COMMUNITY HEALTH NEEDS ASSESSMENT

Nebraska Counties:
Buffalo, Dawson, Franklin, Gosper, Harlan, Kearney, and Phelps

August, 2020

2020	Two Rivers Public Health Department

Contents

Overview of the Comprehensive Community Health Needs Assessment

Under the direction of the Two Rivers Public Health Department (TRPHD), the 2020 Community Health Needs Assessment has been devised to monitor health status and understand health issues facing the community in the TRPHD, Nebraska. This assessment, and previous assessments, will serve as a reference document for the health care facilities and community agency partners in the TRPHD to assist in strategic planning and continue working on the **Community Health Improvement Plan** (CHIP). See pages 11-16 for details.

It is the purpose of this assessment to inform all interested parties about the health status of the population within the Health Department and to provide community partners with a wide array of data that can be used to educate and mobilize the community and its resources to improve the health of the population.

The Community Health Needs Assessment process is collaborative and is intended to serve as a single data report for multiple coalitions, organizations, and health care facilities in the Health Department. It is the goal of the Community Health Needs Assessment to describe the health status of the population, identify areas for health improvement, determine factors that contribute to health issues, and identify assets and resources that can be mobilized to address public health improvement. This assessment will be updated and revised every three years, thus providing communities with up to date data to evaluate progress made towards identified health priorities, and for the selection of new ones.

GIS and Human Dimensions, LLC., assembled this assessment of public health and community well-being under the provision of the Two Rivers Public Health Department, based largely upon data collected through the process of Mobilizing for Action through Planning and Partnerships (MAPP), behavioral health, and census data.

Key Findings of the Comprehensive Community Health Needs Assessment

The following table (Table 1) present indicators of community health needs for TRPHD. The indicators included are from the text of the full report. The indicators listed as "key findings" were selected based comparison to State-level data. The indicators are presented in the order they appear in the full report.

Table 1: Key findings of the TRPHD Comprehensive Community Health Needs Assessment

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Increase in Population**	• In 2018, the TRPHD population increased 2.6% from the 2010 population (State comparison: 5.5%).
➢ **Racial and Ethnic Minorities**	• Since 2010, the TRPHD racial or ethnic minority population has increased by 23 %.
➢ **Education Attainment**	• In 2018, 26.9% of the TRPHD population had a bachelor's degree or higher (State comparison: 31.3%). • In 2018, 28.8% of the TRPHD population had a high school diploma or equivalent (State comparison: 26.3%).
➢ **Health Literacy Statements**	• In 2018, 57.8% of TRPHD residents reported information from medical professions "very easy" to understand (State comparison: 61.2%). • In 2018, 59.2% of TRPHD residents reported written health information as "very easy" to understand (State comparison: 62.7%).
➢ **Socioeconomic Status**	• In 2018, the TRPHD median household income was $55,291 (State comparison: $59, 116).
➢ **Poverty**	• In 2018, 12.8% of the TRPHD population had an income below the poverty level (State comparison: 11.6%). • The TRPHD poverty percentage increased 0.5% from 2012 to 2018 (State comparison: -0.8%). • In 2018, 15.5% of the TRPHD population under 18 years old lived in poverty (State comparison: 14.8%). • The poverty percentage for individuals under 18 years old increased by 1.2% from 2012 to 2018 (State comparison: -1.9%).
➢ **Severe Housing Problems**	• In 2016, a total of 6,644 TRPHD households had severe housing problems (17.7%) (State comparison: 12.8%; U.S. comparison: 18%).
➢ **General Health "Fair" or "Poor"**	• In 2018, 16.2% of the TRPHD residents reported general health as "fair" or "poor" (State comparison: 14.5%).
➢ **Sleep**	• In 2018, 28.2% of TRPHD adults got less than 7 hours of sleep per day (State comparison: 31.6%).

Table 1 (Continued): Key findings of the TRPHD Comprehensive Community Health Needs Assessment

Indicator/Area of Community Health Need	Rationale for Selection

➢ **Shortage of Specialty Care**	• TRPHD had at least 5 counties with a reported shortage of specialty care professionals in the following specialty areas:
	  ○ Family Practice
	  ○ Psychiatry and Mental Health
	  ○ General Internal Medicine
	  ○ General Surgery
	  ○ Primary Care
	• The only specialty care profession without reported shortage in all TRPHD was General Dentistry.

➢ **Heart Disease**	• In 2018, 7.3% of TRPHD adults reported that they have ever been told they had a heart attack or coronary heart disease (State comparison: 5.6%). • In 2016, heart disease accounted for 20% of TRPHD deaths. • In 2016, the heart disease death rate in TRPHD was 127.9 per 100,000 population (State comparison: 140.2 per 100,000 population).
➢ **Stroke**	• In 2016, the stroke death rate for TRPHD was 26.5 per 100,000 population (State comparison: 33.1 per 100,000).
➢ **High Blood Pressure**	• In 2017, 27.6% of TRPHD adults reported having ever been told they have high blood pressure (State comparison: 30.6%). • In 2016, the rate of hospitalizations in TRPHD was 105.2 per 1,000 Medicare Beneficiaries, 65+ (State comparison: 113.1 per 1,000 Medicare Beneficiaries, 65+).
➢ **Cancer**	• In 2018, 13.6% of TRPHD adults reported they have ever been told they have cancer (State comparison: 11.3%). • In 2016, the Non-Hispanic White population showed a higher cancer rate (507.2 per 100,000 population) than the Hispanic and/or Non-White population (353.1 per 100,000 population). • In 2016, the TRPHD incidence rate of female breast cancer was 136.0 per 100,000 population (State comparison: 124.6 per 100,000 population). • In 2016, the TRPHD incidence rate of prostate cancer was 101.3 per 100,000 population (State comparison: 111.2 per 100,000 population). • In 2016, the TRPHD lung cancer incidence rate was 49.6 per 100,000 population (State comparison: 57.7 per 100,000 population). • In 2016, the TRPHD colorectal cancer incidence rate was 48.2 per 100,000 population (State comparison: 43.0 per 100,000 population). • In 2016, the TRPHD skin cancer incidence rate was 20.7 per 100,000 population (State comparison: 23.9 per 100,000 population). • In 2016, the TRPHD oral cavity and pharynx cancer incidence rate was 14.0 per 100,000 population (11.6 per 100,000).

Table 1 (Continued): Key findings of the TRPHD Comprehensive Community Health Needs Assessment

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Skin Cancer**	• In 2018, 7.7% of TRPHD adults reported they have ever been told they have skin cancer (State comparison: 5.6%).
➢ **Cancer Screening**	• In 2018, 63.3% of TRPHD adults ages 50-75 years old reported they are up to date on colon cancer screening (State comparison: 68.7%). • In 2018, 76% of TRPHD adult women ages 50-74 years old reported they are up to date on breast cancer screening (State comparison: 75.4%). • In 2018, 82.5% of TRPHD adult women ages 21-65 years old reported they are up to date on cervical cancer screening (State comparison: 80.9%).
➢ **Tobacco Use**	• In 2018, 14.4% of TRPHD adults 18 years old and older reported they currently smoke cigarettes (State comparison: 16.0%). • In 2018, 6.1% of TRPHD adults 18 years old and older reported they currently use smokeless tobacco products (State comparison: 5.2%). • In 2018, 11.5% of TRPHD adult males 18 years old and older reported currently smokeless tobacco use compared to 0.9% of TRPHD adult females 18 years old and older. • In 2018, 14.7% of TRPHD 12th grade students reported using tobacco (State comparison: 15.3%). • In 2018, 39% of TRPHD 12th graders reported that they had used an e-cigarette in the last 30 days (State comparison: 37.3%).
➢ **Unintentional Injury Death Rate**	• In 2016, the unintentional injury death rate in TRPHD was 48.9 per 100,000 population [age adjusted] (State comparison: 36.9 per 100,000 population [age adjusted]).
➢ **Motor Vehicle Crashes**	• In 2016, TRPHD had 22 motor vehicle crash deaths. The crude death rate was 22.6 per 100,000 population (State comparison: 11 per 100,000 population).
➢ **Seatbelt Use**	• In 2018, 65.3% of TRPHD adults reported always wearing a seatbelt when driving or riding in a car (State comparison: 75.2%).
➢ **Unintentional Fall Death Rate**	• In 2016, the TRPHD unintentional fall death rate was 14.4 per 100,000 population (State comparison: 11.6 per 100,000 population).
➢ **Suicide**	• In 2016, the TRPHD suicide death rate was 17.9 per 100,000 population (State comparison: 13 per 100,000 population).
➢ **Vaccinations**	• In 2018, 62.5% of TRPHD adults 65 years old or older reported having a flu vaccination in the past year (State comparison: 57.9%). • In 2018, 81.6% of TRPHD adults 65 years old or older reported having a pneumonia vaccination in the past year (State comparison: 76.6%).

Table 1 (Continued): Key findings of the TRPHD Comprehensive Community Health Needs Assessment

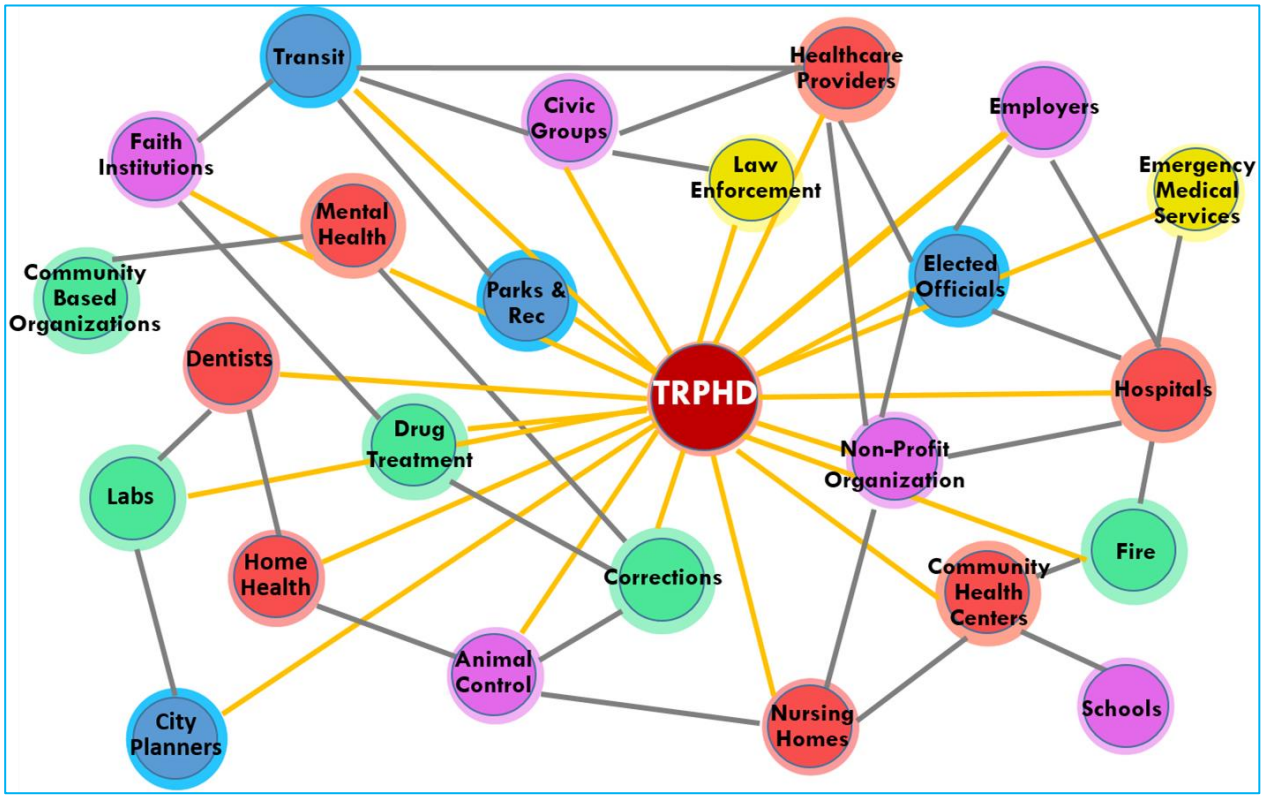
Indicator/Area of Community Health Need	Rationale for Selection
➢ **Sexually Transmitted Diseases**	• In 2017, the TRPHD Chlamydia incidence rate was 379.5 per 100,000 population (State comparison: 449.7 per 100,000 population). • In 2017, the TRPHD Gonorrhea incidence rate was 75.0 per 100,000 population (State comparison: 139 per 100,000 population). • In 2017, the TRPHD the human immunodeficiency virus (HIV) incidence rate was 4.1 per 100,000 population (State comparison: 4.6 per 100,000 population).

Community Health and the Local Public Health System

Community health includes a broad array of issues addressed by numerous agencies. Topics that fall under community health include such things as access to health care, health literacy, perceptions of the well-being of the community, utilization of social programs, child welfare, crime, alcohol and tobacco use, drug use, poverty, obesity, diabetes, teen pregnancy, teen sexual activity, healthy children, environmental factors affecting health, cancer, heart disease, and a broad array of other epidemiological topics.

Addressing the needs of community health goes far beyond the work of hospitals and the public health department. A broad network of agencies must work in collaboration to meet the diverse health needs of the community. An example of the local public health system network is shown in **Figure 1** in which over 20 agencies collaborate in various ways to form a multi-connected network of public, private, faith-based, non-profit, and for-profit agencies that effectively address the health needs of the community.

Figure 1: The Local Public Health System



Source: National Public Health Performance Standards. Modified by GIS and Human Dimensions, LLC

Mobilizing for Action through Planning and Partnerships (MAPP)

Beginning in 2019, Two Rivers Public Health Department embarked on a process to complete a robust community health needs assessment. By asking community partners to complete a Mobilizing for Action through Planning and Partnerships process in tandem with a community health needs assessment. MAPP is a community-driven strategic planning tool for improving community health. Facilitated by public health leaders, this tool helps communities apply strategic thinking to prioritize public health issues and identify resources to address them. MAPP is not an agency-focused assessment tool; rather, it is an interactive process that can improve the efficiency, effectiveness, and ultimately the performance of local public health systems. This collaborative, interactive process allowed our incredible partners to drive strategic thinking to prioritize public health issues.

Figure 2: the essential building blocks of MAPP are four assessments which provide critical insights into the health challenges and opportunities confronting the community

Source: National Association of County and City Health Officials

"Continuing to strengthen collaboration among community partners is essential to improve our communities' health."
Jeremy Eschliman, Health Director TRPHD

The Mobilizing for Action through Planning and Partnerships (MAPP) process was developed in 2001. This process is one of the most widely used community improvement planning frameworks in local public health.

The MAPP process utilizes a six-phase framework to gain a holistic view of the entire community's health. Each phase assesses a different aspect of measuring public health. The phases are as follows:

1. Organize for Success & Partnership Development
2. Visioning
3. The Four Assessments
4. Identify Strategic Issues
5. Formulate Goals & Strategies
6. Action Cycle

To respect our partner's time, we combined some phases into single meetings (**Figure 3**). The following sections of this document will detail the work completed with partners during this process.

Figure 3: TRPHD MAPP Process and Timeline

Source: Two Rivers Public Health Department Community Health Improvement Plan 2020: https://www.trphd.org/

Phase 1: Organize for Success and Partnership Development

Two Rivers Public Health Department (TRPHD) gathered partners (see for attending partners) in November 2019 to review the previous community health improvement plan, and to kick-off efforts for a new community health assessment and community health improvement planning process.

Figure 4: Goals reviewed by Partners

Access to Care

- TRPHD will increase access to affordable immunizations by providing immunizations in schools and places of business within the jurisdiction by October 2019.
- TRPHD will provide access to better oral health by continuing to collaborate with schools, long term care facilities, and WIC sites to provide dental screenings, cleanings, and prophylaxis to underserved individuals.

