTs
- City Limits

### Minority Population Per Census Tract 2019

Labels: Census Tract #, Percent Minority



Source: US Census 2019 5yr Est.  
Mapped by LLCHD GIS  
08/2021



### Current Smoking Among Adults Aged >= 18 years

**Legend**

- 9.0 - 11.2
- 11.3 - 13.4
- 13.5 - 15.4
- 15.5 - 18.0
- 18.1 - 21.9
- 22.0 - 26.0
- City Limits
- Excluded CTs

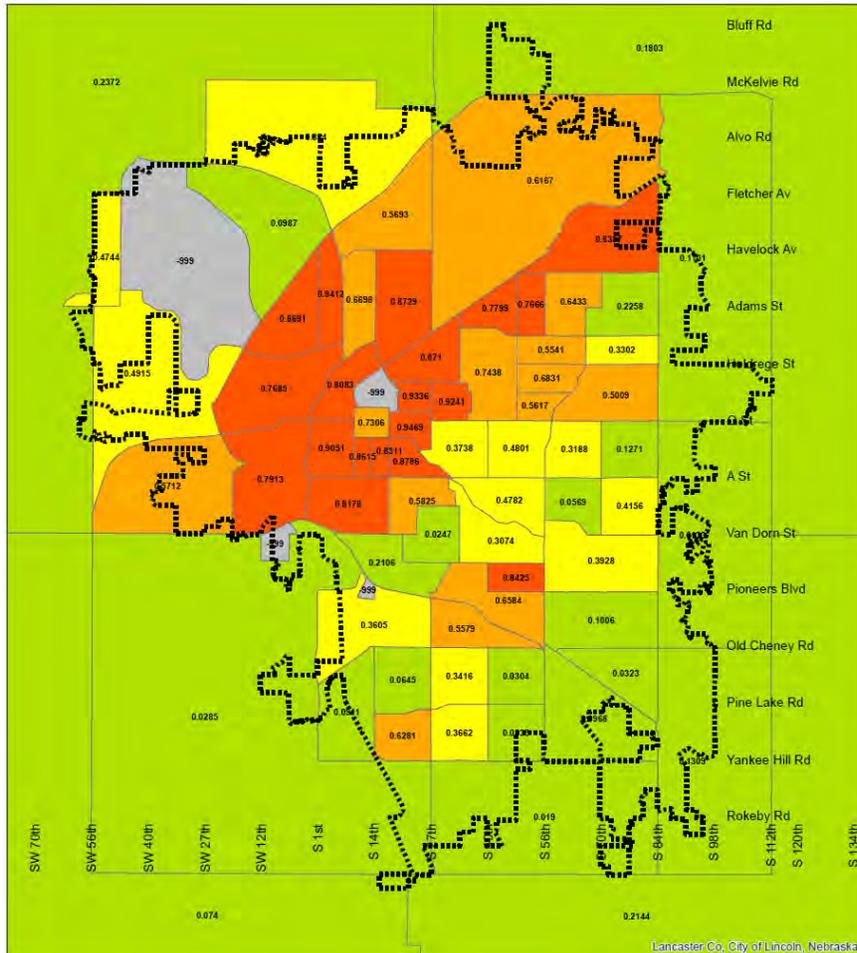


Source: BRFSS 2018  
 Mapped by LLCHD GIS  
 03/2021

Social Vulnerability Index

Many disparities are rooted in social vulnerability. The Social Vulnerability Index (SVI) developed by the Centers for Disease Control and Prevention (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR) refers to the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks. Reducing social vulnerability can decrease both human suffering and economic loss.

The map on this page shows the SVI by census tract in Lancaster County.<sup>28</sup> The SVI uses 15 U.S. census variables to help local officials identify communities that may need support before, during, or after disasters. These variables include poverty, lack of vehicle access, and crowded housing. The 2018 SVI includes socioeconomic status (below poverty, unemployed, income, no HS diploma), household composition and disability (aged 65+ years, aged under 17 years, civilians with disabilities, single-parent households), minority status and language (minority, aged 5 or older who speak English “less than well”), and housing type and transportation (multi-unit structures, mobile homes, crowding, no vehicle, group



**Social Vulnerability Index (Overall) by Census Tract Lancaster County 2018**

**Legend**  
 RPL\_THEMES 0.2501 - 0.50  
 U/A 0.5001 - 0.75  
 0-0.25 0.7501 - 1.0

Label: Social Vulnerability Index in each Census Tract



Source: Lincoln Lancaster County Health Department

quarters).<sup>29</sup> All of these metrics together form the SVI estimates shown in the map below. Many of these factors related to social vulnerability are more commonly found in urban settings, but the impact of these variables in Lancaster County also reaches outside of the more urban areas of Lancaster County and the City of Lincoln.

<sup>28</sup> <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>

<sup>29</sup> [https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

## Community Themes and Strengths Assessment

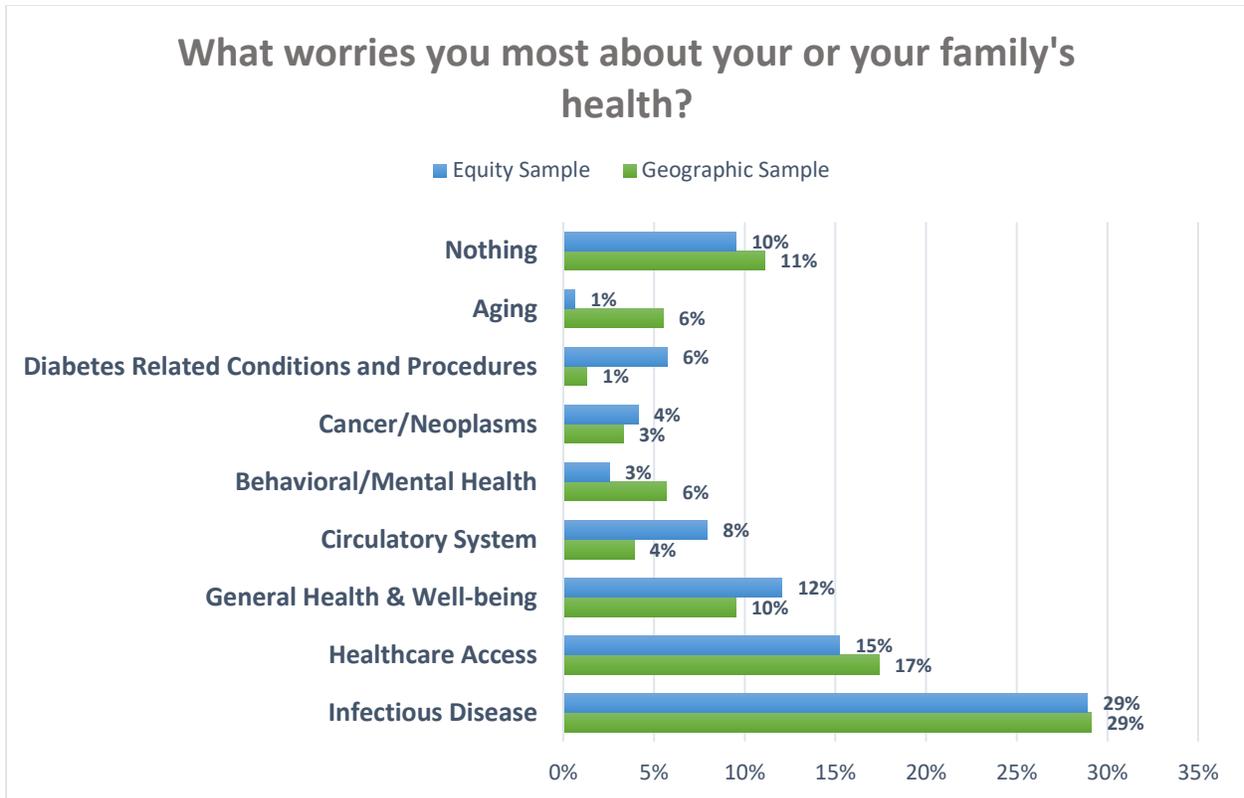
The primary method used for the Community Themes and Strengths Assessment was completed using a geospatial sampling protocol to gain a representative sample by census tract. The purpose of this assessment is to gather information about:

- What is important to our community?
- How is quality of life perceived by our residents?
- What assets do we have to improve community health?