Mental Health

- TRPHD will actively collaborate with community members and partners to help individuals attain mental health services through Dawson County Rooted in Relationships, and community threat assessment teams by January 2020.
- TRPHD will provide education about mental health to community members by sharing educational messages monthly on social media, a minimum of 2 television appearances with mental health topics, and a minimum of 1 radio topic per year regarding mental health.

High Impact Prevention

- TRPHD will raise awareness of drug overdose opioid misuse prevention through collaboration with local partners in the southern counties (Franklin, Harlan, Kearney, and Phelps) starting in November of 2019.
- TRPHD will collaborate with the University of Nebraska Medical Center through the Kearney campus to provide the CATCH Kids programs to a local school in September 2019.

Source: Two Rivers Public Health Department Community Health Improvement Plan 2020: https://www.trphd.org/

After reviewing the previous priorities, several organizations agreed to partner with TRPHD to complete the MAPP process, share data, and work collaboratively to address the community's health.

Phase 2: Visioning

Completing a visioning process helps to build consensus around the core elements that will help inform the vision for improving community health in our district. Vision statements provide focus, purpose, and direction to the process so that participants collectively achieve a shared vision for the future.

Through this process, TRPHD asked partners to envision and discuss the assets of ideally healthy communities. Partners also identified opportunities in our communities to address to gain assets identified in our ideal future communities. (See **Appendix B** for opportunities identified).

Final Vision Statement

Thanks to our community partners' extraordinary ability to communicate we were able to craft this vision statement.

Empowering all individuals, families, and communities to pursue healthy behaviors, and enhance physical environments, for improved mental, physical, spiritual, and social health and wellness. Assuring an environment where communities flourish and people are connected.

Source: Two Rivers Public Health Department Community Health Improvement Plan 2020: https://www.trphd.org/

Phase 3: The Four Assessments

1. Community Themes and Strengths

The Community Themes and Strengths Assessment provides a deep understanding of the issues important to residents by answering questions such as: "What is important to our community?" "How is quality of life perceived in our community" and "What assets do we have that can be used to improve community health?" This assessment includes community surveys.

Discussion about data gathered from Community Themes and Strengths occurred during focus group discussions with selected community groups. This assessment provides a deep understanding of the issues important to residents. (See **Appendix C** for SWOT created by residents)

2. Local Public Health Systems Assessment

The Local Public Health System Assessment focuses on all the organizations and entities that contribute to public health. The LPHSA answers questions such as: "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?"

Local Public Health Systems Assessment will be presented at a future date and will focus on all the organizations and entities that contribute to the public's health.

3. Forces of Change

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?"

A discussion centered on Forces of Change was conducted during the meeting on February 19, 2020. This discussion centered around identifying forces of change like technology, legislation, and other impending changes that affect the context in which our community and our community public health systems operate. (See **Appendix D** for Forces of Change Summary).

4. Community Health Needs Assessment

The Community Health Status Assessment identifies community health and quality of life issues. Questions answered by this assessment include: "How healthy are our residents?" and "What does the health status of our community look like?" The Community Health Status Assessment contains a comprehensive data collection process. It includes public health data collected by Nebraska DHHS, as well as data from the Behavioral Risk Factor Surveillance System (BRFSS), Youth Risk Behavior Survey (YRBS), and Nebraska Risk and Protective Factor Student Survey (NRPFSS), among other data sources. The *Community Health Status Assessment* provides most data in this report.

The fourth assessment, Community Health Needs Assessment, will be presented at a future date. This assessment identifies priority community health and quality of life issues through survey data answered by individuals in our community. This assessment was released through the TRPHD website, Facebook, and collaboration with community groups in Dawson and Buffalo Counties.

The Ten Essential Public Health Services

The ten essential services of public health provide a working definition of the public health system and a guiding framework for the responsibilities of local public health partners (**Figure 5**). These functions and services are specifically referenced in the Neb. Rev. Stat. §71-1628.04. The ten essential services include:

1. Monitor health status to identify and solve community health problems.

2. Diagnose and investigate health problems and health hazards in the community.

3. Inform, educate, and empower people about health issues.

4. Mobilize community partnerships into action to identify and solve health problems.

5. Develop policies and plans that support individual and community health efforts.

6. Enforce laws and regulations that protect health and ensure safety.

7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.

8. Assure competent public and personal health care workforce.

9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.

10. Research for new insights and innovative solutions to health problems.

Figure 5: The ten essential public health services

Source: Nebraska DHHS, Division of Public Health (2017)

Data Sources

Description of Data Sources

A broad array of primary and secondary sources provide data for this report.

Primary data sources: consisted of community health assessment surveys conducted by the Two Rivers Public Health Department in 2020. Also, focus groups were conducted in Winter-Spring 2020 to address the main barriers to healthcare faced by community members, and how the Health Department could help to overcome these barriers.

Secondary data sources: consisted of federal (DHHS; American Community Survey), state (DHHS: Nebraska Behavioral Risk Factor Surveillance System; Vital Statistics), community health rankings, CDC Community Health Status Indicators, US Census Explore Census Data, US Census Small Area Income and Poverty Estimates (SAIPE), USDA (Economic Research Service), Rural Health Information Hub (Rural Data Explorer), Measure of America (Social Science Research Council), and Integrated Public Use Microdata Series – IPUMS-USA (University of Minnesota).

Following is a summary of the more frequently cited sources:

Frequently Cited Data Sources	
Data Source	Description
Behavioral Risk Factor Surveillance System (BRFSS)	- A comprehensive, annual health survey of adults ages 18 and over on risk factors such as alcohol use, tobacco use, obesity, physical activity, health screening, economic stresses, access to health care, mental health, physical health, cancer, diabetes, and many other areas impacting public health.
TRPHD Community Health Assessments and Surveys	- Community surveys conducted by the Two Rivers Public Health Department (TRPHD) in 2020 around issues such as health concerns, health risk factors, perceived quality of life, access to medical care, and community well-being.
Nebraska Department of Education	- Data contained in Nebraska's annual State of the Schools Report, including graduation and dropout rates, student characteristics, and student achievement scores.
Nebraska Department of Health and Human Services (DHHS)	- A wide array of data around vital statistics.
Nebraska Risk and Protective Factor Student Survey (NRPFSS)	- A survey of youth in grades 6, 8, 10, and 12 on risk factors such as alcohol, tobacco, and drug use, and bullying. The survey was conducted most recently in 2018.
Youth Risk Behavior Survey (YRBS)	- A public health survey of youth in grades 9 through 12.
U.S. Census/American Community Survey	- U.S. Census Bureau estimates demographic elements such as population, age, race/ethnicity, household income, poverty, health insurance, single-parent families, and educational attainment. Annual estimates are available through the American Community Survey (the most recent 5-years estimates from the American Community Survey (ACS, 2014-2018) were used for this report.

Statistical data limitations

It was not always possible to analyze health outcomes, or health and social disparities by "special populations", such as low income, minorities, and elderly residents. This is due to inherent statistical limitations of small sample sizes, as it is common to encounter throughout the communities of the Two Rivers Public Health Department. For this reason, instead of providing annual health outcome indicators, it was decided to use – **"Five Year Moving Averages Combined**" (i.e., 2001-2005 years combined to 2013-2017 year combined) to increase the accuracy of the data.

When available, health indicators were analyzed by special populations based on gender, age, race/ethnicity, and geographic location (county level, and Health Department vs. State). In the case of gender, significant statistical differences were noted by specific health indicators. These segmented data elements come from the Nebraska Behavioral Risk Factor Surveillance System (BRFSS, 2011-2018) and Vital Statistics information provided by the Nebraska Department of Health and Human Services.

Social Determinants of Health

Social Determinants of Health Definition

The Centers for Disease Control and Prevention (CDC) defines Social Determinants of Health as "the complex, integrated, and overlapping social structures and economic systems that are responsible for most health inequities. These social structures and economic systems include the social environment, physical environment, health services, and structural and societal factors. Social determinants of health are shaped by the distribution of money, power, and resources throughout local communities, nations, and the world." The following indicators are some examples to depict social determinants of health:

- 18-24-Year-Olds Without a High School Diploma
- Low Access to Healthy Food
- Median Household Income
- Personal Income $100K and Over
- Personal Income Under $ 25K
- Population Without a High School Diploma
- Poverty
- Unemployment Rate

Health Disparities

Health Disparities Definition

Healthy People 2020 defines health disparities as "a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion."

Two Rivers Public Health Department:
Demographics and Public Health Data

Overview

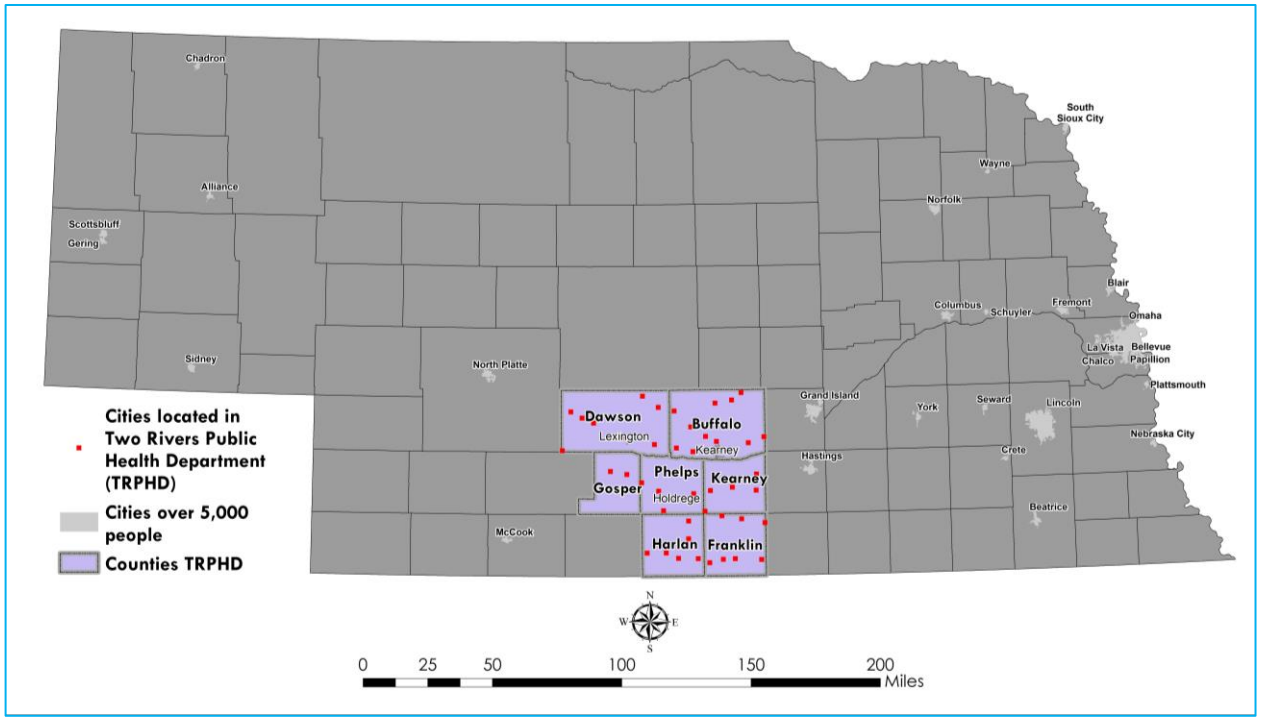
TRPHD services the counties of Buffalo, Dawson, Gosper, Harlan, Franklin, Kearney, and Phelps.

Quick Facts from US Census Bureau

Population (2018 estimate)	97,284
Population Change in TRPHD (2010-2018)	+2.6%*
Unemployment Rate (November 2019)	2.5%** (Nebraska: 2.8%)
Total Land Area	4,660.9 sq. miles

*US Census data (2010 and 2018 estimates)
** Nebraska Department of Labor, Labor Market Information, Local Area Unemployment Statistics (November 2019)

Figure 6: Location of Two Rivers Public Health Department in Nebraska

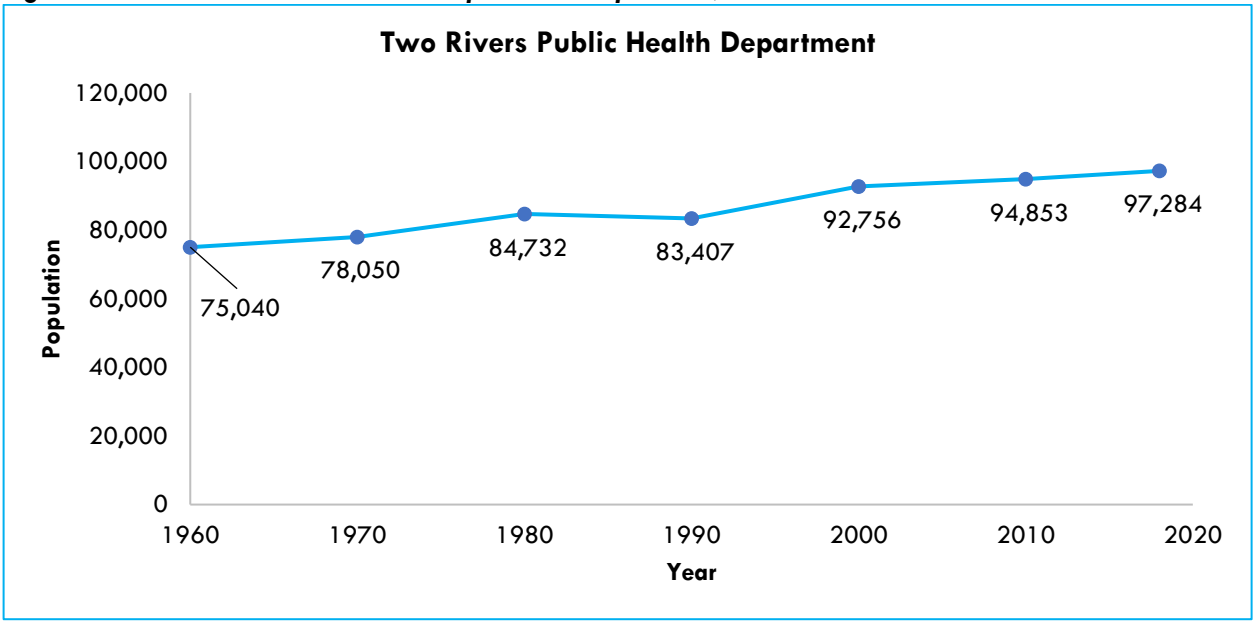


Population Characteristics

Demographics

According to the U.S. Census, an estimated 97,284 persons were living in the TRPHD in 2018, an increase of 2.6% from the population in 2010 (**Table 2**, page 25). During the same period, Nebraska's population grew by 5.5%. Figure 5 shows the total population increase in the TRPHD from 75,040 in 1960 to 67,284 in 2018. It is important to point that during this time, Buffalo County and Dawson counties are the only counties in the TRPHD that have experienced an increase in population.

Figure 7: Two Rivers Public Health Department Population, 1960-2018

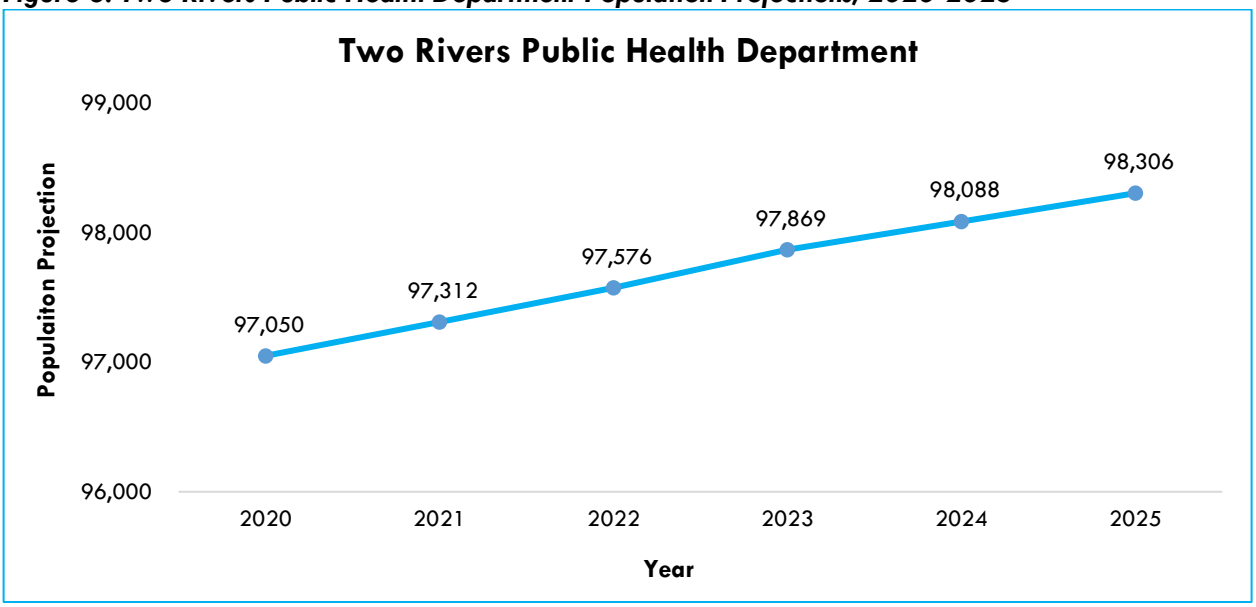


Source: US Census Bureau: Population of Counties by Decennial Census: 1900 to 1990 (Compiled and edited by Richard L. Forestall), and U.S. Census Bureau Factfinder 2000 to 2018.

Figure 8 shows population projections from 2020 to 2025 for the Two Rivers Public Health Department using the 2010 Census as a starting point (Center for Public Affairs Research, UNO, 2015). These projections are based on current population structure by birth, death, and net migration rates, and how they change for various age groups. These population projections show a similar trend as observed in previous census data for TRPHD since 1960.

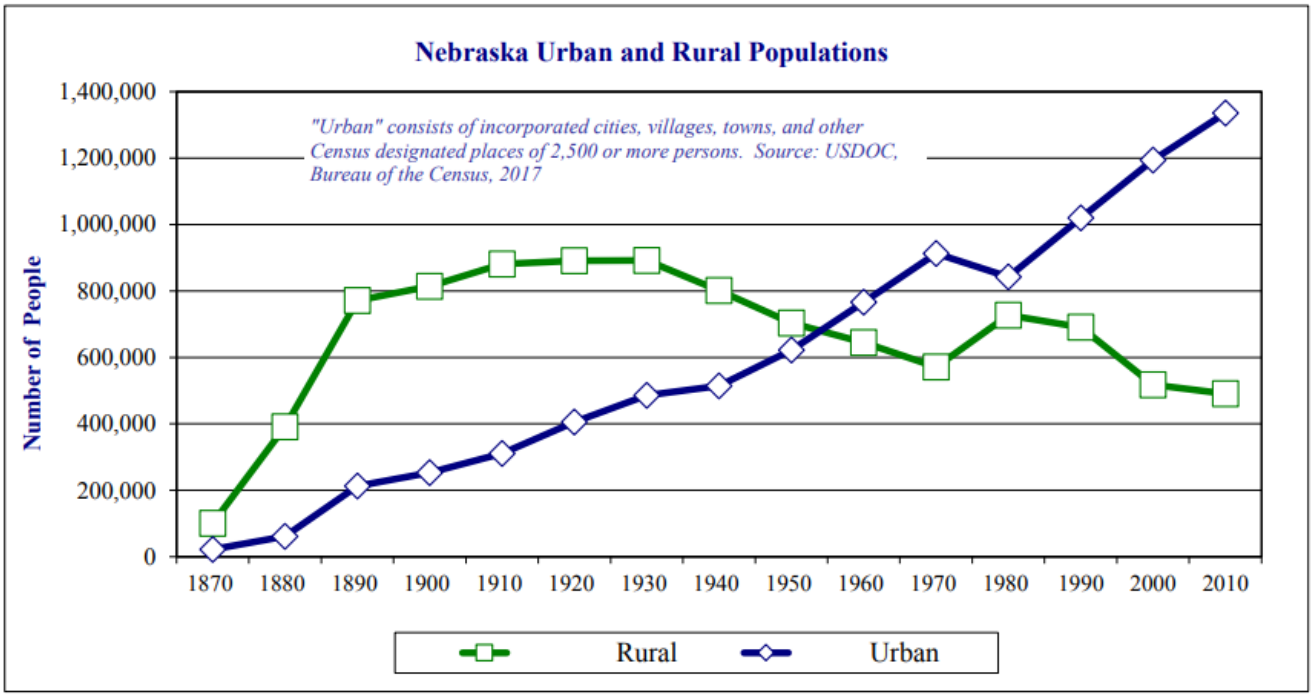
Figure 9 shows how Nebraska's population growth since 1955 has been concentrated in urban areas, especially metropolitan areas such as Omaha (Douglas and Sarpy counties) and Lincoln (Lancaster County), while the rural population has steadily declined. In 1870, most of Nebraska's population was rural. In 2010, about two-thirds of Nebraska residents lived in urban areas, defined as municipalities of 2,500 or more residents. Between 2000 and 2010, 68 of the state's 93 counties lost population. The state population continues to increase in urban areas and a decrease in rural areas.

Figure 8: Two Rivers Public Health Department Population Projections, 2020-2025



Source: Center for Public Affairs Research, UNO: Nebraska County Projections, (December 2015).

Figure 9: Nebraska Urban and Rural Populations, 1870-2010



Source: U.S. Department of Commerce. Bureau of the Census, 2017.

Population Changes by Age Group

Age groups "65-84" and "85 and older" experienced the greatest positive growth in the TRPHD between 2010 and 2018 (21.4% and 5.4%, respectively), while age groups "45-64" and "5-14" experienced decrease (-6.5% and -0.3, respectively). Similar trends for age groups "65 and older" occurred at the State level. One-fifth of the rural Nebraska county population (19.6%) was 65 years of age or older in 2010, compared

to 15.1 percent in small urban counties and 10.7 percent in large urban counties (Nebraska DHHS, 2016).

Between 2000 and 2010, the population increase was 2.3 percent in TRPHD, with some age groups experiencing a population decrease (i.e., "5-14", "15-24", and "25-44"). Between 2010 and 2018, TRPHD experienced a population increase of 2.6 percent, with significant growth in the "65 years of age and over" population. The net growth among elderly people (65 years of age and older) is estimated at 2,603 individuals between 2010 and 2018.

Racial and Ethnic Minorities

Based on U.S. Census data, the minority population in TRPHD is growing at a higher rate than the non-Hispanic White population. Since 2010, the number of people who were classified as racial or ethnic minorities increased 23.0 percent to an estimated population of 18,340 in 2018. Nearly one out of five residents in the TRPHD is a minority (18.9%). In contrast, the non-Hispanic White population in TRPHD decreased by 1.2 percent over the same eight years.

The total Hispanic population in TRPHD has increased 1.6 times since 2000, growing from 8,608 individuals to 13,844 by 2018. The African American, Native American, and Asian/Pacific Islander populations also experienced an increase in population between 2010 and 2018 (80.1%, 33%, and 46.8%, respectively).

Table 2: TRPHD Population Characteristics, 2000, 2010, 2018

	2000		2010		2000 vs 2010	2018		2010 vs 2018
	Population	% of Total	Population	% of Total	% Change in Population [a]	Population	% of Total	% Change in Population [b]
TRPHD Total	**92,756**	**100.0%**	**94,853**	**100.0%**	**2.3%**	**97,284**	**100.0%**	**2.6%**
Gender								
Female	**46,910**	**50.6%**	**47,591**	**50.2%**	**1.5%**	**48,087**	**49.4%**	**1.0%**
Male	**45,846**	**49.4%**	**47,262**	**49.8%**	**3.1%**	**49,197**	**50.6%**	**4.1%**
Age								
Under 5 years	**6,358**	**6.9%**	**6,730**	**7.1%**	**5.9%**	**6,776**	**7.0%**	**0.7%**
5 -14 years	**13,606**	**14.7%**	**12,927**	**13.6%**	**-5.0%**	**12,886**	**13.2%**	**-0.3%**
15 -24 years	**15,534**	**16.7%**	**14,772**	**15.6%**	**-4.9%**	**15,099**	**15.5%**	**2.2%**
25 -44 years	**24,549**	**26.5%**	**22,319**	**23.5%**	**-9.1%**	**23,392**	**24.0%**	**4.8%**
45 -64 years	**19,303**	**20.8%**	**24,198**	**25.5%**	**25.4%**	**22,621**	**23.3%**	**-6.5%**
65 -84 years	**11,182**	**12.1%**	**11,556**	**12.2%**	**3.3%**	**14,033**	**14.4%**	**21.4%**
85 and older	**2,224**	**2.4%**	**2,351**	**2.5%**	**5.7%**	**2,477**	**2.5%**	**5.4%**
Race/Ethnicity								
White, NH [c]	**82,493**	**88.9%**	**79,890**	**84.2%**	**-3.2%**	**78,944**	**81.1%**	**-1.2%**
African American, NH	**335**	**0.4%**	**1,096**	**1.2%**	**227.2%**	**1,974**	**2.0%**	**80.1%**
Native American, NH	**362**	**0.4%**	**233**	**0.2%**	**-35.6%**	**310**	**0.3%**	**33.0%**
Asian/Pacific Islander, NH	**521**	**0.6%**	**817**	**0.9%**	**56.8%**	**1,199**	**1.2%**	**46.8%**
Other, NH[e]	**4,622**	**5.0%**	**80**	**0.1%**		**	**	
2+ Races, NH	**966**	**1.0%**	**759**	**0.8%**	**-21.4%**	**1,013**	**1.0%**	**33.5%**
Hispanic	**8,608**	**9.3%**	**11,922**	**12.6%**	**38.5%**	**13,844**	**14.2%**	**16.1%**
Minority [d]	**15,414**	**16.6%**	**14,907**	**15.7%**	**-3.3%**	**18,340**	**18.9%**	**23.0%**

[a] Change Population from 2000 to 2010
[b] Change in Population from 2010 to 2018
[c] NH = Non-Hispanic
[d] Reflects those who are not "White, NH"
[e] Responses of "Some Other Race" from the 2010 Census are modified. This results in differences between the population for specific race categories shown for the 2010 Census population in this table versus those in the original 2010 Census data. Due to these changes, percentages for the "Other, NH" race were not calculated.
**Population estimates for "Other, NH" race was not provided in 2018.
Source: US Census Bureau, Population Division

Household/Family Type

In 2018, over one-fourth (31.4%) 12,105 of the 38,523 households in the TRPHD had one or more children under the age of 18 living at home. By comparison, Nebraska had nearly one-third (32.0%) of children under the age of 18 living at home.

Single-parent households decreased in the TRPHD. The proportion of family households headed by single parents increased from 11.9 percent in 2010 (Census) to 12.0 percent in 2018 (American Community Survey).

Educational Level of the TRPHD Adults

According to the 2014-2018 American Community Survey (ACS, Table S1501), 26.9 percent of persons aged 25 and older in the TRPHD had obtained a bachelor's degree or higher, while 23.3 percent had some college or technical training. Less than one-third of adults in this age group (28.8%) had a high school diploma or equivalent and 10.5

percent had less than a high school education. When compared to the State of Nebraska level of educational attainment, the TRPHD had a similar percentage with some college or technical training, and a lower percentage with a bachelor's degree or higher. **Table 3.**

Table 3: Educational Attainment, population 25 years and over, TRPHD vs. the State of Nebraska (ACS, 2018)

Level of education:	**TRPHD**	**State of Nebraska**
Bachelor's degree or higher	26.9%	31.3%
Some college or technical training	23.2%	23.0%
High school diploma or equivalent	28.8%	26.3%
Less than a high school education	10.5%	9.0%

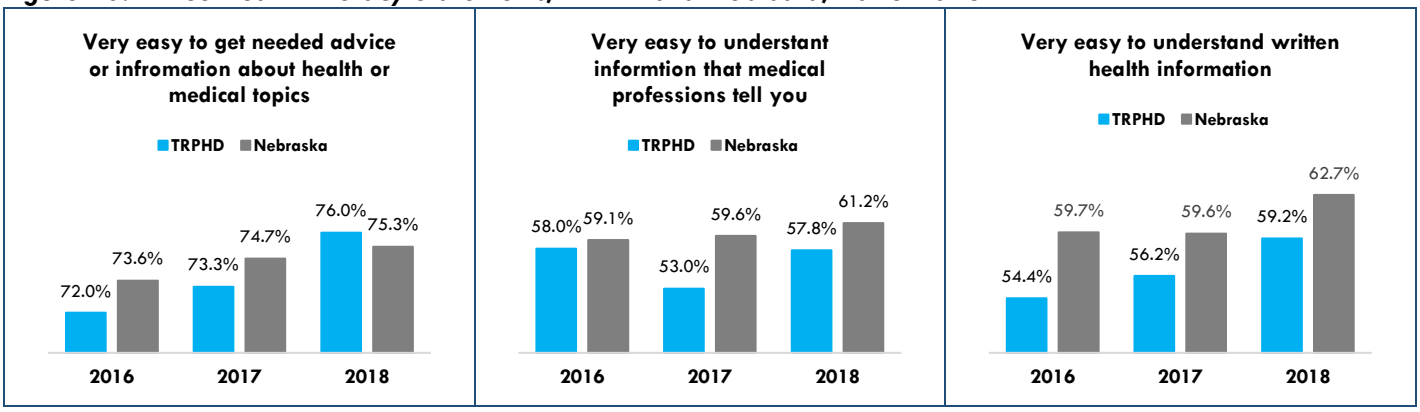
Health Literacy

Health literacy is often defined as the ability of an individual to understand health information to the extent needed to make informed decisions (Ratzen & Parker, 2000). More specifically, health literacy is the ability of adults to use printed and written health-related information to function in society, to achieve one's goals, and to develop one's knowledge and potential. (Kutner et al., 2006).

"Older adults have the greatest risk of poor health outcomes related to low literacy, putting them at a disadvantage when managing their health care compared to younger individuals". Regression analysis has demonstrated that income, education, help with filling out forms, and health information sources are predictors of health literacy. (Crane, 2015).

The Nebraska Behavioral Risk Factor Surveillance System (BRFSS) in 2016, 2017, and 2018 included three statements related to health literacy: 1) Very easy to get needed advice or information about health or medical topics, 2) Very easy to understand information that medical professions tell you, and 3) Very easy to understand written health information. Overall, the TRPHD showed lower levels of health literacy compared to the State. **Figure 10.**

Figure 10: BRFSS Health Literacy Statements, TRPHD and Nebraska, 2016-2018

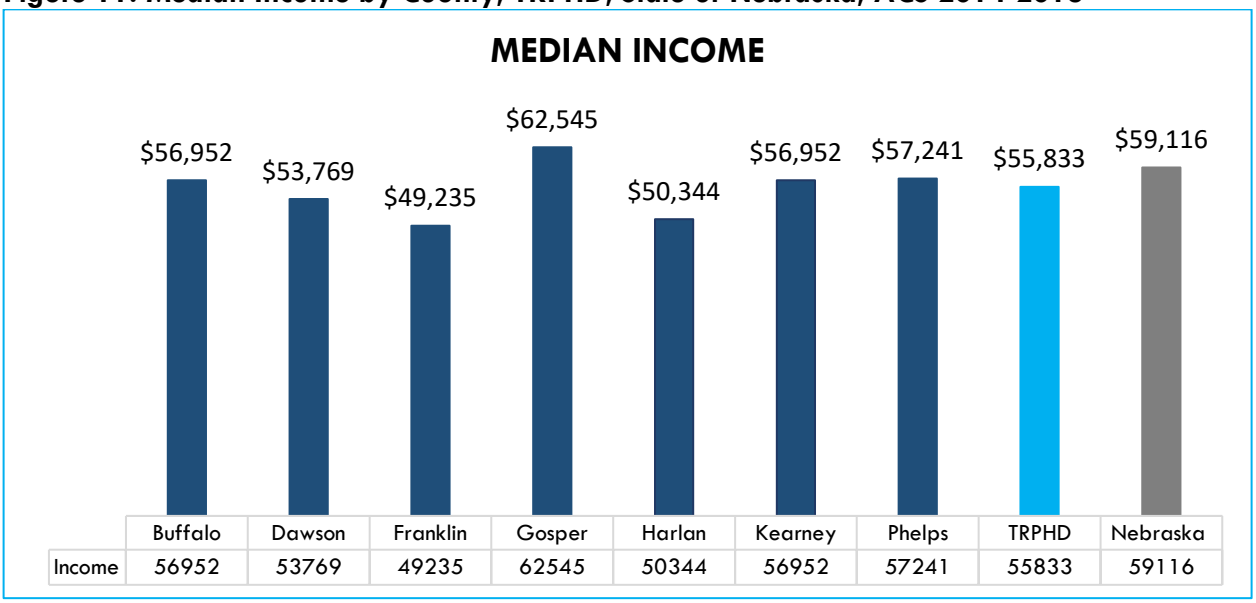


Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Socioeconomic Status

According to the 2014-2018 ACS, the median household income in the TRPHD was $55,291, which was lower than the Nebraska median at $59,116. There was, however; a large disparity in median incomes across the seven counties of the TRPHD, ranging from a low of $49,235 in Franklin County to a high of $62,545 in Gosper County. **Figure 11**.