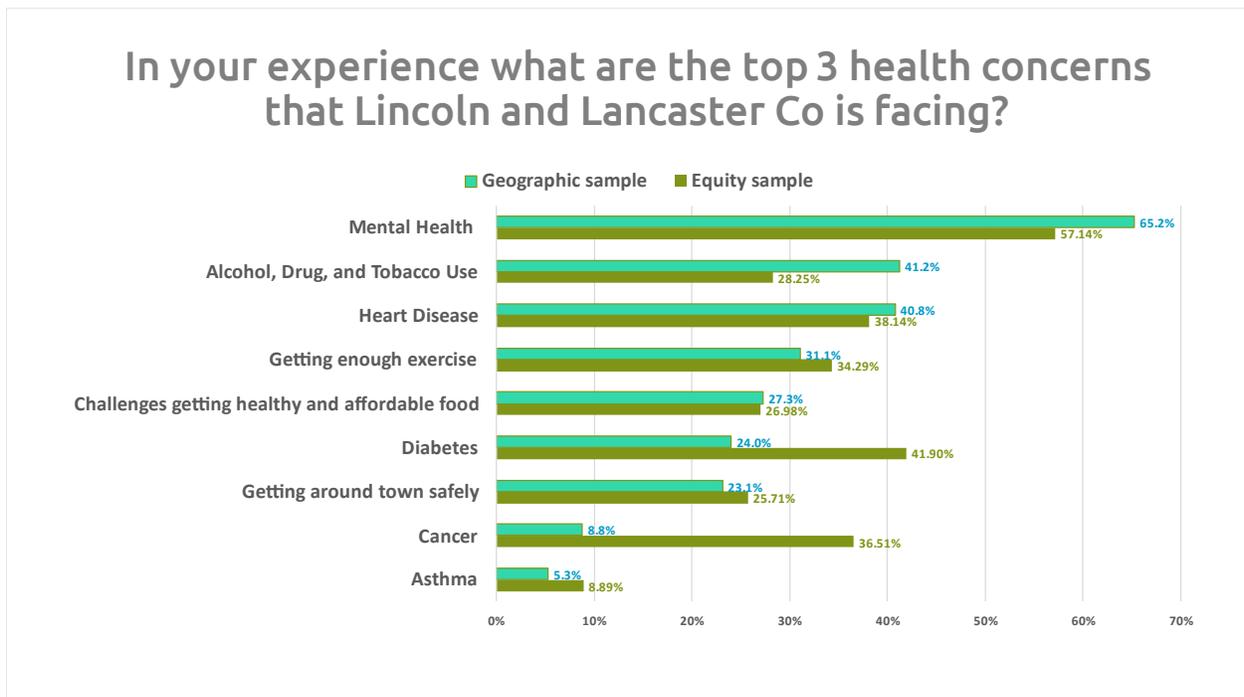
The geospatial and equity survey was distributed starting in 2020 to the general population. In early-to mid-2021, a focused assessment survey was shared with cultural centers and other partners throughout Lancaster County to ensure that we were able to view our communities' themes and strengths through an equity lens. There was no convenience survey that is typically administered during this assessment period. For the Community Themes & Strengths, the questions from the geospatial survey and equity-focused survey done in coordination with the Cultural Centers of Lincoln that are used are shown below:

- What worries you most about your or your family's health?
- In your experience, what are the top 3 health concerns in Lancaster County?
- What's something you do to be healthy?

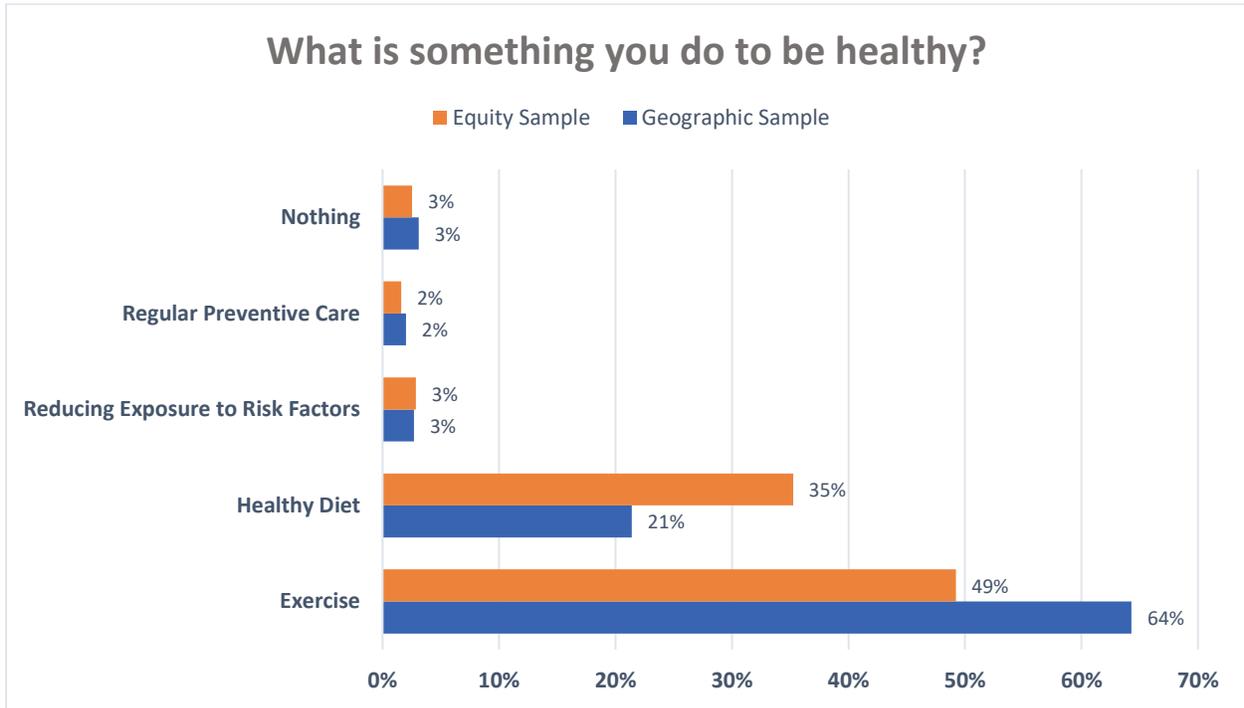
These two questions get to the core of what concerns people have about their health or their family's health as well as what strengths exist with regards to living a healthy life. To answer the question about how the quality of life is perceived by our residents, the questions about what would make their neighborhood a healthier place for themselves, or their family was very insightful. Nearly ¼ of residents stated they would do nothing to make their neighborhood a healthier place for them or their family. Below are a series of tables showing what people are most worried about in Lancaster County to also help shed light on the question of what is important to our community and how quality of life is perceived.



Below is a chart summarizing the themes of health concerns faced by residents of Lancaster County that was drawn from the question about what the top 3 health concerns in Lancaster County are.



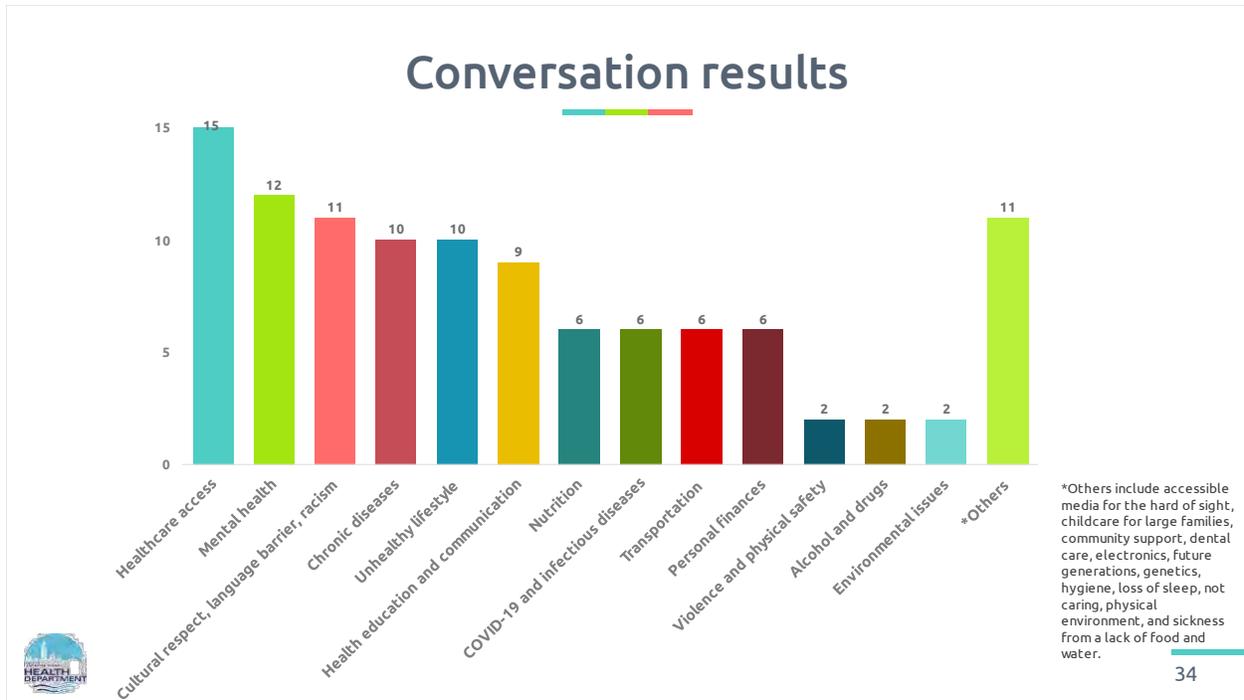
Below are again a series of tables showing what people do to be healthy in Lancaster County. These are some of the assets that we must improve community health.



### Community Conversations

LLCHD is also conducting focus groups branded as ‘Community Conversations’ that are intended to dive deeper into the health issues experienced by communities and what those communities would like to see in how we can improve those health exposures and outcomes. To date, there have been 20 focus groups (9 in a non-English language) including 176 total participants, or about 9 per group. These participants represented 15 different countries of origin. The populations interviewed included: Mexican, Other Hispanic, Sudanese men, Sudanese women, Middle-Eastern men, Middle-Eastern women, Chinese, Vietnamese, Karen, Yazidi, Ponca Tribe, Native Americans from the Indian Center, African American youth, African American adults, city center, southeast Lincoln, southwest Lincoln, the blind, the aging, and the unhoused populations. Much of what was identified as themes in these focus groups were also identified in other data sources, while a lot of great information was gathered that showed issues traditional data do not represent.

For example, cultural respect, language barriers and racism were identified as a major theme in these focus groups with racial and ethnic populations. The slide pulled from one of our presentations below shows the themes identified through these focus groups.

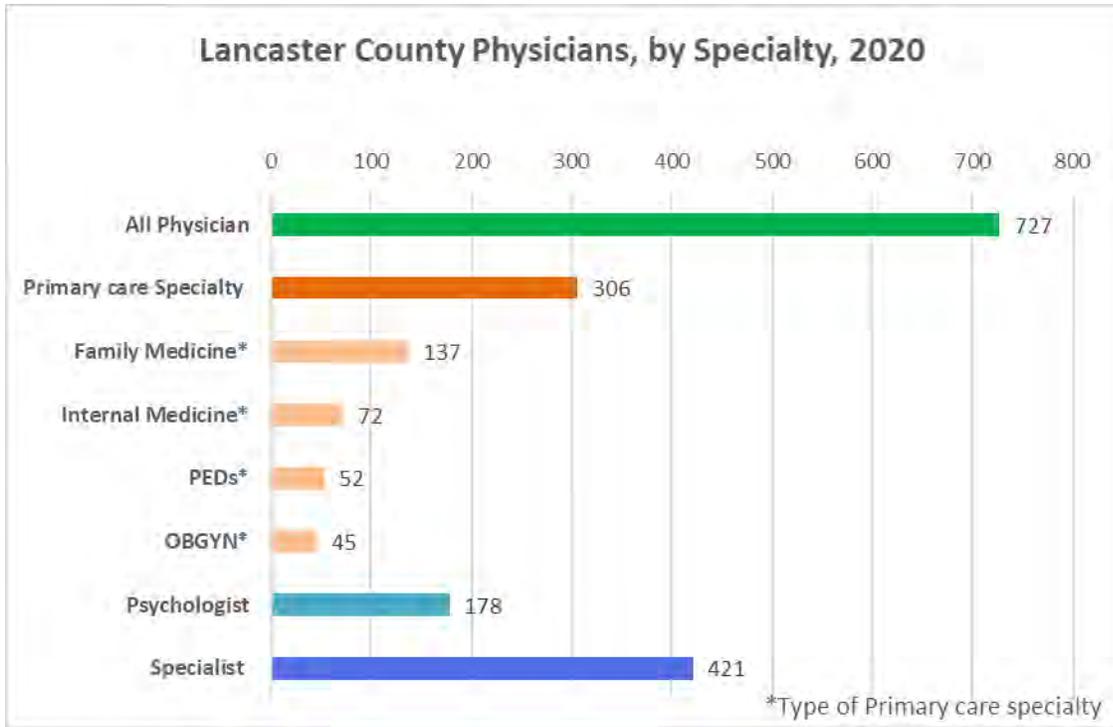


Between the health survey and focus groups conducted geospatially and with an equity focus, this comprehensive assessment of Community Themes & Strengths sheds light on what is important to the community, the quality of life of the community, but to better understand the resources people must have to be healthy, we need to evaluate the health care system. The following section does that.

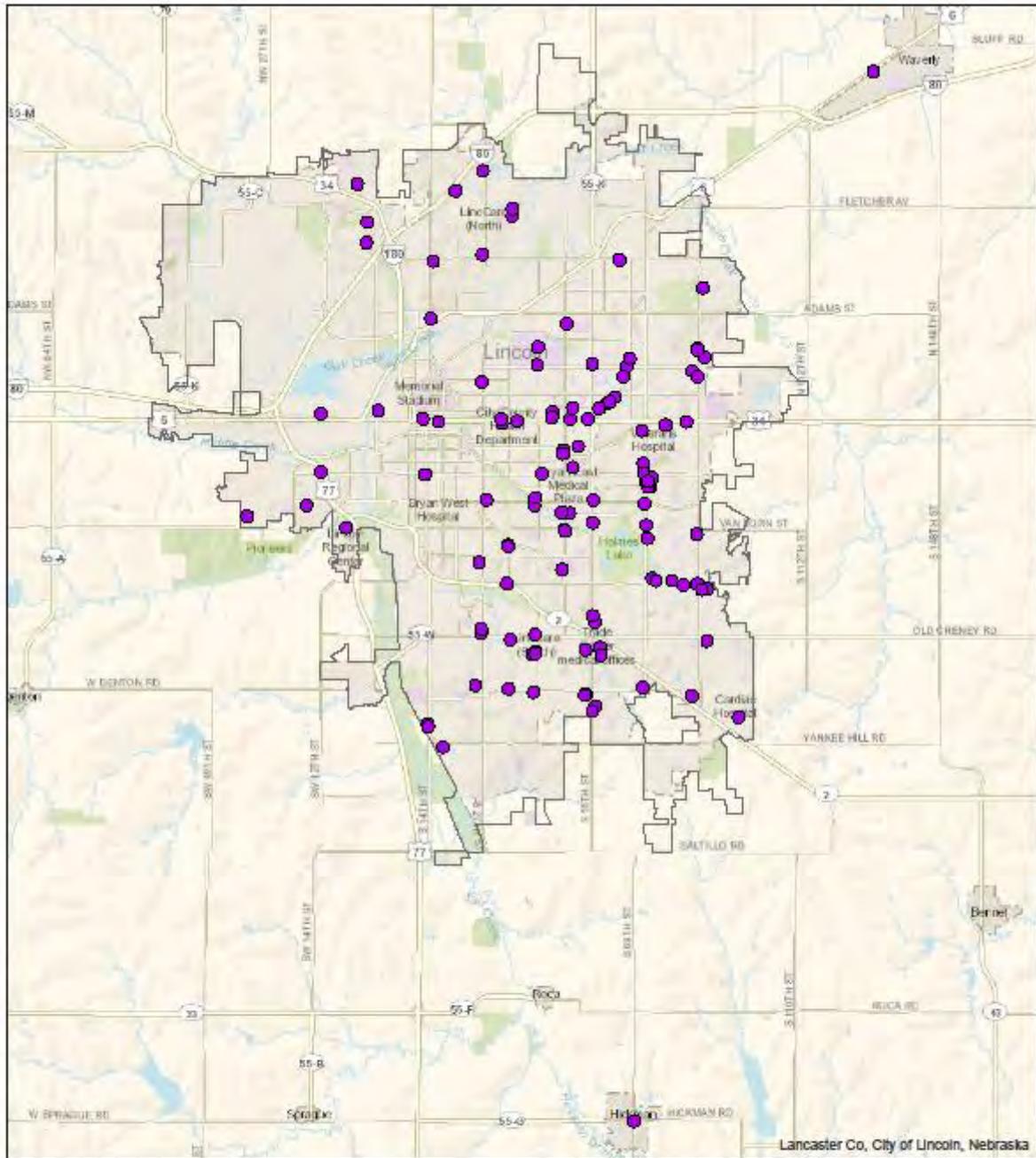
### Resources & Assets

Lancaster County has several community assets that contribute to the health of the residents. Most health care providers in the county are in Lincoln, and distributed unevenly across the community, with fewer providers in northern Lincoln. These data help to answer the question about what resources exist to improve the health our community.

Physician numbers are one measure of human resources. As of December 2020, in Lancaster County, the number of physicians is shown in the chart below. As indicated, there were 306 physicians licensed in a primary care specialty (e.g., family, and internal medicine, obstetrics, and pediatrics) out of the 727 total physicians. In addition, there were a total of 178 licensed psychologists in Lancaster County. The remaining 421 licensed doctors are licensed in a sub-specialty licensure category. In addition to 727 physician and 178 psychologists in Lancaster County, there were 237 physician assistant (PA), 4694 registered nurse (RN), 779 Licensed practice nurse (LPN), 334 APRN-Nurse Practitioner (NP), and 69 APRN-CRNA.



The following pages show the dental clinics, behavioral health clinics and primary care clinics within the city limits of Lincoln, Nebraska. Northern Lincoln and the non-Lincoln areas of Lancaster County have fewer locations available for health care access.