Figure 11: Median Income by County, TRPHD, State of Nebraska, ACS 2014-2018



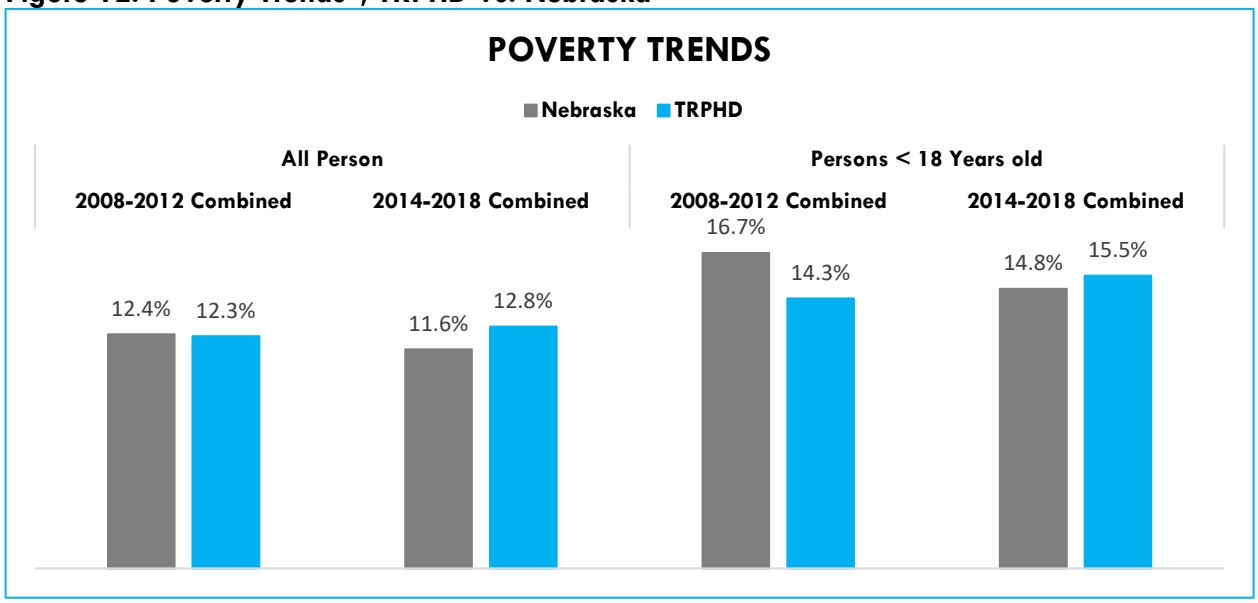
Source: American Community Survey (ACS, 5-year estimates, 2014-2018, Table S1901).

Poverty

The poverty rate in the TRPHD among all persons increased from 12.3 percent in 2008-2012 (ACS) to 12.8 percent in 2014-2018 (ACS) and increased from 14.3 percent to 15.5 percent among persons under 18 years of age (**Figure 12**). The State rate was lower than the rate for the TRPHD in 2018 for all persons as well as for those under 18.

Based on the 2014-2018 poverty estimates for TRPHD, an estimated 11,975 persons of all ages and 3,598 of persons under 18 years of age were living in poverty.

Figure 12: Poverty Trends*, TRPHD vs. Nebraska



*Percentage below 100% of the federal poverty level. Source: 2008-2012 Census; 2014-2018 American Community Survey (ACS)

Buffalo County showed the highest poverty rate (all ages) in the TRPHD (14.1%). Gosper County showed the greatest decrease in poverty rates (all persons) from 2012 to 2018 (-5.7%), followed by Phelps County (-1.8%).

Franklin County showed the highest percentage of population under 18 years of age living in poverty (19.8%), almost 5 percent higher when compared to the TRPHD (15.5%), followed by Dawson County (19.2%). Gosper County also showed the highest decrease in poverty rates for 18 years old and younger among all counties in the TRPHD from 2012 to 2018 (-7.7%), followed by Harlan County (-5.3%). **Table 4.**

Table 4: Percentage of Families and People Whose Income Is Below the Poverty Level in the Past 12 Months: All Persons and Under Age 18

POVERTY: ALL PERSONS					POVERTY: UNDER 18 YEARS			
	2012	2018	%Change 2012-2018			2012	2018	%Change 2012-2018
Buffalo	13.5%	14.1%	0.6%		Buffalo	13.8%	14.5%	0.7%
Dawson	13.0%	13.1%	0.1%		Dawson	19.2%	19.2%	0%
Franklin	12.5%	13.8%	1.3%		Franklin	11.9%	19.8%	7.9%
Gosper	10.8%	5.1%	-5.7%		Gosper	12.6%	4.9%	-7.7%
Harlan	11.2%	11.2%	0%		Harlan	21.3%	16.0%	-5.3%
Kearney	4.9%	10.6%	5.7%		Kearney	2.9%	16.9%	14%
Phelps	10.6%	8.8%	-1.8%		Phelps	10.3%	10.3%	0%
TRPHD	**12.3%**	**12.8%**	**0.5%**		**TRPHD**	**14.3%**	**15.5%**	**1.2%**
Nebraska	12.4%	11.6%	-0.8%		Nebraska	16.7%	14.8%	-1.9%

Sources: 2008-2012 American Community Survey (ACS); Census; 2014-2018 American Community Survey (ACS).

Food and Housing Insecurity

Food and housing insecurity can affect the physical and mental health of affected individuals and impede their ability to achieve optimal health. The United States Department of Agriculture (USDA) Economic Research Service defines food insecurity as reduced food intake or reduced dietary quality because the household lacked money and other resources for food. The U.S. Department of Health and Human Services defined housing insecurity as high housing costs in proportion to income, poor housing quality, unstable neighborhoods, overcrowding, or homelessness (Nebraska DHHS, 2016).

> ***"Research from the Tufts Friedman School suggests that poor eating causes nearly 1,000 deaths each day in the United States from heart disease, stroke or diabetes."***

According to the USDA Economic Research Service, about 1 in 9 households in Nebraska (11.4%) were food insecure between 2016 and 2018, a decrease from 14.8 percent in Nebraska between 2013 and 2015. Current food insecurity rates in Nebraska are lower when compared to the national average (11.7%) for the 2016-2018 period.

The USDA Economic Research Service also tracks areas of low access to healthy food based on Census tracts with at least 500 people, or 33 percent of the population, living more than 1 mile (urban areas) or 10 miles (rural areas) from a supermarket. Due to the rural nature of the TRPHD area, three of the counties (Dawson, Franklin, and Gosper) had greater than 30 percent of low access to healthy food. Higher accessibility to

healthy food was found in Buffalo, Kearney, and Phelps counties. Harlan had the highest access to healthy food (6.1%) (**Table 5**).

Table 5: Low Access to Healthy Food (%)

TRPHD	Low Access to Healthy Food
Buffalo	19.7%
Dawson	32.7%
Franklin	47.5%
Gosper	64.3%
Harlan	6.1%
Kearney	11.3%
Phelps	15.7%

Source: USDA Economic Research Service, 2015.

The Nebraska Behavioral Risk Factor Surveillance System (BRFSS) measures food and housing insecurity based on moderate to high stress related to not having enough money to buy nutritious foods, and not having enough money to pay the rent or mortgage among those who rent or own their home. In 2015, more than 1 in 5 TRPHD adults (19.6%) reported food insecurity, while more than 1 in 3 (30.6%) reported housing insecurity. The TRPHD food insecurity rate is lower when compared to the State, and the TRPHD housing insecurity is higher when compared to the State. **Table 6.**

Table 6: Food and Housing Insecurity (BRFSS, 2015)

	Food Insecurity	Housing Insecurity
TRPHD	19.6%	30.6%
Nebraska	21.0%	28.5%

Source: BRFSS 2011-2018 Detailed Tables for LHDs (2019)

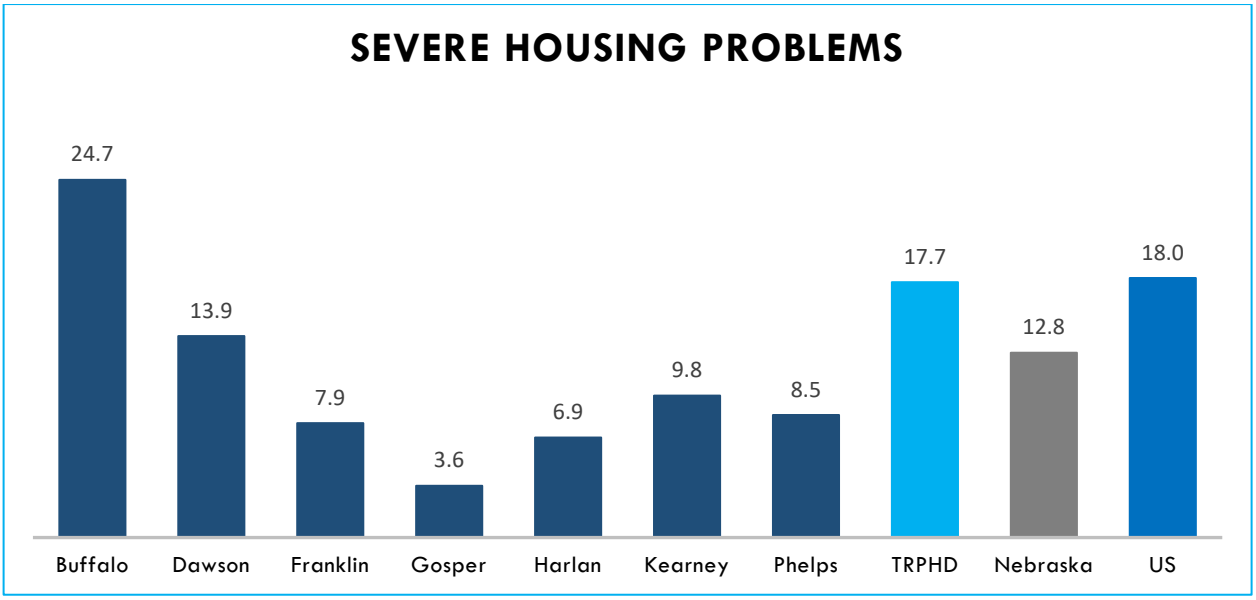
BRFSS indicators of the 2018 report for the TRPHD include data about nutrition: consumption of sugar-sweetened beverages (2013), fruit and vegetable intake (2017), and sodium or salt intake (2018). In 2013, 28.5% of TRPHD adults consumed sugar-sweetened beverages (1 or more in the last 30 days). Males consumed two times the sugar-sweetened beverages as females (39.9% vs. 16.9%; statistically significant difference). During 2017, 39.3% of TRPHD adults consumed fruits less than once a day; and 19% TRPHD adults consumed vegetables less than once a day. In 2018, 43.1% of adults reported currently monitoring or reducing sodium intake.

Housing Environment: Severe housing problems

Severe housing problems are referred to as households with at least 1 of 4 housing problems: overcrowding, high housing costs, or lack of kitchen or plumbing facilities. It was estimated that 18 percent of households in the United States and 12.8 percent of households in Nebraska were classified as having "severe housing problems" (Comprehensive Housing Affordability Strategy (CHAS) data, 2012-2016).

According to the CHAS data (2012-2016), a total of 6,644 households had severe housing problems in the TRPHD, which represents 17.7% of all households in the TRPHD. Buffalo County had the highest percentage of households classified as having "severe housing problems" (24.7%), followed by Dawson County (13.9%), and then by Kearney County (9.8%). Gosper County showed the lowest percentage of "severe housing problems" among all counties in the TRPHD (3.6%). **Figure 13.**

Figure 13: Percentage of Severe Housing Problems, County, TRPHD, Nebraska, and the United States: 2012-2016



Source: Comprehensive Housing Affordability Strategy (CHAS) data, 2012-2016

Unemployment

According to the Nebraska Department of Labor, the unemployment rate (as of December 2019) was 0.4 percent lower in the TRPHD when compared to the State of Nebraska (2.3% vs. 2.7%). **Table 7.**

Kearney County showed the lowest unemployment rate in the TRPHD (1.9%), followed by Buffalo County (2.1%). Harlan County showed the highest unemployment rate (3.1%), the 25th highest among the 93 counties in the State of Nebraska, followed by Franklin County (3.0%). **Table 8.**

Table 7: County, TRPHD, and State Unemployment Rates (December 2019)

County	Unemployed	Labor Force	% Unemployed
Buffalo	594	27834	2.1%
Dawson	338	13,024	2.6%
Franklin	44	1,484	3.0%
Gosper	28	1,131	2.5%
Harlan	55	1,778	3.1%
Kearney	72	3,792	1.9%
Phelps	122	5,012	2.4%
TRPHD	**1,253**	**54,055**	**2.3%**
Nebraska	**28,039**	**1,041,475**	**2.7%**

Source: Nebraska Department of Labor, Labor Market Information, Local Area Unemployment Statistics

Unemployment rates have been steadily declining in the TRPHD after the recession of 2008-2009. Dawson County experienced the greatest decline in unemployment rates among all counties in the TRPHD since 2008 (-1.2%), followed by Harlan County (-0.8%). The exception was Franklin County, which experienced no change in its unemployment rate of 0 percent. **Table 8.**

Table 8: TRPHD unemployment rates 2008 - 2018

County TRPHD	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	%Change 2008-2018
Buffalo	2.5	3.6	3.6	3.5	3.3	3.6	2.8	2.4	2.5	2.4	2.3	-0.2
Dawson	4.0	4.6	4.9	5.0	4.4	3.8	3.5	3.2	2.9	2.8	2.8	-1.2
Franklin	3.0	3.9	4.3	4.2	3.6	3.5	3.2	2.4	3.0	2.9	3.0	0
Gosper	3.2	3.9	3.6	3.5	3.0	3.4	3.0	2.4	2.6	2.6	2.5	-0.7
Harlan	3.1	3.7	3.2	3.3	3.2	3.1	2.6	2.1	2.5	2.5	2.3	-0.8
Kearney	2.7	3.9	3.5	3.2	2.9	2.8	2.4	2.2	2.4	2.2	2.1	-0.6
Phelps	2.4	3.5	3.6	3.7	3.0	3.0	2.6	2.4	2.5	2.3	2.2	-0.2

Sources: Unemployment rates 2008-2018: 1) Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS) data. 2) Census Bureau, Small Area Income, and Poverty Estimates (SAIPE) Program. Unemployment rates (as of December 2018): 3) Nebraska Department of Labor, Labor Market Information, Local Area Unemployment Statistics

High School Graduation Rates

According to the U.S. Department of Education, the 4-year public high school graduation rate (defined as the proportion of public high school freshmen who graduate with a regular diploma four years after starting ninth grade) was 88.7 percent in Nebraska during 2019.