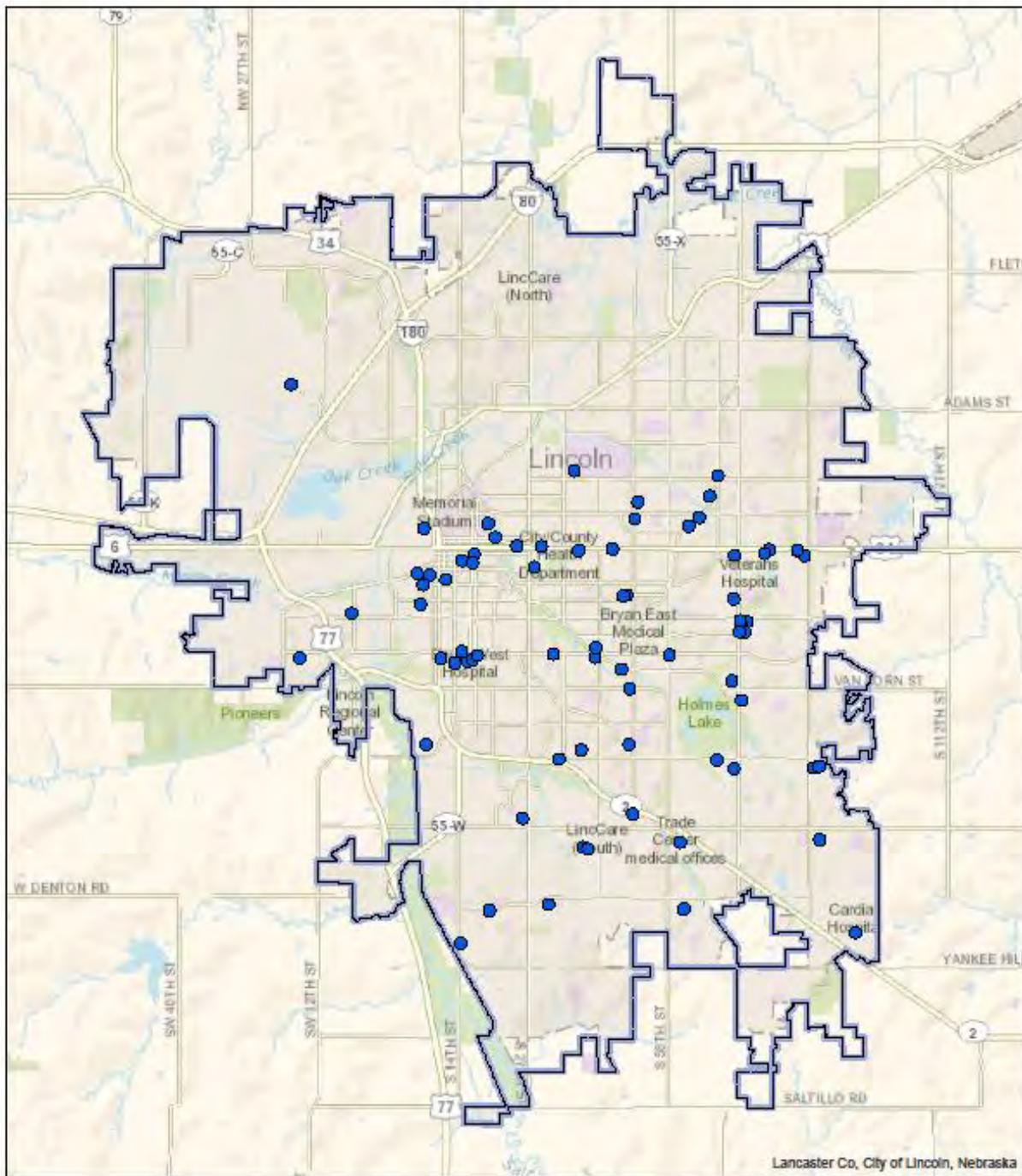


- Dental Clinic
- City Limits

### Dental Clinics Lancaster County, NE



Source: DHHS - Division of  
Public Health Licensure Unit  
Mapped by LLCHD GIS



### Behavioral Health Clinics City of Lincoln, NE

- Clinic Location
- ▭ City Limits

1 in = 2 miles  
LLCHD GIS



population, but also residents from throughout southeast Nebraska, northern Kansas and from across the state. The Lincoln-Lancaster County Health Department as well as state agencies provide population health services.

In Lancaster County, shortages in primary care, dental health and mental health are supported by Bluestem Health (Federally Qualified Health Center) and the Nebraska Urban Indian Health medical Center, Inc., according to the Health Professional Shortage Area (HPSA) Find Tool displaying data on the geographic, population, and facility HPSA designations throughout the United States.<sup>30</sup>

### Primary Care Services

The map above shows the distribution of primary care physicians in the community. As can be seen, most physician offices are in south and southeast Lincoln.

People's Health Center, Lincoln's Community Health Center, is a federally qualified health center (FQHC), serving the community's medically underserved population. As a FQHC, People's Health Center offers their services to all persons according to their ability to pay. The Center provides vital primary care services, dental care, and behavioral health services to residents with limited financial resources. Community Health Centers serve as a "medical home" to their patients. The definition of a medical home is the coordination of care from care plans to appointments with specialists. The patient receives consistent care from birth through old age. The medical home serves as a guide to community support services from education to transportation.

Lincoln Medical Education Partnership (LMEP) opened more than 30 years ago to train family medicine physicians in response to a growing need for primary care providers. Now in its fourth decade, LMEP has evolved into a multi-dimensional organization offering a variety of healthcare programs and services. The Partnership is supported by both local hospital systems. As a residency program with the University of Nebraska College of Medicine, the Lincoln Family Medicine Program has positioned itself over the past 33 years as a premier trainer of family medicine physicians. The Lincoln Medical Education Partnership provides a full range of healthcare education and services to people of all ages and backgrounds.

Among other health resources for Lancaster County residents, the Lincoln Veterans Administration Medical Center provides both primary care and behavioral health services on an out-patient basis. Clinic with a Heart and People's City Mission both provide primary care services for the homeless, low-income residents and the uninsured in their free clinics. Both clinics rely on volunteer physicians and medical staff and have limited hours of operation, especially Clinic with a Heart, which generally provides medical, dental, mental health assessments, vision and hearing screening, and physical therapy either by appointment or on certain days and nights. For students at the University of Nebraska-Lincoln, the University Health Center is also a provider of primary care services. In addition, for primary care after normal physician hours and on weekends, several urgent care clinics have opened in Lincoln over the last decade. Primary among them are three LincCare offices, Bryan Urgent Care, People's Quick Care, Heartland Urgent Care, Nebraska Urgent Care Center, and Express Care Clinic.

Ancillary Primary Care Services. The Lancaster County Medical Society (LCMS) helps individuals find a physician who is accepting new patients. LCMS also assists patients find free or low-cost prescription

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<sup>30</sup> <https://data.hrsa.gov/tools/shortage-area/hpsa-find>

drugs through the Medication Assistance program. The Center for People in Need and LLCHD also provide referral information for individuals needing care.

### Population Health

The Lincoln-Lancaster County Health Department is the largest local public health department in Nebraska, providing a wide range of public health services including a limited amount of primary care services. The Health Department offers direct services such as specialized clinic services, immunizations, dental care, WIC, and home visitation. The department addresses the needs of low-income families in general, but also refugees and the community's increasingly diverse minority population.

Among other responsibilities, the Environmental Public Health (EPH) division monitors air and water quality, regulates and issues permits, enforces city ordinances, responds to hazmat spills and other public health emergencies, inspects food establishments, and promotes a safe and livable community. The Communicable Disease program works with EPH to investigate any food- and waterborne diseases and outbreaks of disease at facilities such as childcare centers; program staff members also investigate and monitor all reportable and infectious diseases in the community such as influenza, sexually transmitted infections, tuberculosis.

The Health Promotion and Outreach division actively promotes healthy lifestyles and addresses the many negative (e.g., smoking, physical inactivity) and positive behaviors (e.g., preventive screening) that influence health. Factors influencing chronic health problems in the community (e.g., diabetes, cancer, heart disease) are a special focus of the program and the many partner coalitions (e.g., Safe Kids, Crusade against Cancer, Action Now! Diabetes Coalition, Partnership for a Healthy Lincoln, Teach a Kid to Fish) that provide health education and prevention efforts.

Many community organizations contribute to population health in an array of ways, including Bluestem Health, Bryan Health, CHI Health, and Partnership for a Healthy Lincoln, to name a few.

### Hospital Services

Lincoln is a regional center for healthcare, insurance, education, and business. CHI Health St. Elizabeth and Bryan Health (with two campuses) are the general acute care hospitals.

Bryan Health is a not-for-profit, locally owned healthcare organization with two acute-care facilities (the Bryan East Campus with 374 beds and the Bryan West Campus with 266 licensed beds) and several outpatient clinics. Hospital care services include the areas of cardiology, orthopedics, trauma, neuroscience, mental health, women's health, and oncology. Bryan Health employs more than 4,000 staff and they have a statewide network that provides sophisticated mobile diagnostic treatment and services to citizens throughout the region. Based on DRG categories, psychosis accounts for the single largest number of admissions at Bryan Health.

CHI Health St. Elizabeth is a part of CommonSpirit Health, a health system formed in 2019 through the alignment of Catholic Health Initiatives and Dignity Health. CHI Health St. Elizabeth, founded by the Sisters of St. Francis of Perpetual Adoration in 1889, is a full-service, 258-bed, nonprofit regional medical center. St. Elizabeth specializes in the treatment areas of newborn and pediatric care, women's health, burn and wound, cardiology, oncology, emergency medicine, orthopedics, and neuroscience.

CHI Health Nebraska Heart is a nonprofit hospital affiliated with CHI Health St. Elizabeth and CommonSpirit Health. Nebraska Heart operates 63 beds and has a large staff of experienced cardiac-care professionals, including 14 cardiologists, 4 surgeons, and more than 200 support staff.

Madonna Rehabilitation Hospital is one of the nation's foremost facilities for medical rehabilitation and research. Madonna Rehabilitation Hospital (79 beds) is more than a local resource as patients are referred from throughout the state and U.S. Madonna specializes in traumatic brain injury, spinal cord injury and pediatric rehabilitation. The professional staff includes a team of highly specialized physiatrists, therapists, rehabilitation nurses and clinicians. They work with the most advanced technology and equipment to help each person achieve the highest level of independence.

Lincoln Surgical Hospital, a for-profit facility licensed for 21 beds, provides state of the art surgical suites and a skilled, professionally staffed alternative for many of the city's best surgeons. Lincoln Surgical Hospital offers surgical service on an outpatient or an inpatient basis.

The Lincoln Regional Center is a 250 bed, Joint Commission-accredited state psychiatric hospital operated by the Nebraska Department of Health and Human Services. The Lincoln Regional Center serves people who need very specialized psychiatric services and provides services to people who, because of mental illness, require a highly structured treatment setting.

With Omaha less than sixty miles to the northeast, county residents needing specialized care such as advanced pediatric services, trauma care and transplants can avail themselves of medical services provided by physicians and staff at the University of Nebraska Medical Center, Creighton University Medical Center and Children's Hospital and Medical Center.

#### Built Environment and City Planning

One of the key health promotion efforts is to encourage individuals to become more physically active if they lead a sedentary existence or to maintain their lifestyle if they are active. People may get exercise at work or belong to the YMCA or a gym, but exercising outdoors is the choice of most residents. Therefore, the built environment (e.g., homes, buildings, streets, open spaces, and infrastructure) has received a great deal of attention due to its impact on the likelihood that individuals engage in exercise and physical activity. As we have shown with the data, about half of community residents do not meet the weekly aerobic physical activity recommendation of 150 minutes or more of moderate activity. In addition, the trend in obesity and diabetes rates has been upward over the past several decades. Nevertheless, our local measures of physical activity, obesity and diabetes are better than those for Nebraska and the U.S. Some of the reasons for the better outcomes may be due to the existing built environment in Lincoln, and ongoing planning efforts to maintain an infrastructure in the future that supports healthy living. As was learned in the Community Themes and Strengths assessment, most people perceive that access to parks and recreation in the community is good to excellent. Also, several strengths discussed in the Forces of Change assessment included mention of the 133 miles of multi-use trails for bikers, walkers and pedestrians (bike trail maps from the Great Plains Trails Network), an increase in bike commuting and the fact that health is included in the vision statement and goals of the City Planning Department's 2040 comprehensive plan (LPlan 2040) that addresses issues such as residential density, block lengths, green spaces and parks, zoning and transportation plans including bicycle commuting. Specifically, the plan states the following vision/goals related to healthy living:

- Urban design encourages walking and bicycling which improve environmental and physical health.
- Neighborhoods are friendly to pedestrians, children, bicycles, the elderly, and people with disabilities.
- Redevelopment projects consider the use of existing infrastructure and buildings in their design.
- Mixed use communities that integrate a variety of housing types and commercial services and serve a variety of income levels allow people to live, work and shop within walking and biking distance.