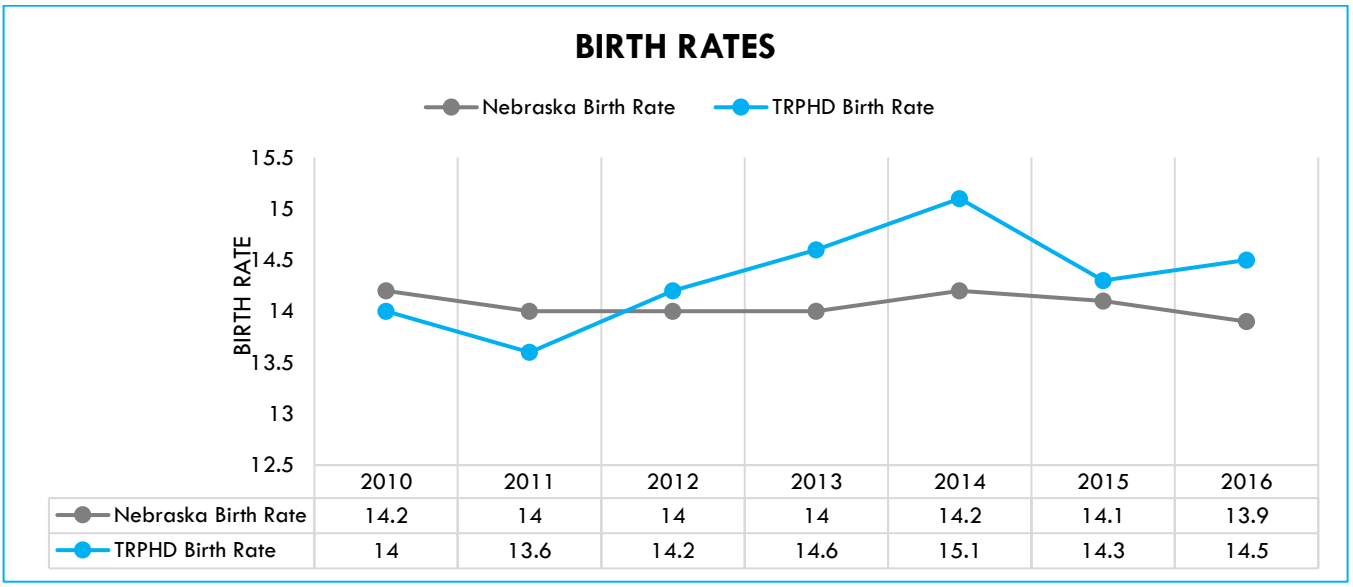
General Health Status

Health Outcomes

Births

From 2010, the number of births and birth rates in the TRPHD has steadily increased before dropping in 2015, then continuing to increase. In comparison, Nebraska's birth rates have remained steady for the same time period (**Figure 14**). In 2016, there were 1,413 resident births in the TRPHD, for a rate of 14.5 live births per 1,000 population. The difference between the TRPHD and Nebraska birth rates was 0.2 live births in 2011, which has increased to a difference of only 0.6 live births per 1,000 population in 2016 with TRPHD having a higher rate than Nebraska. **Figure 14.**

Figure 14: Overall Birth Rates in the TRPHD and Nebraska (adjusted age rate per 1,000 population), 2010-2016



	2010	2011	2012	2013	2014	2015	2016
Nebraska Birth Rate	14.2	14	14	14	14.2	14.1	13.9
TRPHD Birth Rate	14	13.6	14.2	14.6	15.1	14.3	14.5

Births by Place of Occurrence and by Usual Residence of the Mother 2010 to 2016 Combined. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, Dec. 2011, Dec. 2012, Feb. 2014, Dec. 2014, Dec. 2015, June 2017, and April 2018.

The number of births and birth rates vary widely in the TRPHD. Buffalo County shows the highest number of births (*n* = 727), followed by Dawson County (*n* = 386). Live birth rates per 1,000 population ranges from 10.6 in Franklin County, to 16.3 in Dawson County. Two counties in the TRPHD show higher live births per 1,000 population than the average in the Health District: Buffalo and Dawson Counties. **Table 9.**

Table 9: Number of Birth and Birth Rates by County, TRPHD and Nebraska (2016) *

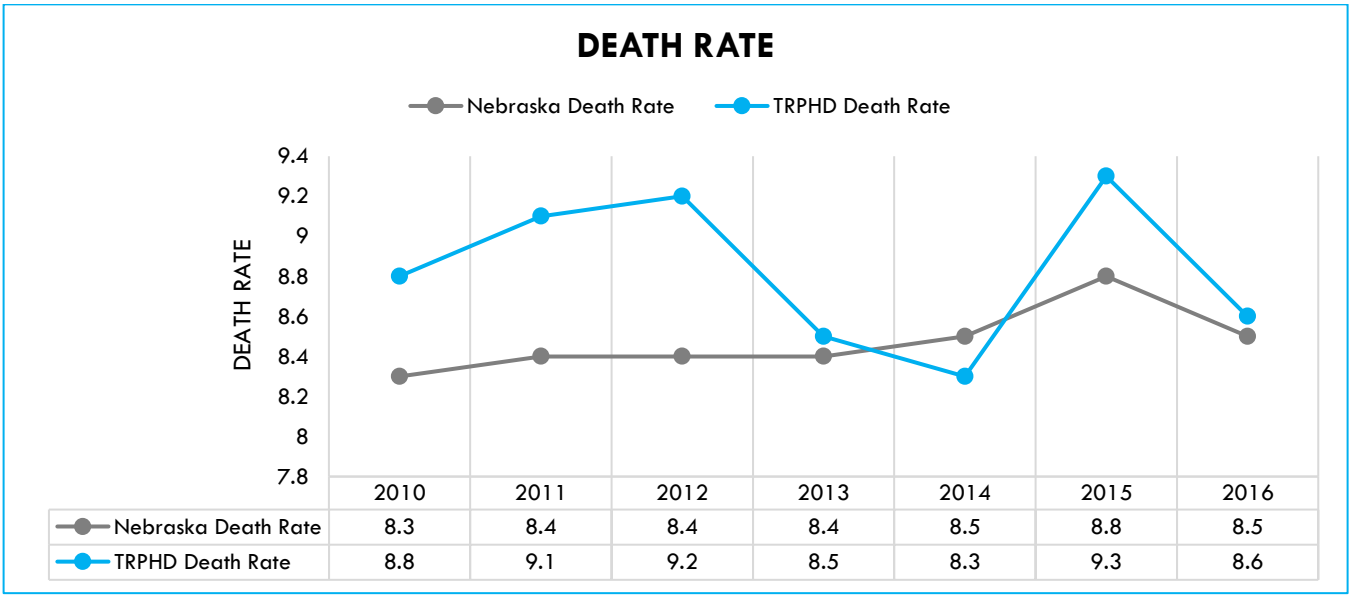
County	# Births	Birth Rate
Buffalo	727	14.7
Dawson	386	16.3
Franklin	32	10.6
Gosper	23	11.7
Harlan	46	13.2
Kearney	89	13.6
Phelps	110	11.9
TRPHD	**1,413**	**14.5**
Nebraska	**26,594**	**13.9**

*Adjusted age rate per 1,000 population. Birth data for Nebraska and Two Rivers Public Health Department, for 2016.
Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018.

Deaths

The number of TRPHD births exceeded the number of deaths by 574 in the Health District for 2016 (1,413 vs. 839, respectively). The Nebraska death rate in 2016 (8.5 deaths per 1,000 population), was slightly higher than rates from the previous years except 2015 (8.8 deaths per 1,000 population). The TRPHD death rates have remained higher when compared to State rates since 2010 except in 2014. (**Figure 15**).

Figure 15: Overall Death Rates in the TRPHD and Nebraska (adjusted age rate per 1,000 population), 2010-2016



Deaths by Place of Occurrence and by Usual Residence of Deceased 2010 to 2016 Combined. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, Dec. 2011, Dec. 2012, Feb. 2014, Dec. 2014, Dec. 2015, June 2017, and April 2018.

When comparing death rates by county in the TRPHD, Harlan County shows the highest death rate per 1,000 population (13.5), followed by Franklin County (13.3). Buffalo

County has the lowest death rate among the nine counties in TRPHD (7.0), followed by Dawson County (7.8). **Table 10.**

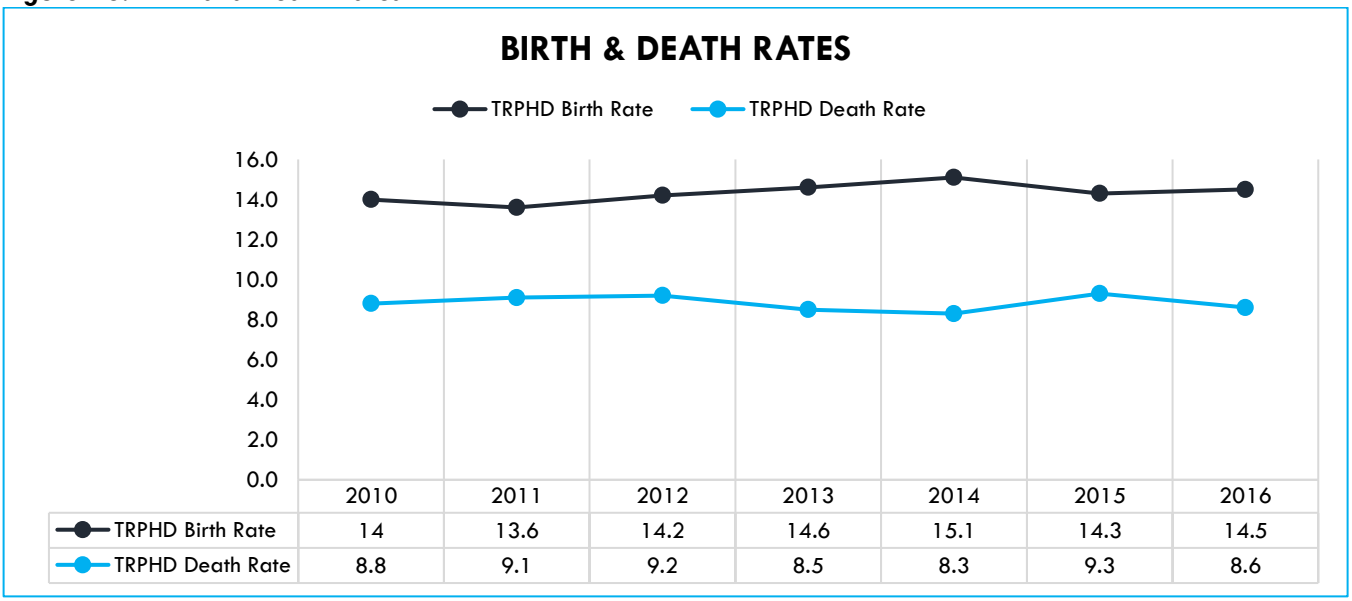
Table 10: Number of Deaths and Death Rates by County, TRPHD and Nebraska (2016) *

County	# Deaths	Death Rate
Buffalo	345	7.0
Dawson	185	7.8
Franklin	40	13.3
Gosper	25	12.7
Harlan	47	13.5
Kearney	79	12.1
Phelps	118	12.7
TRPHD	**839**	**8.6**
Nebraska	**16,207**	**8.5**

*Adjusted age rate per 1,000 population. Death data for Nebraska and Two Rivers Public Health Department, for 2016.
Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018.

Figure 16 shows overall birth and death rates (adjusted age rates) for TRPHD from 2010 to 2016. Death rates in TRPHD have remained steady since 2010, while the birth rates have slightly increased over the same period.

Figure 16: Birth and Death Rates in TRPHD

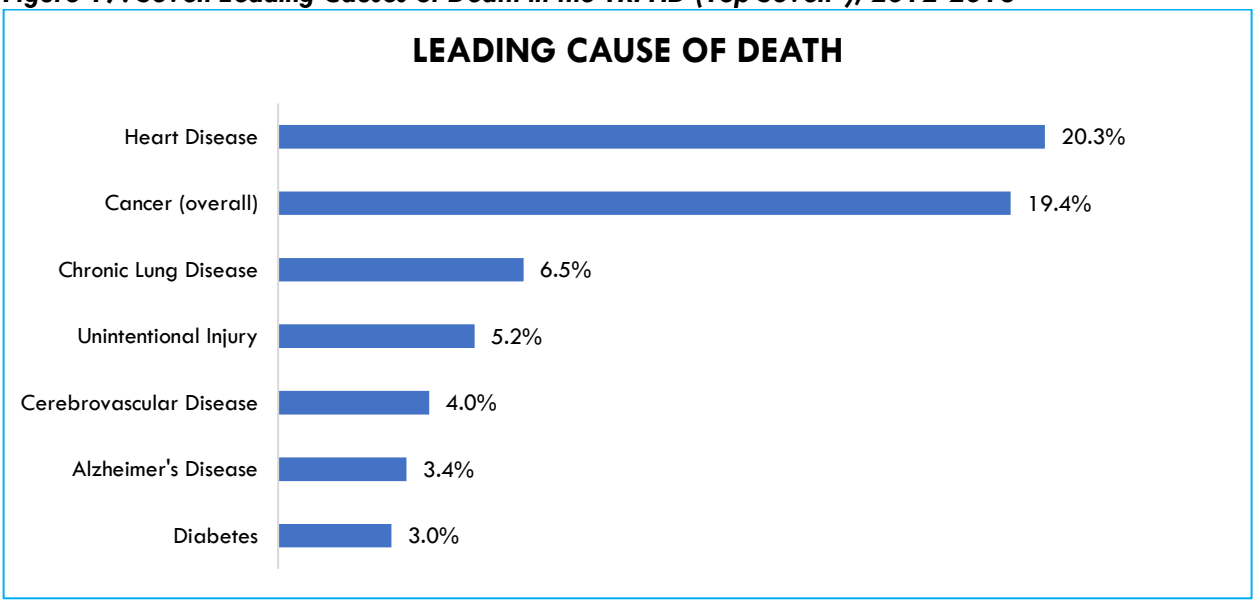


2016 Birth and Death Rates. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, Dec. 2011, Dec. 2012, Feb. 2014, Dec. 2014, Dec. 2015, June 2017, and April 2018.

Causes of Death (Top Seven) in Two Rivers Public Health Department

Heart disease has been the leading cause of death (based on the total number of deaths) in TRPHD, accounting for 913 deaths in the 2012-2016 combined years, representing over one-fifth (20.3%) of all-causes of death. The second most common cause of death in TRPHD was cancer, with nearly one-fifth of the top seven causes of death (19.4%), accounting for 872 deaths, followed by Chronic Lung Disease (6.5%), accounting for 291 deaths. The following causes of death in TRPHD ranked from 4th to 7th are Unintentional Injury, Cerebrovascular Disease, Alzheimer's Disease, and Diabetes (**Figure 17**).

Figure 17: Seven Leading Causes of Death in the TRPHD (Top Seven*), 2012-2016



*Based on the total number of deaths. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018

Table 11 shows the top ten leading causes of death (based on the number of deaths) from 2008-2012 combined years to 2012-2016 combined years. Heart disease, cancer, and chronic lung disease have been the leading causes of death for TRPHD residents since 2008-2012 combined years.