As for biking, the city has a Bike Lincoln website with videos (“BikeLincs” and Bike Videos) that encourage bike commuting and address cyclists’ needs. Lincoln has just completed a two-way protected bikeway along the south side of N Street known as the “N” Street Cycle Track. It is for the exclusive use of bicyclists. The cycle track will allow for safe bicycle commuting to work in downtown, to the dining, entertainment, and sporting events in the Haymarket, and it ties in with the trails network along the Antelope Valley trails so bicyclists can easily connect to the nearby University of Nebraska as well as provide access to and from residential areas throughout Lincoln.

#### Non-Profit Foundation and Health-Focused Coalitions

Over the years, community leaders have created several coalitions and foundations whose purpose is to improve the health and quality of life of residents of Lincoln and Lancaster County either as their primary mission or as a high priority goal. At the top of the list of funders is the Community Health Endowment of Lincoln (CHE) whose vision is “...making Lincoln, Nebraska the healthiest community in the nation.” As was pointed out at several points in this document, CHE has funded several major efforts that have improved access to health, dental and behavioral care. CHE made the four priority issues in the 2013 CHIP their funding priorities that year and they are using the Place Matters mapping project to solicit applications from government and non-profit agencies at address health problems in any neighborhood or census tract with poor health outcomes. Another local foundation, the Lincoln Community Foundation, has funded the Lincoln Vital Signs and Prosper Lincoln efforts that focus on ways to improve the quality of life in Lincoln, including addressing the social determinants of health.

Of course, the funders do not deliver the interventions and actions needed to improve access to health and specific health initiatives. That is up to the community’s many non-profit and governmental units. Many of the non-profit organizations are part of the Human Services Federation and their membership list is made of many of the people and organizations who contributed to the MAPP community health assessments and that are partners of the Health Department in many efforts. While the contributions of many organizations on the list and others have addressed the four areas (access to care, behavioral health, chronic disease prevention, and injury prevention) highlighted in the CHIP the following have been awarded funds for specific efforts: People’s Health Center, Lutheran Family Services, Lancaster County Medical Society, LLCHD, Center for People in Need, Clinic with a Heart, Aging Partners, Keya House, Cornhusker Place, Bryan Health, CHI Health St. Elizabeth, and LPS, among others.

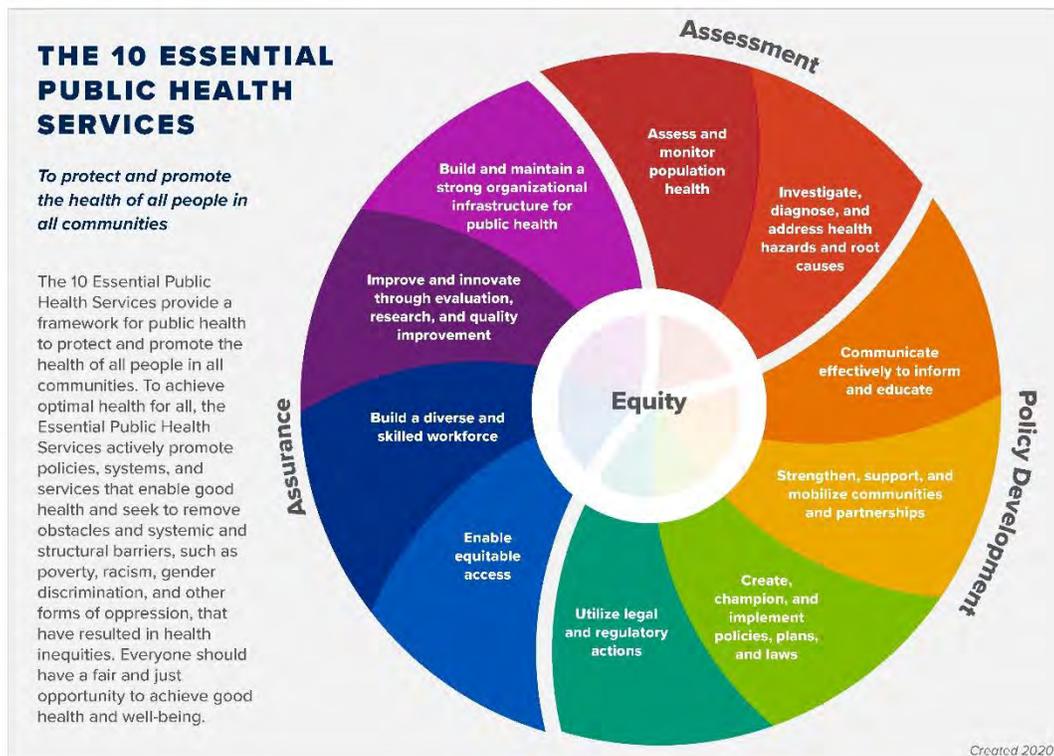
In addition, there are other community partners and coalitions that have helped with the community health improvement efforts: Tobacco Free Nebraska, Partnership for a Healthy Lincoln, Teach a Kid to Fish, Safe Kids Lincoln-Lancaster County and Safe Kids Nebraska, Milk Works, Lancaster Crusade Against Cancer and Lincoln Breast Cancer Coalition, 5-4-3-2-1 Go!, Action Now! Community Diabetes Coalition, Work Well as well as others. These are among the many resources in the community.

## Local Public Health System Assessment

The Local Public Health System Assessment focuses on all the organizations and entities that contribute to the public’s health. The LPHSA answers questions like: “What are the components, activities, competencies, and capacities of our local public health system?” and “How are the Essential Services being provided to our community?”

The Local Public Health Assessment was released to a core set of partners in the 2021-2022 Lancaster County Community Health Assessment beginning in early March of 2022. A survey was developed from the National Public Health Performance Standards (NPHPS) Local Public Health System Assessment Instrument (Local Instrument)<sup>31</sup> provided by the National Association of City & County Health Officials (NACCHO) to gather these data. The tool was developed collaboratively with several respected national organizations, including the Centers for Disease Control and Prevention (CDC), the American Public Health Association (APHA), the Association of State and Territorial Health Officials (ASTHO), the National Association of Local Boards of Health (NALBOH) and more.

The Local Public Health Assessment assesses, using Performance Standards, the optimal level of performance and capacity to which all Local Public Health Systems should aspire with regards to the 10 Essential Public Health Services (view graphic below).<sup>32</sup>

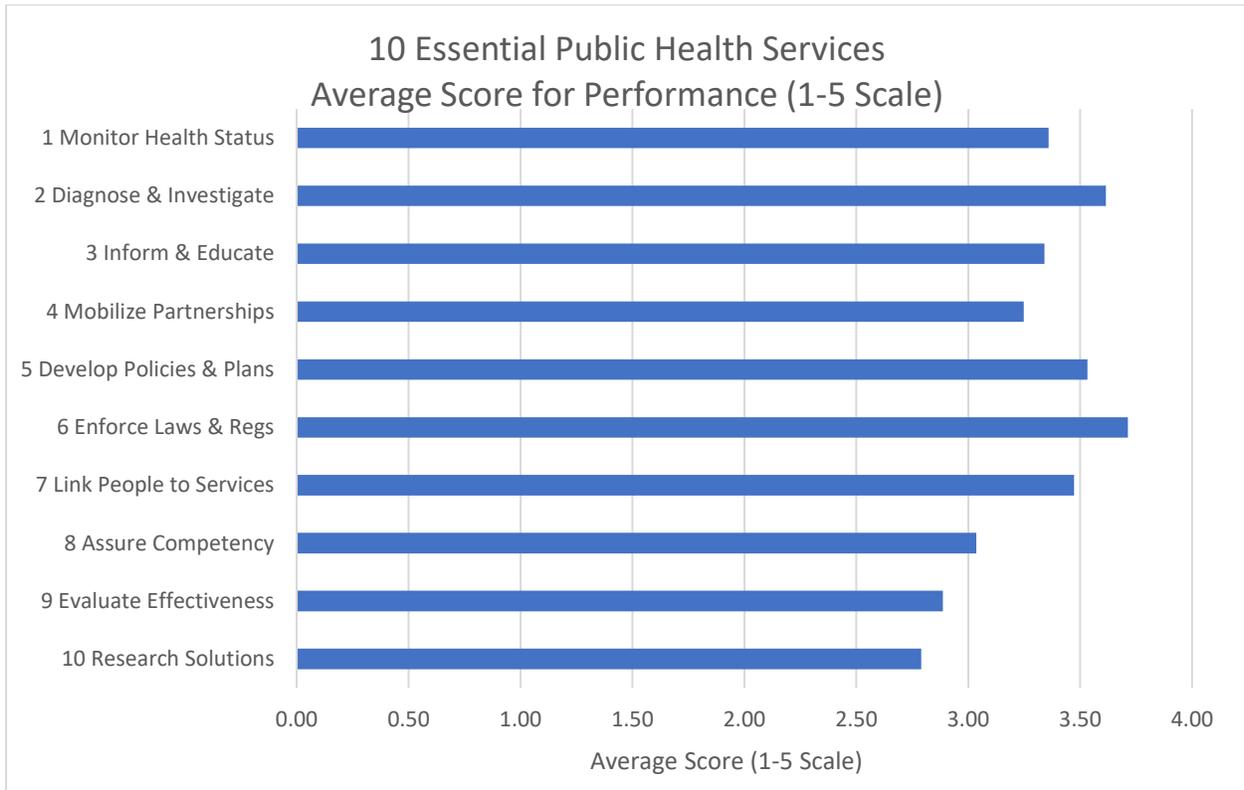


The Local Instrument assists in identifying areas for system improvement, strengthening local partnerships, and assuring that a strong system is in place for effective delivery of day-to-day public

<sup>31</sup> [https://www.naccho.org/uploads/card-images/public-health-infrastructure-and-systems/2013\\_1203\\_FINAL\\_NPHPS\\_LocalAssessmentInstrument.pdf](https://www.naccho.org/uploads/card-images/public-health-infrastructure-and-systems/2013_1203_FINAL_NPHPS_LocalAssessmentInstrument.pdf)

<sup>32</sup> <https://www.cdc.gov/publichealthgateway/publichealthservices/essentialhealthservices.html>

health services and response to public health emergencies. Participants in the 2022 Local Public Health System Assessment included partners from various public health entities in Lancaster County, including the healthcare system, and leadership at the Lincoln-Lancaster County Health Department. Research into methodology improvements to expand the audience completing this assessment will be completed prior to the next round of assessments to create a more robust representation for the LPHSA moving forward. The results of the 2022 Local Public Health System Assessment are summarized below.



The chart above shows the performance of the Lancaster County Public Health System relative to the 10 Public Health Essential Services. This report indicates that the Lancaster County public health system performs at least moderately well on all measures on average but does not pass into the optimal rating for any of them on average. This suggests significant room for improvement in all these domains.

Considering this local public health system assessment was a pilot implemented for this round and COVID concerns may have limited participation to certain populations, a comparison of these data to the follow-up rating in 2024 will provide additional insight into our overall performance.

## Forces of Change Assessment

The Forces of Change Assessment focuses on identifying forces such as legislation, technology, and other impending changes that affect the context in which the community and its public health system operate. This answers the questions: “What is occurring or might occur that affects the health of our community or the local public health system?” and “What specific threats or opportunities are generated by these occurrences?”

In Lancaster County, the Forces of Change Assessment incorporated three different tools to better understand what was impact the public health systems and the community’s ability to operate. These tools were the Community Health Survey, the Community Conversations, and the Module Questionnaires.

First, the Community Health Survey gathered information from the public about ‘What’s something you do to be healthy?’ to better understand what the community currently can do to improve their health. We also asked a question in the Community Health Survey of ‘What would make your neighborhood a healthier place for you or your family?’ to better understand what changes the community is interested in seeing to impact their health positively. These two questions yielded the following:

For what the community does to be healthy, they emphasized exercise and healthy diet. This suggests that most of the community can engage in physical activity to improve their health and that at least a quarter are able to focus on a healthy diet. This also presents insight into opportunities for improvement in the sense that over a third of the community does not exercise, over two thirds of the community may not practice a healthy diet and reducing exposure to risk factors, regular preventive care and safe habits in transportation all are uncommonly reported as ways people stay healthy. This suggests that our community needs assistance in improving their overall health and well-being in these areas.

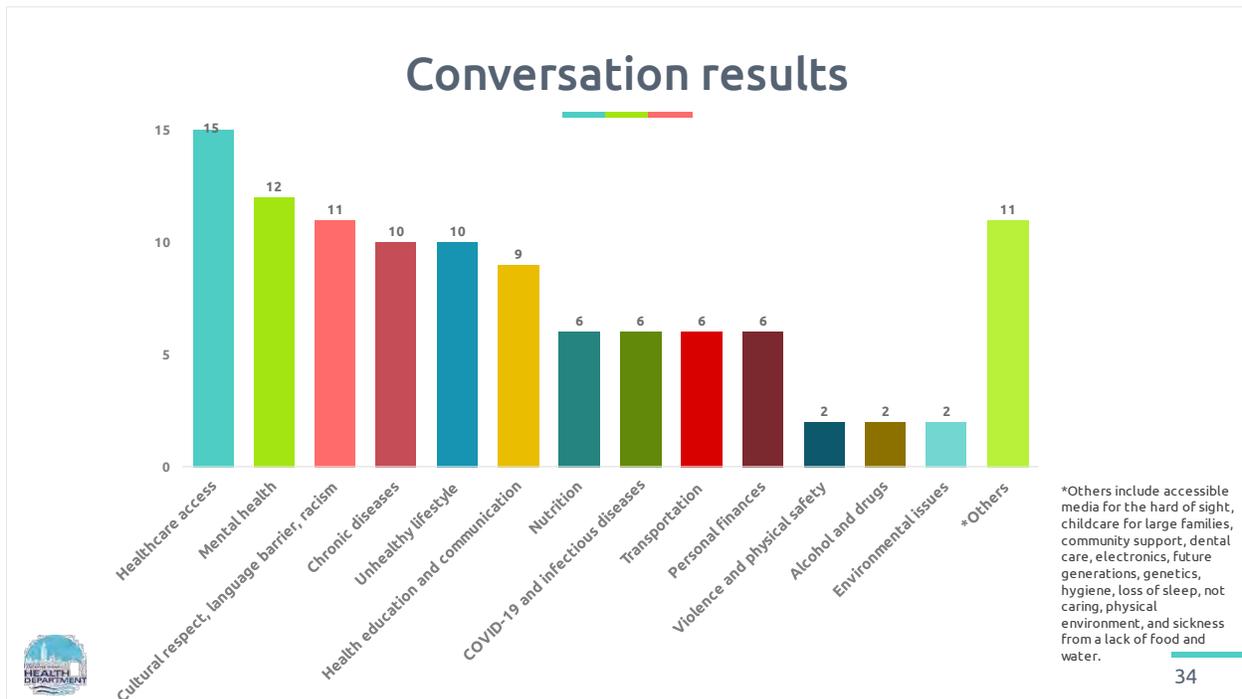
Categorized Responses	Weighted percent
Exercise	64.3%
Healthy Diet	21.4%
Other or Unspecified	6.4%
None	3.1%
Reducing Exposure to Risk Factors	2.7%
Regular Preventive Care	2.0%
Safe Traffic Habits	0.1%

The other question regarding what would make their neighborhood a healthier place supports the previous question by emphasizing physical activity infrastructure, a cleaner environment and traffic safety, but many different areas were mentioned suggesting that a wide array of interventions are necessary to improve the community’s health from the perspective of our community.

Categorized Responses	Weighted percent
Physical Activity Infrastructure	16.8%
Cleaner Environment	10.3%
Traffic Safety	7.3%
Neighborhood Safety	6.3%

Don't Know	5.5%
Access to Healthy Food	4.3%
Neighborhood Connectedness	4.2%
Physical Activity Programming	2.7%
Reduced Access to Drugs & Alcohol	2.7%
Access to Healthcare	2.5%
Higher Vaccination Rates	0.2%

LLCHD recognizes that while the community has resources to improve their health, they also lack resources. The Community Conversations also provided insight into the Forces of Change, with a lot of insight focusing on what barriers to change existed, which are forces preventing change in the positive direction. These included, shown in the image below, access to healthcare, mental health, and cultural factors, such as respect, language barriers and racism. An unhealthy lifestyle, health education & communication and nutrition all also rose to the top in these conversations frequently. This suggests these are also significant barriers to change.

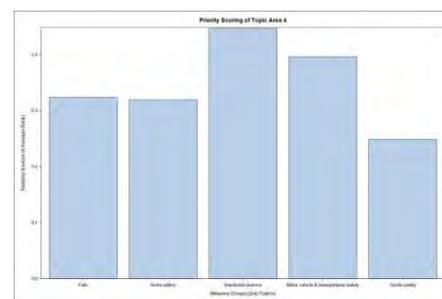
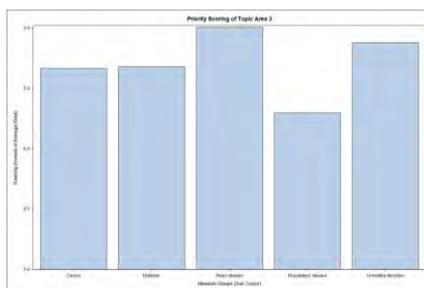
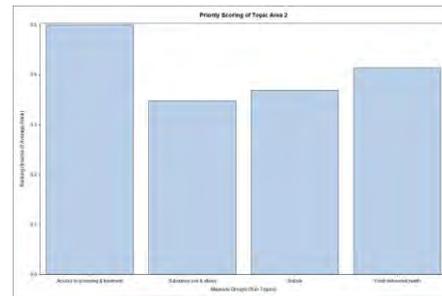
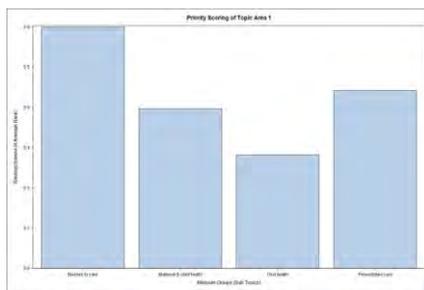


Finally, LLCHD incorporated questions focused on Forces of Change into a series of educational modules shared with Community Health Summit participants in the weeks leading up to that event meant to help clarify topics for the Community Health Improvement Plan. The results of this are shown at the end of the 'Prioritization' section that follows. These results, in summary, showed the (1) readiness and political will of being able to change something, (2) the capacity of the local public health system to make a change, and (3) the general changeability of that health issue or behavior.