Table 11: Top Ten Leading causes of death in TRPHD, 2008-2012 to 2012-2016

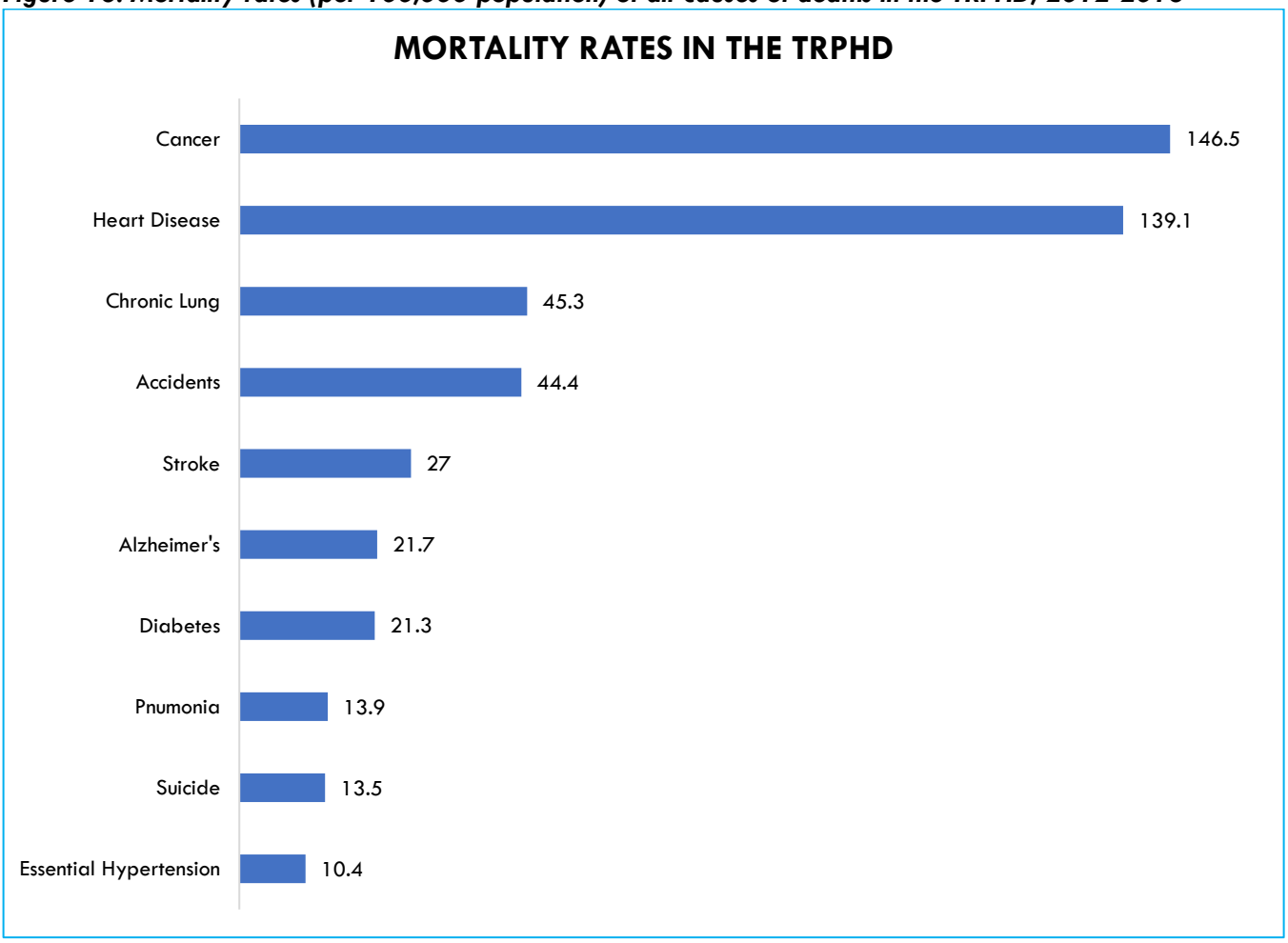
2008-2012				2010-2014				2012-2016			
Rank	Cause of Death	Deaths	Total	**Rank**	Cause of Death	Deaths	Total	**Rank**	Cause of Death	Deaths	Total
1	Heart Disease	966	22.6%	**1**	Heart Disease	946	22.1%	**1**	Heart Disease	913	21.4%
2	Cancer	905	21.2%	**2**	Cancer	855	20.2%	**2**	Cancer	872	20.5%
3	Chronic Lung Disease	296	6.9%	**3**	Chronic Lung Disease	290	6.8%	**3**	Chronic Lung Disease	291	6.8%
4	Stroke	221	5.2%	**4**	Stroke	206	4.8%	**4**	Accidents	236	5.5%
5	Accidents	195	4.6%	**5**	Accidents	205	4.8%	**5**	Stroke	181	4.3%
6	Alzheimer's	193	4.5%	**6**	Alzheimer's	171	4.0%	**6**	Alzheimer's	154	3.6%
7	Diabetes	134	3.1%	**7**	Diabetes	129	3.0%	**7**	Diabetes	133	3.1%
8	Pneumonia	86	2.0%	**8**	Pneumonia	99	2.3%	**8**	Pneumonia	96	2.3%
9	Suicide	60	1.4%	**9**	Nephritis/ Nephrosis	75	1.8%	**9**	Essential Hypertension	71	1.7%
10	Essential Hypertension	53	1.2%	**10**	Essential Hypertension	68	1.6%	**10**	Suicide	62	1.5%
	Total	**4,272**			**Total**	**4,223**			**Total**	**4,257**	

Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2015, and April 2018.

Mortality rates per 100,000 population

For 2012-2016 combined years, the Cancer mortality rate was highest among all causes of death in the TRPHD (146.5 per 100,000 population), followed by Heart Disease (139.1 per 100,000 population), and then by Chronic Lung Disease (45.3 per 100,000 population). **Figure 18** shows mortality rates for the Nebraska Top 10 Causes of Death in the TRPHD during the 2012-2016 combined years.

Figure 18: Mortality rates (per 100,000 population) of all causes of deaths in the TRPHD, 2012-2016

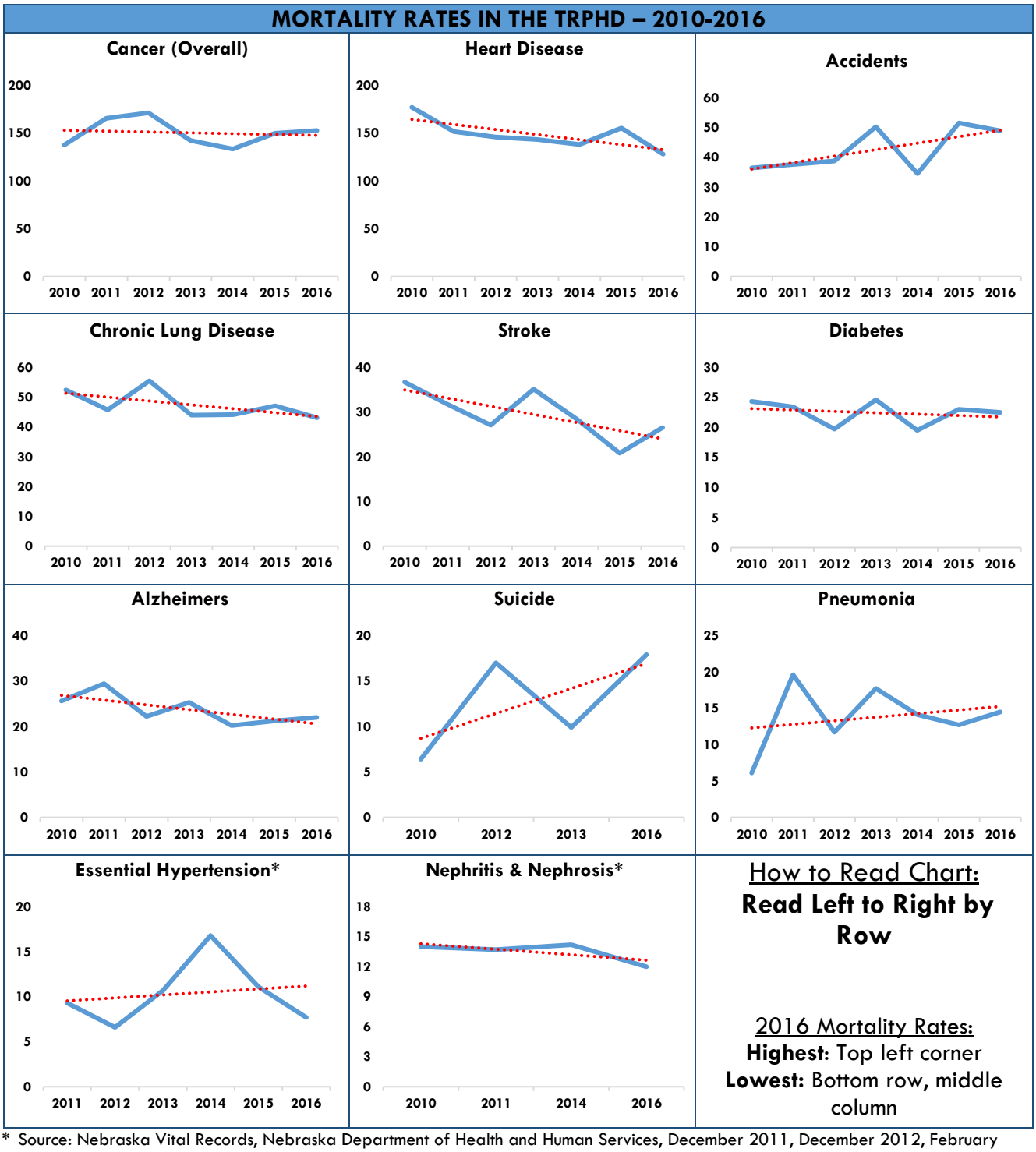


Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018

The following charts (**Figure 19**) show the Top ten causes of death for Nebraska in the TRPHD and their trends (red dotted line) sorted from highest to lowest mortality rates[1] from 2010 to 2016.

[1] Mortality rates were sorted according to 2016.

Figure 19: Mortality rate (per 100,000 population) trends for all causes of death in the TRPHD, 2010-2016



* Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018. *Years vary for cause of death.

Table 12 shows the percentage change in death rate for Nebraska's leading causes of death in the TRPHD between 2010 and 2016.

Table 12: Death rate percentage change in the TRPHD between 2010 and 2016

Cause of death:	% Change 2010 to 2016
Stroke	-27.8%
Heart Disease	-27.7%
Chronic Lung	-17.7%
Essential Hypertension*	-17.2%
Nephritis & Nephrosis**	-14.3%
Alzheimer's	-14.1%
Diabetes	-7.4%
Cancer	10.9%
Accidents	34.3%
Pneumonia	137.7%
Suicide	179.7%

*Difference between 2011 and 2016. **Difference between 2010 and 2015. Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, June 2015, & April 2018

The following causes of death experienced a mortality rate decline of over 25% in the TRPHD between 2010 and 2016:

- Stroke (-27.8%)
- Lung cancer (-27.7%)

The following causes of death experienced a mortality rate increase of over 25% in the TRPHD between 2010 and 2016:

- Suicide (179.7%)
- Pneumonia (137.7%)
- Accidents (34.3%)

Life Expectancy

Life expectancy at birth in the TRPHD averaged 79.7 years in 2014, with females (82.0 years) expected to live nearly five years longer than males (77.6 years). Between 1980 and 2014, life expectancy in the TRPHD added 4.2 years, the same when compared to 4.2 years for the whole State of Nebraska, but slightly lower than the nation during the same period (5.3 years). **Table 13.**

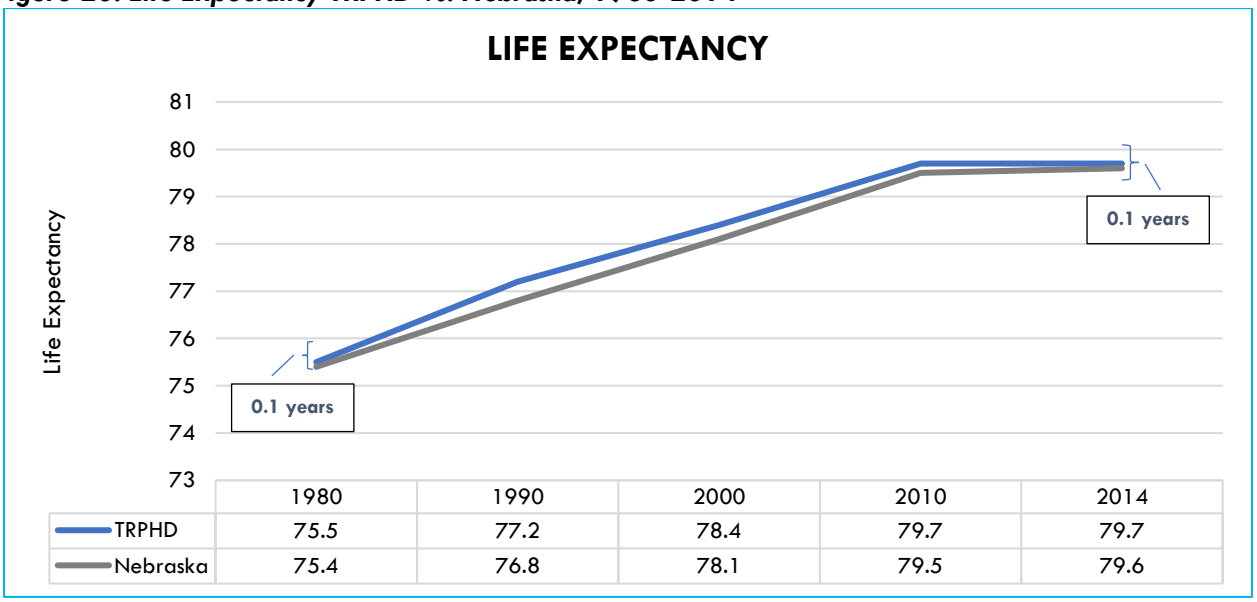
Table 13: Life Expectancy in the TRPHD, Nebraska, and the U.S. 1980-2014

LIFE EXPECTANCY						
	Life Expectancy by Year					Change in Life Expectancy 1980-2014 (years)
	1980	**1990**	**2000**	**2010**	**2014**	
TRPHD	75.5	77.2	80.7	79.7	79.7	+4.2
Nebraska	75.4	76.8	78.1	79.5	79.6	+4.2
United States	73.8	75.4	76.9	78.8	79.1	+5.3

Source: Institute for Health Metrics and Evaluation (IHME), US County Profile (2014 Life Expectancy). http://www.healthdata.org and US Health Map data visualization for life expectancies in the years 1980, 1990, 2000, 2010, and 2014: https://vizhub.healthdata.org/subnational/usa

The difference in life expectancy has been decreasing between the TRPHD and the State, averaging 1.3 additional years in the TRPHD every ten years since 1980. In the 2014, life expectancy in the TRPHD was 0.1 years higher than the State, which remained the same as 1980. **Figure 20.**

Figure 20: Life Expectancy TRPHD vs. Nebraska, 1980-2014



Source: Institute for Health Metrics and Evaluation (IHME), US County Profile (2014 Life Expectancy). http://www.healthdata.org and US Health Map data visualization for life expectancies in the years 1980, 1990, 2000, 2010, and 2014: https://vizhub.healthdata.org/subnational/usa

For life expectancy at the TRPHD county level, Buffalo County shows the highest life expectancy among all counties (80.3 years). Buffalo County is ranked 32nd in life

expectancy among the 93 counties in the State of Nebraska. Dawson County shows the lowest life expectancy in the TRPHD with 79 years, and it is ranked 79th in life expectancy among all counties in the State of Nebraska. **Table 14** shows life expectancy by county and 2014 rankings among the 93 counties in the State of Nebraska. **Figure 21** graphically depicts life expectancy trends in the TRPHD counties between 1980 and 2014.

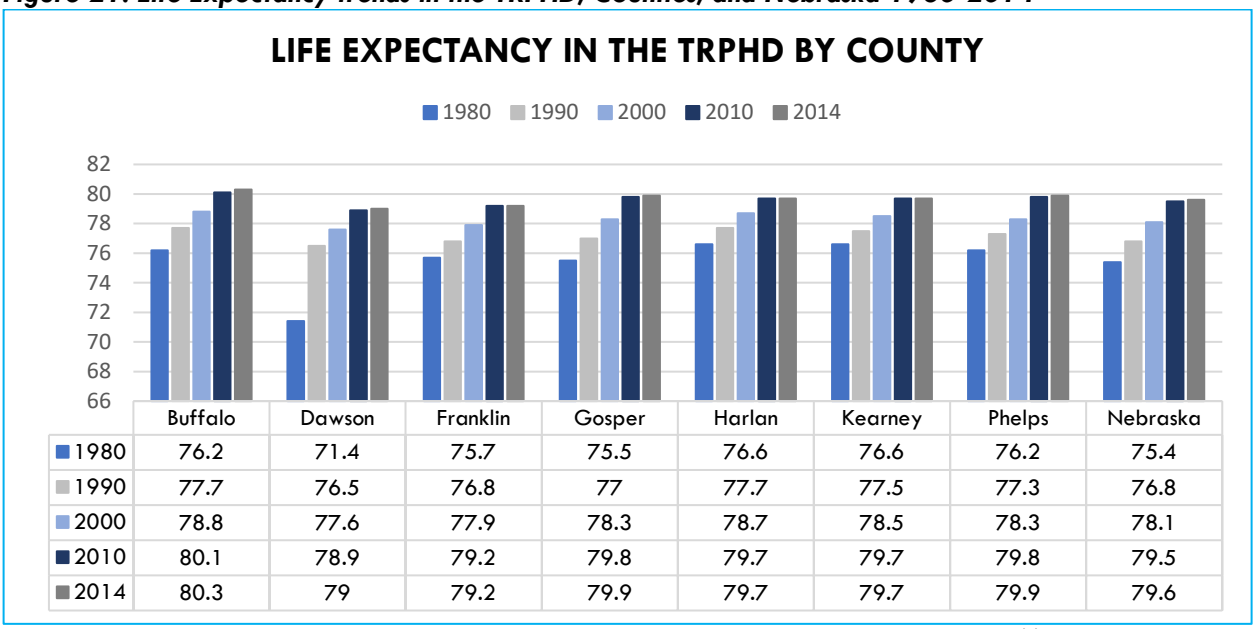
> ***"Much of the variation in life expectancy among counties can be explained by a combination of socioeconomic and race/ethnicity factors, behavioral and metabolic risk factors, and health care factors." (Dwyer-Lindgren et al., 2017)***

Table 14: Life Expectancy and Ranking by County, 1980-2014

TRPHD counties	Life Expectancy by Year					2014 Nebraska Rank
	1980	1990	2000	2010	2014	
Buffalo	76.2	77.7	78.8	80.1	80.3	32
Dawson	71.4	76.5	77.6	78.9	79.0	79
Franklin	75.7	76.8	77.9	79.2	79.2	69
Gosper	75.5	77.0	78.3	79.8	79.9	45
Harlan	76.6	77.7	78.7	79.7	79.9	43
Kearney	76.6	77.5	78.5	79.7	79.7	53
Phelps	76.2	77.3	78.3	79.8	79.9	46

Source: Institute for Health Metrics and Evaluation (IHME), US County Profile (2014 Life Expectancy). http://www.healthdata.org and US Health Map data visualization for life expectancies in the years 1980, 1990, 2000 and 2010: https://vizhub.healthdata.org/subnational/usa

Figure 21: Life Expectancy trends in the TRPHD, Counties, and Nebraska 1980-2014

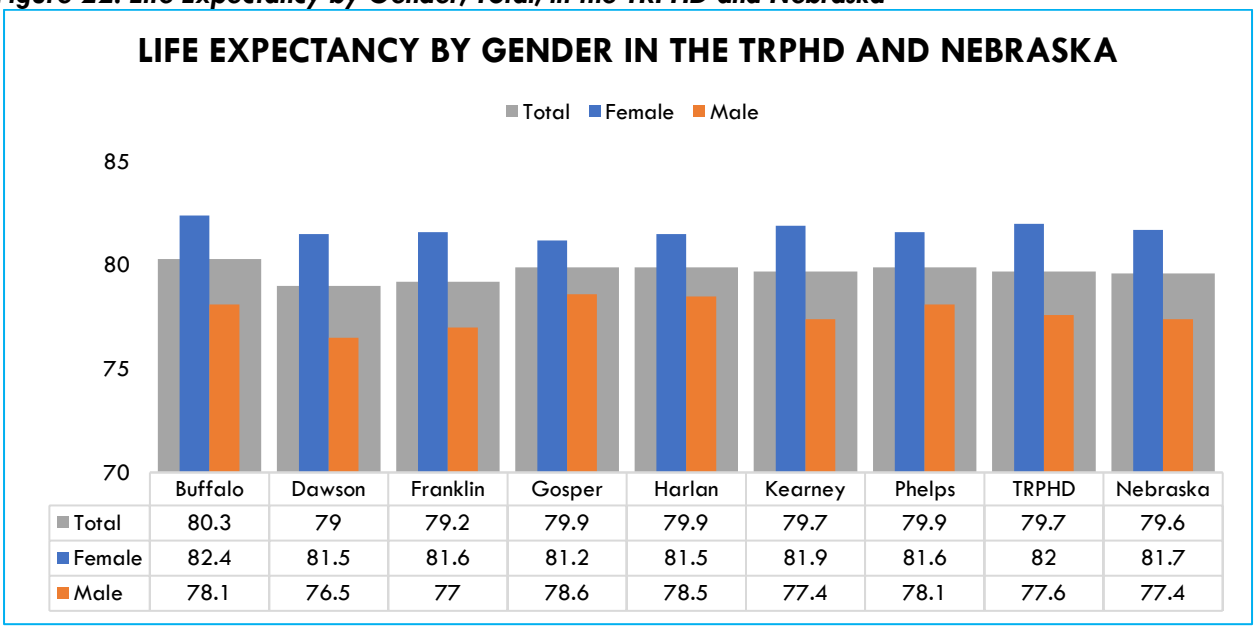


	Buffalo	Dawson	Franklin	Gosper	Harlan	Kearney	Phelps	Nebraska
1980	76.2	71.4	75.7	75.5	76.6	76.6	76.2	75.4
1990	77.7	76.5	76.8	77	77.7	77.5	77.3	76.8
2000	78.8	77.6	77.9	78.3	78.7	78.5	78.3	78.1
2010	80.1	78.9	79.2	79.8	79.7	79.7	79.8	79.5
2014	80.3	79	79.2	79.9	79.7	79.7	79.9	79.6

Source: Institute for Health Metrics and Evaluation (IHME), US County Profile (2014 Life Expectancy). http://www.healthdata.org and US Health Map data visualization for life expectancies in the years 1980, 1990, 2000 and 2010: https://vizhub.healthdata.org/subnational/usa

Life expectancy among females is 4.4 years higher than males in the TRPHD (82.0 vs. 77.6, respectively). While life expectancy among females is higher, males in the TRPHD showed a greater increase than Nebraska females for life expectancy since 1980. **Figure 22.**

Figure 22: Life Expectancy by Gender, Total, in the TRPHD and Nebraska



	Buffalo	Dawson	Franklin	Gosper	Harlan	Kearney	Phelps	TRPHD	Nebraska
Total	80.3	79	79.2	79.9	79.9	79.7	79.9	79.7	79.6
Female	82.4	81.5	81.6	81.2	81.5	81.9	81.6	82	81.7
Male	78.1	76.5	77	78.6	78.5	77.4	78.1	77.6	77.4

Source: Institute for Health Metrics and Evaluation (IHME), US County Profile (2014 Life Expectancy)

Females in Buffalo County showed the highest percentage of change for life expectancy between 1980 and 2014 (2.9%), while females in Franklin County showed the lowest

percentage of change (1.8%). Males in Gosper County experienced the highest percentage of change for life expectancy between 1980 and 2014 (5.8%), while males in Kearney County showed the lowest percent of change (4.2%). **Table 15.**

Table 15: Life Expectancy in 2014 by TRPHD County & State, and Percentage of Change in Gender by County and TRPHD 1980-2014

LIFE EXPECTANCY BY COUNTY					
	Life Expectancy 2014		Life Expectancy 2014	Gender % change 1980-2014	
TRPHD Counties	**Female**	**Male**	**Total**	**Female**	**Male**
Buffalo	82.4	78.1	80.3	2.9	5.1
Dawson	81.5	76.5	79.0	2.8	5.1
Franklin	81.6	77.0	79.2	1.8	5.2
Gosper	81.2	78.6	79.9	2.5	5.8
Harlan	81.5	78.5	79.9	1.4	5.2
Kearney	81.9	77.4	79.7	1.9	4.2
Phelps	81.6	78.1	79.9	2.4	5.2
TRPHD	**82.0**	**77.6**	**79.7**	**2.6**	**5.0**
Nebraska	81.7	77.4	79.6	2.7	5.7
United States	81.5	76.7	79.1	4.0	6.7

Source: Institute for Health Metrics and Evaluation (IHME), US County Profile (2014 Life Expectancy). http://www.healthdata.org and US Health Map data visualization for life expectancies in the years 1980, 1990, 2000 and 2010: https://vizhub.healthdata.org/subnational/usa

Life Expectancy data indicate that TRPHD residents are comparable to their counterparts at the State and National levels.

Health-Related Quality of Life

Health-related quality of life (HRQOL) is an individual's or a group's perceived physical and mental health over time. These measures are important because they can assess dysfunction and disability not measured by standard morbidity and mortality data.

Because quality of life is subjective, it is typically measured with self-reports. The use of self-reported measures is fundamentally different from using objective measures (e.g., household income, unemployment levels, neighborhood crime) often used to assess well-being. The use of both objective and subjective measures, when available, is desirable for public policy purposes. (CDC, 2019).

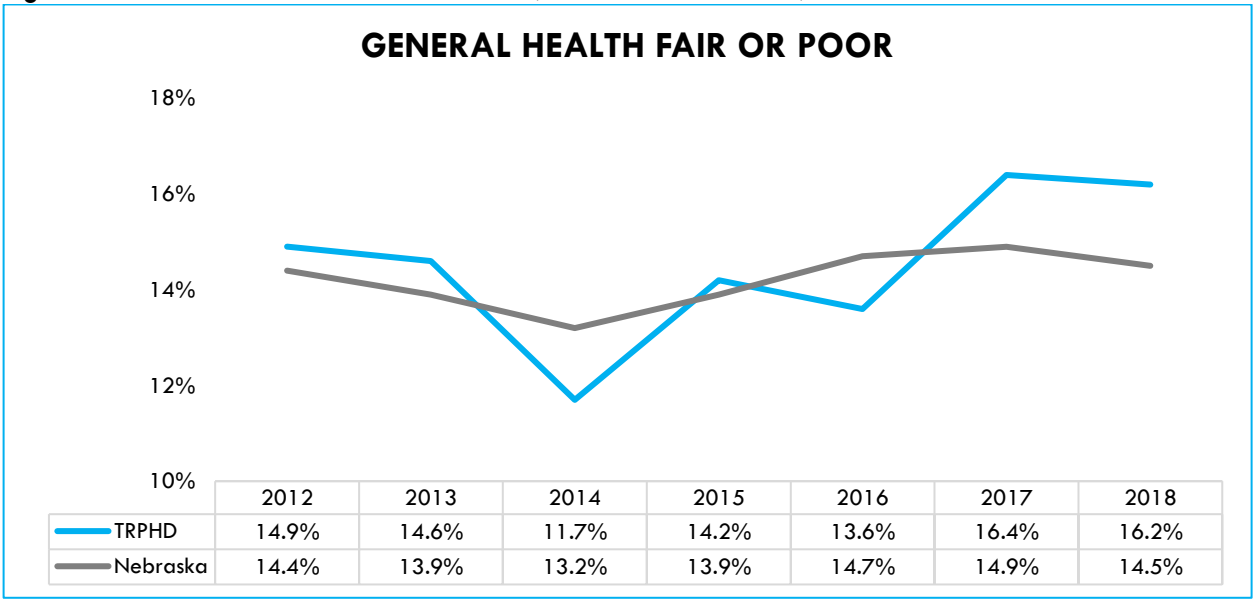
Well-being concepts:

Well-being is a positive outcome that is meaningful for people and many sectors of society because it tells us that people perceive that their lives are going well. Good living conditions (e.g., housing, employment) are fundamental to well-being. Tracking these conditions is important for public policy. Well-being is associated with numerous health-, job-, family-, and economically related benefits. For example, higher levels of well-being are associated with decreased risk of disease, illness, and injury; better immune functioning; speedier recovery; and increased longevity. Individuals with high levels of well-being are more productive at work and are more likely to contribute to their communities. (CDC, 2019).

General Health Ratings

Fair or poor general health in the State of Nebraska has remained stable over the past seven years. However, there are significant changes when compared to the TRPHD ratings. From 2012 to 2013, TRPHD's general health ratings "fair" or "poor" were similar or higher than the State, but in the last two measures (2017 and 2018) TRPHD's ratings have been higher than the State. TRPHD's general health ratings "fair" or "poor" were lower than the State in 2014 and 2016. In 2018, 16.2 percent in the TRPHD reported general health as "fair" or "poor" compared to 14.5 percent in the State. (**Figure 23**). Whereas the percent of the population at the State level who mention having a general health of "Fair" or "Poor" is slightly increasing, the percentage rises and decreases sharply year to year with little consistency.

Figure 23: General Health "Fair" or "Poor", TRPHD vs. Nebraska, 2012-2018



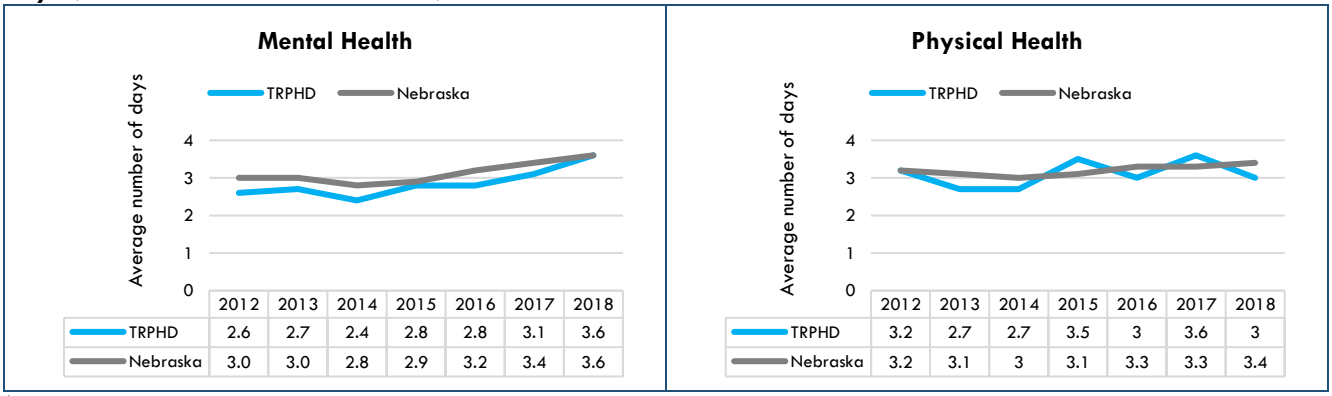
	2012	2013	2014	2015	2016	2017	2018
TRPHD	14.9%	14.6%	11.7%	14.2%	13.6%	16.4%	16.2%
Nebraska	14.4%	13.9%	13.2%	13.9%	14.7%	14.9%	14.5%

Source: Behavioral Risk Factor Surveillance System (BRFSS, 2011 – 2018)

Poor Physical/Mental Health Days

In 2018, the TRPHD average number of poor mental health days (3.6) is the same when compared to Nebraska's poor mental health days (3.6) in the past month. The average number of days with poor physical health has increased and decreased annually since 2012 in TRPHD, while the average number of poor mental health days has been increased, from an average of 2.6 days in 2011 to 3.6 days in 2018. Compared to adults at the State level in 2018, TRPHD adults reported the same number of poor mental health days (3.6). State poor physical health has been increasing since 2017, while TRPHD poor physical health days have decreased .6 days in 2018. **Figure 24.**

Figure 24: Average Number of Days Mental Health and Physical Health were Not Good during the Past 30 Days*, TRPHD and Nebraska Adults, 2012-2018