## Prioritization

Priority issues were identified based on an array of metrics. Later in this section is the table showing the scores contributing to the index. This table was generated based on the analysis of data in the modules shared with participants in the Community Health Assessment process. This was presented at the Community Health Summit in May 2022. These metrics were sorted by overall score, grouped, and then used to generate the priority areas and sub-topic areas for summit attendees to vote on.

Below are the slides shared at the Community Health Summit. The last 4 slides shown are the scores that were generated by the voting of attendees at the summit on the sub-topics within the topic areas shown on the 2<sup>nd</sup> slide. These priorities and sub-priorities were then discussed in breakout sessions.



The priority and priority area breakdown are shown below, based on the input of Community Health Summit attendees assessing the information presented in the data modules and in the process leading up to that summit meeting.

- Access to Care (Barriers, Prevention, Maternal & Child)
- Behavioral Health (Access, Youth Behavior, Suicide)
- Chronic Disease (Diabetes, Heart Disease, Unhealthy Lifestyle)

- Injury Prevention (Intentional Violence, Falls, Transportation)

After setting these priorities, the Community Health Improvement Planning process kicked-off. Focus groups were brought together where we facilitated using the ToPs facilitation methodology. This occurred at the 2022 Community Health Summit. The goal of those focus groups was to gather more information that helps to formulate goals, objectives, and strategies when work groups came together in June 2022.

The next step in the process is the assembly of work groups in each of these areas to formally define Goal Statements, SMART objectives, strategies & interventions, and partners responsible for those interventions. This process occurred in June 2022 and is ongoing. The 2022 CHIP will summarize these first meetings deliverables. For more information about the Community Health Improvement Planning process, please refer to the Community Health Improvement Plan document.

This Community Health Assessment and Community Health Improvement Plan combination will be updated annually as needed.

*Please review the following pages for each metric sorted by overall score in descending order.*

Health issue or behavior	Size of the local problem	Historical trend	Comparison with NE/US	Inequities identified	Readiness & political will	Economic & social impact	Capacity of the local public health system	Changeability	Final Score
Youth suicide	4	5	4	1	3.4	4.1	3.2	3.9	28.7
Adequate prenatal care	5	3	4	1	3.3	4.2	3.6	4.4	28.5
Chlamydia	5	4	5	0.5	2.7	3.0	3.2	3.9	27.2
Climate change	5	5	3	1	3.3	3.4	2.9	3.4	27.0
Routine checkup in past year	5	4	3	1	2.8	4.1	3.2	3.9	27.0
Heart disease deaths	4	4	3	1	3.2	4.1	3.2	3.8	26.3
Pregnancy-related insurance coverage	5	3	3	1	3.0	3.9	3.3	3.9	26.1
Youth bullying	4	4	4	0	3.1	3.8	3.1	3.8	25.8
Prostate cancer	4	5	4	0	3.1	3.4	2.8	3.5	25.8
COVID-19	5	2	1	1	3.7	4.6	4.2	4.3	25.8
Breast cancer	4	4	3	0.5	3.4	3.8	3.3	3.8	25.7
Gonorrhea	5	4	4	0	2.7	2.9	3.2	3.9	25.7
Falls	5	3	3	1	3.0	3.8	3.3	3.6	25.7
Overweight and obese BMI	5	4	2	1	2.9	4.1	3.0	3.6	25.6
Hypertension	5	3	4	1	2.7	3.6	2.8	3.5	25.6
Binge drinking	4	3	4	1	2.9	3.8	2.9	3.6	25.2
Could not see a doctor due to cost	3	4	3	1	2.9	4.4	3.0	3.9	25.2
Motor vehicle traffic injuries	4	4	3	0	3.3	3.8	3.4	3.8	25.2
Lead exposure	4	3	3	1	3.4	3.3	3.3	4.1	25.1
Depressive disorders	4	3	3	1	3.1	3.9	3.0	3.7	24.7
Physical inactivity	4	4	2	1	2.9	4.0	3.1	3.7	24.6
Current electronic vapor product use	2	4	4	1	3.1	3.6	3.0	3.8	24.5
Youth and physical violence	4	3	3	1	3.0	3.6	3.0	3.6	24.2
Suicide deaths	4	2	3	0	3.6	4.1	3.4	4.0	24.0
Influenza	3	3	3	0.5	3.4	3.2	3.7	4.0	23.8
Dental visit in the past year	4	3	2	1	2.7	3.9	3.1	3.9	23.7
No healthcare coverage	4	3	1	1	3.0	4.6	3.1	3.9	23.6
Distracted driving	5	3	1	0	3.2	3.9	3.3	4.0	23.3
Cesarean deliveries	5	2	4	1	2.3	2.9	2.7	3.2	23.3
First trimester prenatal care	3	2	2	1	3.4	4.0	3.6	4.3	23.2
Alcohol and motor vehicle use	4	2	3	0	3.3	3.8	3.2	3.9	23.2
Air quality	3	3	3	1	3.0	3.4	3.0	3.5	23.0
All cancer	3	3	3	1	3.1	3.8	2.8	3.3	22.9
Premature gestational age at birth	4	3	3	1	2.4	3.5	2.7	3.1	22.8
Colon cancer deaths	1	5	2	1	3.2	3.7	3.2	3.7	22.8
Gestational diabetes	2	4	3	1	2.7	3.4	3.0	3.7	22.7
Skin cancer	2	5	3	0	3.0	3.2	2.9	3.7	22.7
Unintentional injuries	4	2	3	0	3.1	3.6	3.2	3.7	22.5
Covid-19 deaths	5	1	1	1	3.4	3.7	3.6	3.9	22.5

Health issue or behavior	Size of the local problem	Historical trend	Comparison with NE/US	Inequities identified	Readiness & political will	Economic & social impact	Capacity of the local public health system	Changeability	Final Score
Diabetes	2	4	2	1	3.0	3.7	3.1	3.7	22.5
Low birth weight	2	3	4	1	2.6	3.4	2.9	3.5	22.4
Lung cancer deaths	2	5	2	0	3.0	3.7	3.0	3.6	22.3
Intentional self-harm	1	3	3	1	3.5	3.6	3.2	4.0	22.3
Breast cancer deaths	1	4	3	0.5	3.3	3.6	3.1	3.6	22.1
Diabetes deaths	1	4	2	1	3.2	3.9	3.1	3.8	22.1
Accidental deaths	2	3	3	1	2.9	3.6	3.0	3.5	22.1
Stroke deaths	2	2	4	1	2.8	3.6	3.0	3.5	22.0
Current smokers	3	1	3	1	3.0	3.8	3.0	3.7	21.6
Labor induction (<39 weeks)	4	4	2	0.5	2.3	2.7	2.7	3.1	21.4
Intentional harm (assault)	2	3	2	1	3.2	3.3	3.2	3.6	21.3
Youth sexual activity	5	3	1	0	2.6	3.4	2.6	3.5	21.2
Food safety	2	3	2	0	3.3	3.4	3.4	4.0	21.1
Syphilis (primary/secondary)	1	4	4	0	2.7	2.5	3.1	3.7	21.0
Other cancer deaths	1	4	3	0.5	2.8	3.5	2.7	3.2	20.8
Ever had asthma	3	4	2	1	2.1	2.9	2.5	3.1	20.7
Colon cancer	2	2	2	0.5	3.4	3.7	3.1	3.8	20.5
Breastfeeding initiation	2	2	1	1	3.2	3.4	3.7	4.2	20.5
Pancreatic cancer deaths	1	5	2	0	2.8	3.6	2.7	3.1	20.3
Kidney disease	1	4	3	1	2.3	3.1	2.5	3.0	19.9
Pancreatic cancer	1	5	2	0	2.8	3.3	2.6	3.1	19.8
Lung cancer	3	1	2	0	3.2	3.8	3.0	3.6	19.7
Heart attack/coronary heart disease	2	3	1	1	2.8	3.6	2.9	3.4	19.7
Seat belt use	2	3	1	0	3.0	3.3	3.2	4.1	19.6
HIV/AIDS	1	3	3	0	2.7	2.9	3.2	3.8	19.6
Teenage pregnancies	2	1	2	1	2.9	3.6	3.1	3.8	19.5
Hepatitis C (acute/chronic)	2	3	3	0	2.6	2.5	3.0	3.3	19.5
Other cancer	2	3	2	0	2.9	3.2	2.7	3.2	19.1
Ever had arthritis	4	3	1	1	2.0	2.9	2.3	2.8	19.0
Water quality	1	3	1	0.5	3.2	3.4	3.1	3.7	19.0
Tuberculosis	1	3	3	0	2.6	2.6	3.1	3.5	18.8
Cerebrovascular disease/stroke	1	4	1	1	2.5	3.4	2.6	3.2	18.8
Meningitis	1	3	3	0	2.7	2.6	3.0	3.4	18.7
Rabies	1	3	3	0	2.7	2.6	3.0	3.4	18.6
Hepatitis A	1	3	3	0	2.8	2.3	3.0	3.6	18.6
Chronic lung disease deaths	2	2	2	0	2.7	3.6	2.9	3.3	18.6
Chronic obstructive pulmonary disease	2	2	2	1	2.4	3.3	2.5	3.1	18.4
Mumps	1	3	3	0	2.7	2.1	3.1	3.6	18.3
West Nile Virus	1	3	3	0	2.6	2.5	2.9	3.3	18.3

Health issue or behavior	Size of the local problem	Historical trend	Comparison with NE/US	Inequities identified	Readiness & political will	Economic & social impact	Capacity of the local public health system	Changeability	Final Score
Hepatitis B (acute/chronic)	1	2	3	0	2.8	2.6	3.1	3.6	18.1
Pertussis	1	2	3	0.5	2.7	2.3	3.1	3.5	18.0
Salmonella	1	3	2	0	2.6	2.5	2.9	3.6	17.7
Infant mortality	1	1	1	1	3.1	3.5	3.2	3.7	17.4
Unmarried Motherhood	1	2	3	1	2.2	2.8	2.4	2.7	17.1
Rocky Mountain Spotted Fever	1	3	2	0	2.4	2.9	2.7	3.2	17.1
Lyme disease	1	3	2	0	2.6	2.4	2.8	3.2	16.9
Tularemia	1	2	4	0	2.3	2.0	2.6	3.0	16.8
Giardia	1	3	2	0	2.5	2.2	2.8	3.4	16.8
E-coli	1	3	1	0	2.6	2.4	2.8	3.5	16.3
Youth illicit drug use	1	1	1	0	3.0	3.5	3.0	3.5	16.0
Streptococcal disease	1	3	1	0	2.5	2.5	2.8	3.1	16.0
Campylobacter	1	2	1	0	2.5	2.2	2.8	3.4	14.9

The table above was processed by LLCHD to determine groups consistent with the rest of the assessment process. These metrics being prioritized resulted in the priority areas that were presented at the Community Health Summit.

## Conclusion

This section concludes the 2022 Community Health Profile, otherwise known as the 2022 Community Health Assessment. In this document, we've highlighted the MAPP process undertaken in Lancaster County, including the 4 assessments: Community Health Status Assessment, Community Themes & Strengths Assessment, Local Public Health System Assessment, and the Forces of Change Assessment. We've also highlighted the prioritization process.

The process of reporting the CHA-CHIP for Lancaster County will continue in the 2022 Community Health Improvement Plan. In the 2022 Community Health Improvement Plan, the methodology and results of the work groups in each priority area (Access to Care, Behavioral Health, Chronic Diseases, and Injury Prevention) and the improvement plan is described in detail.

If you have any questions regarding this report, please email [health@lincoln.ne.gov](mailto:health@lincoln.ne.gov) or call 402-441-8000. Thank you for reviewing this document.

# Appendix

## Geospatial Community Survey

Below is a copy of the survey.



**Lincoln Lancaster County Health Department**  
3131 O Street, Lincoln, NE 68510

**How Healthy is Our Community?**

The City of Lincoln and Lancaster County are home to roughly 315,000 people, and each person's experience of "health" is impacted by so many things. Where you live, work, go to school, and play provide a personal "health fingerprint."

**Hello!**

The survey below is a way to hear from you about how you experience the things that affect your health in the city of Lincoln. Even though some things may be similar, each person's experience of "health" is impacted by so many things.

On this survey, we do not want your name, age, or any other personal information, but we would really love to hear your story. Your story, and the story of others in your neighborhood will be added together to give a more accurate picture of how we can make a healthier community for everyone. Please complete the 5 questions below, tear off the survey, and return only the survey in the envelope. If you have any questions please call us at 402.441.8091.

**To complete the survey online, or for language help, scan this code with your phone or go here online:** <https://www.surveymonkey.com/r/LincolnCommunityHealthSurvey>



See instructions on the reverse side for how to use the bar code

**If you are completing the survey online, enter the following code: «NewID»**

1. What was the last major health issue you or your family experienced?  

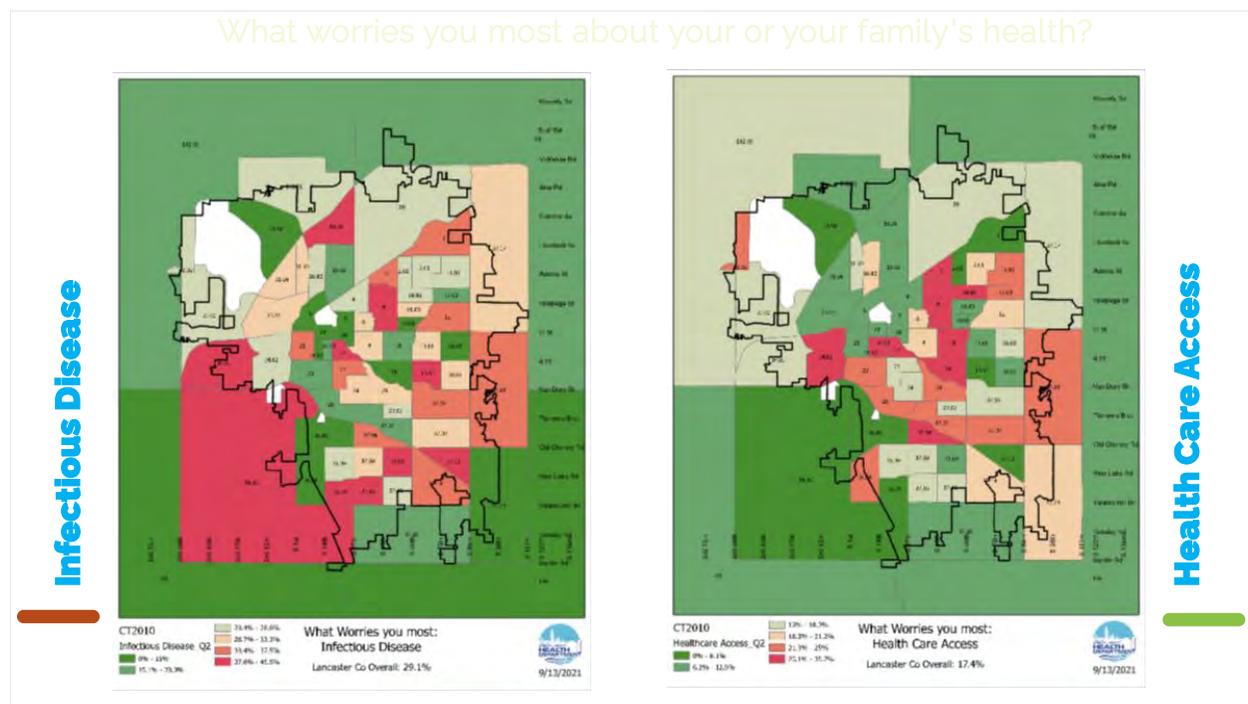
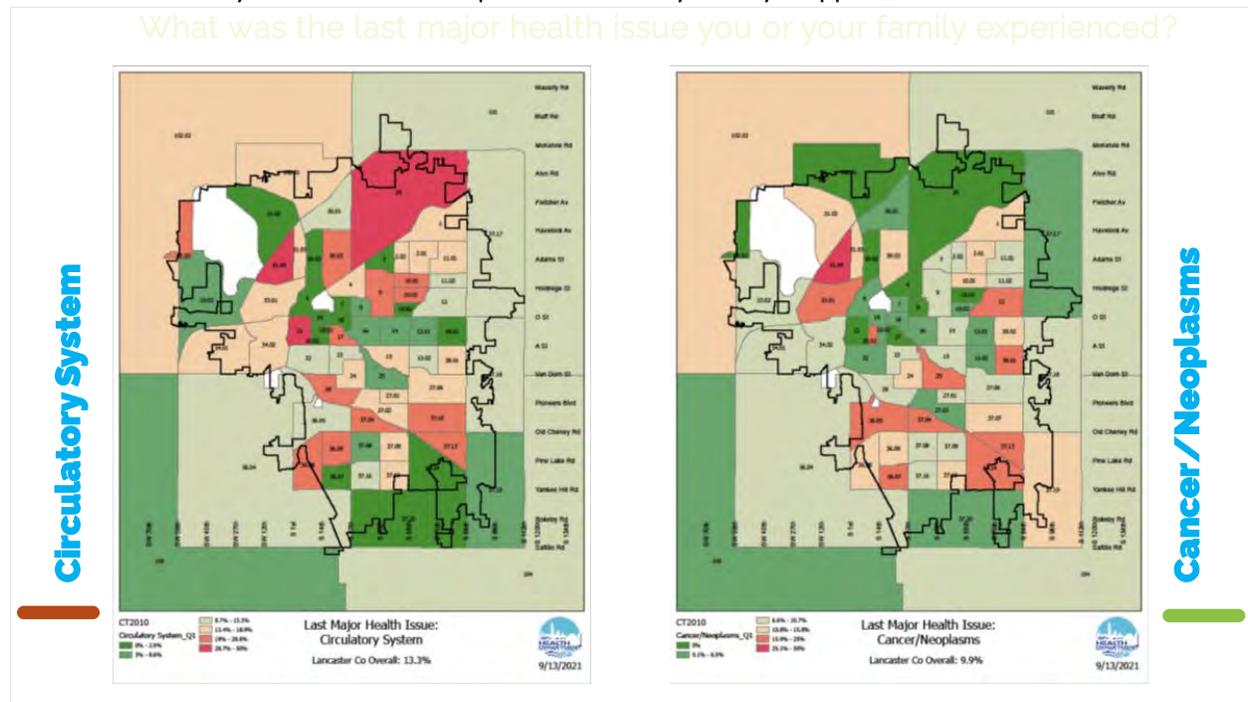
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2. What worries you most about your health or the health of your family?  

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3. The following are health concerns in the city of Lincoln and Lancaster County. In your experience, what are the top 3 health concerns?
  - Alcohol, Drugs, and Tobacco Use
  - Diabetes
  - Mental Health (For Example Depression, Anxiety, Post-Traumatic Stress, Suicide)
  - Challenges Getting Healthy and Affordable Food
  - Asthma
  - Heart Disease (For Example High Blood Pressure & Stroke)
  - Getting Around Town Safely (Driving, Walking, & Riding)
  - Getting Enough Exercise
  - Something Else (write in): \_\_\_\_\_
4. What's something you do to be healthy?  

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5. What would make your neighborhood a healthier place for you or your family?  

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Below are some key results of the Geospatial Community Survey mapped.



What would make your neighborhood a healthier place for you or your family?