	2012	2013	2014	2015	2016	2017	2018
TRPHD	2.6	2.7	2.4	2.8	2.8	3.1	3.6
Nebraska	3.0	3.0	2.8	2.9	3.2	3.4	3.6

	2012	2013	2014	2015	2016	2017	2018
TRPHD	3.2	2.7	2.7	3.5	3	3.6	3
Nebraska	3.2	3.1	3	3.1	3.3	3.3	3.4

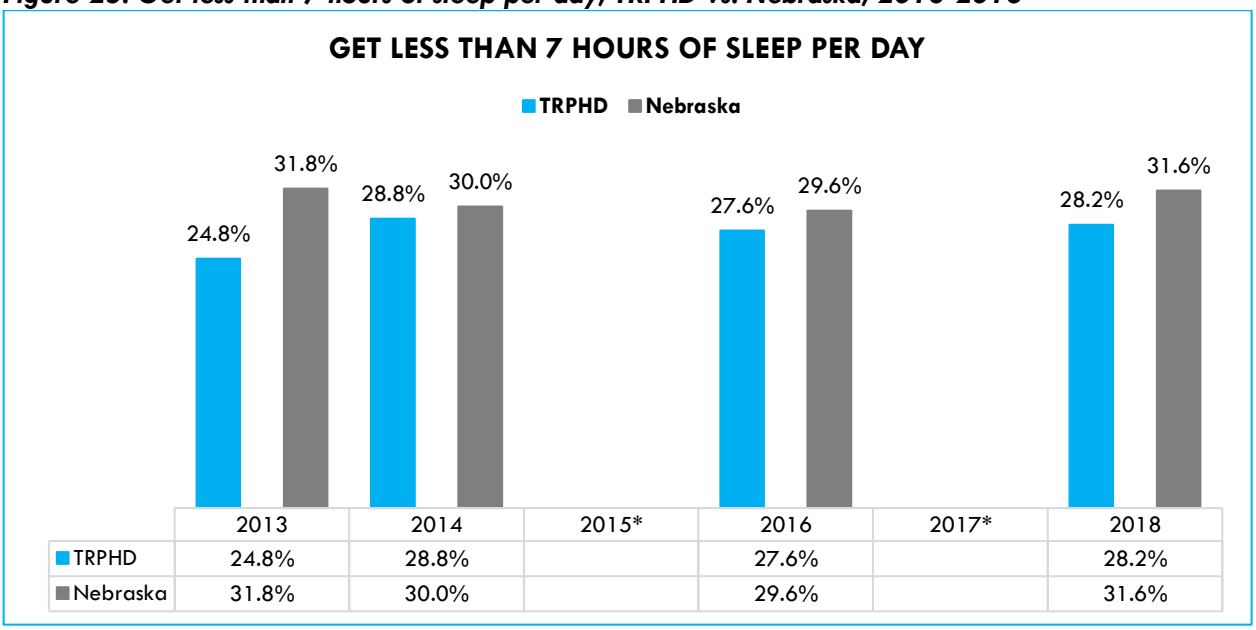
*Average number of days during the previous 30 that adults 18 and older report (1) their physical health (illness and injury) was not good and (2) their mental health (including stress, depression, and emotions) was not good. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2011 – 2018)

Sleep

About 7–19 percent of adults in the United States reported not getting enough rest or sleep every day (Centers for Disease Control and Prevention, 2019). Sleep deficiency is linked to many chronic health problems, including heart disease, kidney disease, high blood pressure, diabetes, stroke, obesity, and depression. Sleep deficiency also is associated with an increased risk of injury in adults, teens, and children. Adults should obtain an average of 7-8 hours of sleep per day to be healthy (National Heart, Lung, and Blood Institute, https://www.nhlbi.nih.gov).

In 2018, over one-third of the TRPHD adults (28.2%) got less than 7 hours of sleep per day, which was lower than the percentage for adults at the State level (31.6%). Overall, TRPHD adults have reported less than 7 hours of sleep in a lower percentage than adults at the state level in 2013, 2014, 2016, and 2018. **Figure 25.**

Figure 25: Get less than 7 hours of sleep per day, TRPHD vs. Nebraska, 2013-2018



	2013	2014	2015*	2016	2017*	2018
TRPHD	24.8%	28.8%		27.6%		28.2%
Nebraska	31.8%	30.0%		29.6%		31.6%

*Data was not available in 2012, 2015, and 2017. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2011 – 2018)

Healthcare Access and Utilization

People without insurance coverage have less access to care than people who are insured. One in five uninsured adults in 2017 went without needed medical care due to cost. Studies repeatedly demonstrate that the uninsured are less likely than those with insurance to receive preventive care (i.e., prenatal care, immunizations, cancer screenings, etc.) and services for major health conditions and chronic diseases (Henry J. Kaiser Family Foundation, 2018).

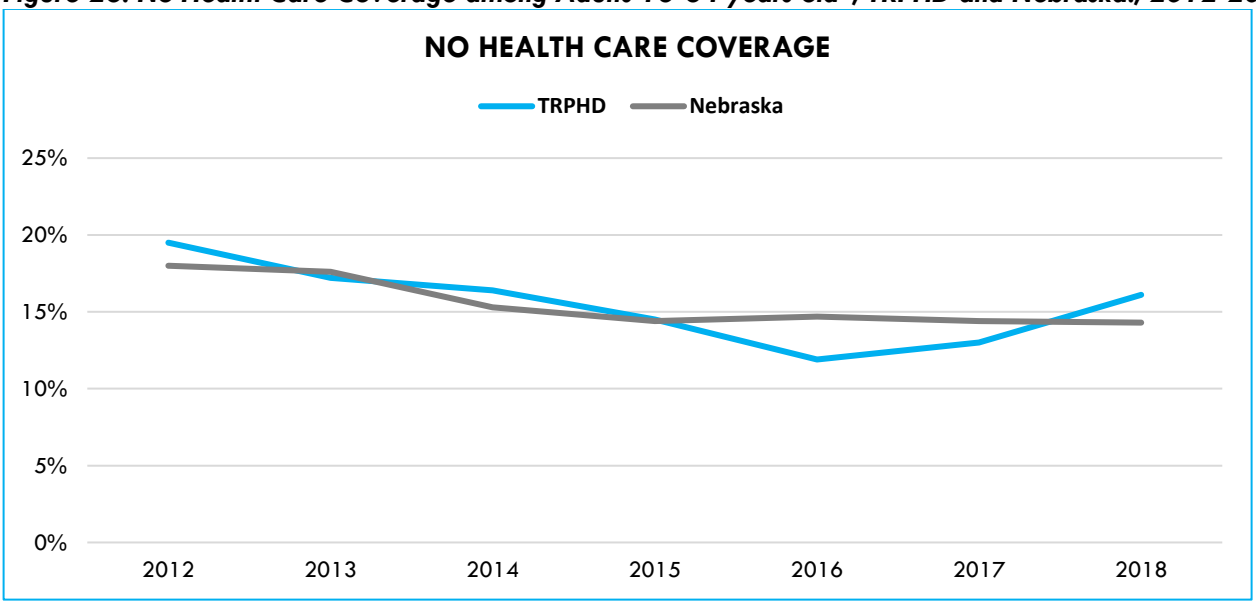
Healthcare Coverage

In 2018, about 1 in 6 18-64-year-old adults in the TRPHD (16.1%) reported not having any kind of healthcare coverage (either private or public health insurance).

The percentage of uninsured adults 18-64 years old has increased steadily since 2016 (11.9%), with a noticeable rise in 2018 (16.1%), and a slight increase in 2017 (13.0%). Before 2016, the percentage of uninsured adults 18-64 years old had been on a steady decline since 2012 (19.5%) before hitting the lowest percentage in 2016 (11.9%).

TRPHD has historically had a lower or similar percentage of uninsured adults under age 65 compared to the State. (**Figure 26**).

Figure 26: No Health Care Coverage among Adults 18-64 years old*, TRPHD and Nebraska., 2012-2018



Percentage of adults 18-64 years old who report that they do not have any kind of health care coverage. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2011 – 2018)

Table 16 displays the number of primary care physicians, dentists, and mental health providers for each of the seven counties in the TRPHD and **Table 17** displays a larger range of medical professionals.

Table 16: Number of Health Care Professionals

Number of Health Care Professionals						
	Number of PRIMARY CARE PHYSICIANS		Number of DENTISTS		Number of MENTAL HEALTH PROVIDERS	
	2012	2016	2013	2017	2014	2018
Buffalo County	41	44	32	37	133	164
Dawson County	15	13	14	14	20	24
Franklin County	2	2	1	1	2	2
Gosper County	1	0	0	0	1	1
Harlan County	2	3	1	1	-	-
Kearney County	3	3	2	2	4	4
Phelps County	9	7	5	5	13	13
TRPHD	***73***	***72***	***55***	***60***	***173***	***208***

Source: Area Health Resource File/American Medical Association; CMS, National Provider Identification file, contained in County Health Rankings (2019)

Table 17: Number of Health Care Professionals by Specialty

Number of Health Care Professionals by Specialty								
		County						
Two Rivers Public Health Department	**Total**	**Buffalo**	**Dawson**	**Franklin**	**Gosper**	**Harlan**	**Kearney**	**Phelps**
Profession	**624**	**449**	**93**	**7**	**1**	**7**	**18**	**49**
Medicine	182	148	20	1	0	1	2	10
Advanced Practice Registered Nurse	105	71	19	3	0	1	4	7
Physician Assistant	59	40	10	0	0	3	1	5
Dentist	57	34	13	1	0	1	4	4
Pharmacist	87	53	13	1	0	1	4	15
Behavioral Health	134	103	18	1	1	0	3	8
		County						
Two Rivers Public Health Department	**Total**	**Buffalo**	**Dawson**	**Franklin**	**Gosper**	**Harlan**	**Kearney**	**Phelps**
Medicine - Primary Specialty	**182**	**148**	**20**	**1**	**0**	**1**	**2**	**10**
Endocrinology, Diabetes and Metabolism	0	0	0	0	0	0	0	0
Family Medicine	48	21	14	1	0	1	2	9
General Practice	0	0	0	0	0	0	0	0
Geriatric Medicine (Family Medicine)	0	0	0	0	0	0	0	0
Geriatric Medicine (IM)	0	0	0	0	0	0	0	0
Geriatric Psychiatry	0	0	0	0	0	0	0	0
Gynecology	0	0	0	0	0	0	0	0
Internal Medicine	9	8	0	0	0	0	0	1
Obstetrics & Gynecology	7	6	1	0	0	0	0	0
Pediatrics	10	10	0	0	0	0	0	0
Psychiatry	2	2	0	0	0	0	0	0
Other Specialties	106	101	5	0	0	0	0	0

Source: Health Professions Tracking Service (HPTS), University of Nebraska Medical Center, College of Public Health (2020)

Table 17 (Continued): Number of Health Care Professionals by Specialty

Number of Health Care Professionals by Specialty (Cont.')									
		County							
Two Rivers Public Health Department	**Total**	**Buffalo**	**Dawson**	**Franklin**	**Gosper**	**Harlan**	**Kearney**	**Phelps**	
Behavioral Health - License Type	134	103	18	1	1	0	3	8	
Psychologist	9	8	0	0	0	0	1	0	
LIMHP	57	43	10	0	1	0	0	3	
LIMHP LMSW	8	7	0	1	0	0	0	0	
LIMHP LADC	17	15	1	0	0	0	0	1	
LIMHP LMSW LADC	1	0	1	0	0	0	0	0	
LMHP	25	17	4	0	0	0	2	2	
LMHP LMSW	14	11	1	0	0	0	0	2	
LMHP LADC	2	2	0	0	0	0	0	0	
CMSW	0	0	0	0	0	0	0	0	
LADC	1	0	1	0	0	0	0	0	
		Two Rivers Public Health Department County							
Two Rivers Public Health Department Physical and Occupational Therapists	**Total**	**Buffalo**	**Dawson**	**Franklin**	**Gosper**	**Harlan**	**Kearney**	**Phelps**	**Other NE County or Out of State**
Profession	118	63	20	0	1	3	4	14	13
Business - County Location									
Occupational Therapist	44	24	5	0	1	1	1	6	6
Physical Therapist	74	39	15	0	0	2	3	8	7
Counties Served									
Occupational Therapist	48	27	7	2	2	1	3	6	
Physical Therapist	82	40	18	2	5	4	5	8	

Source: Health Professions Tracking Service (HPTS), University of Nebraska Medical Center, College of Public Health (2020)

PT/OT - Business - County Location - identifies the business county location

PT/OT - Counties served - may provide services in multiple counties through primary practice; therefore, professional may be counted multiple times

(e.g. a PT whose business is in Dawson County may provide services to nursing homes or schools in both Dawson and Gosper Counties)

Notes: County is based upon primary practice location

Includes professionals with a primary practice location in the Nebraska County listed

Satellite practice data is not included

Data is based upon professional/facility survey responses

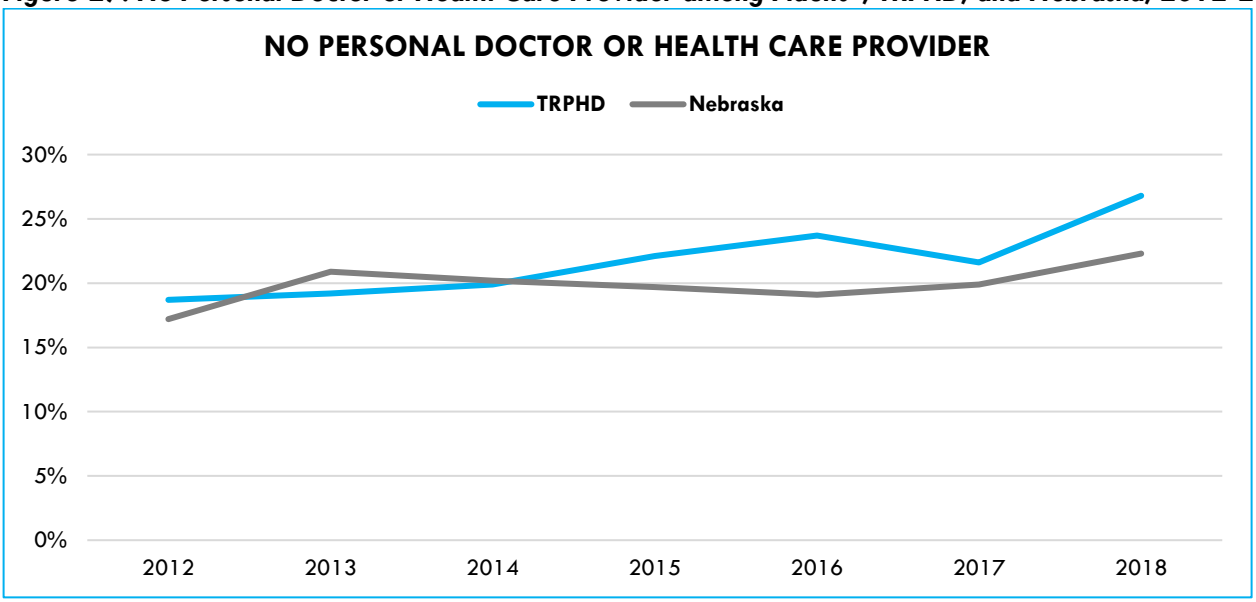
Barriers to Healthcare

Lacking a Personal Healthcare Provider

According to the BRFSS, 1 in 4 TRPHD adults in 2018 (26.8%) reported not having someone they consider to be their personal doctor or healthcare provider. This percentage has been increasing since 2012 (18.7%), the lowest level reported within the seven years (2012-2018). TRPHD adults did have a slight decrease in having someone they consider to be their personal doctor or healthcare provider in 2017 (21.6%), but then the rate continued to increase.

The TRPHD continues to have a higher percentage of adults with no personal healthcare provider compared to the State overall. **Figure 27**.

Figure 27: No Personal Doctor or Health Care Provider among Adults*, TRPHD, and Nebraska, 2012-2018

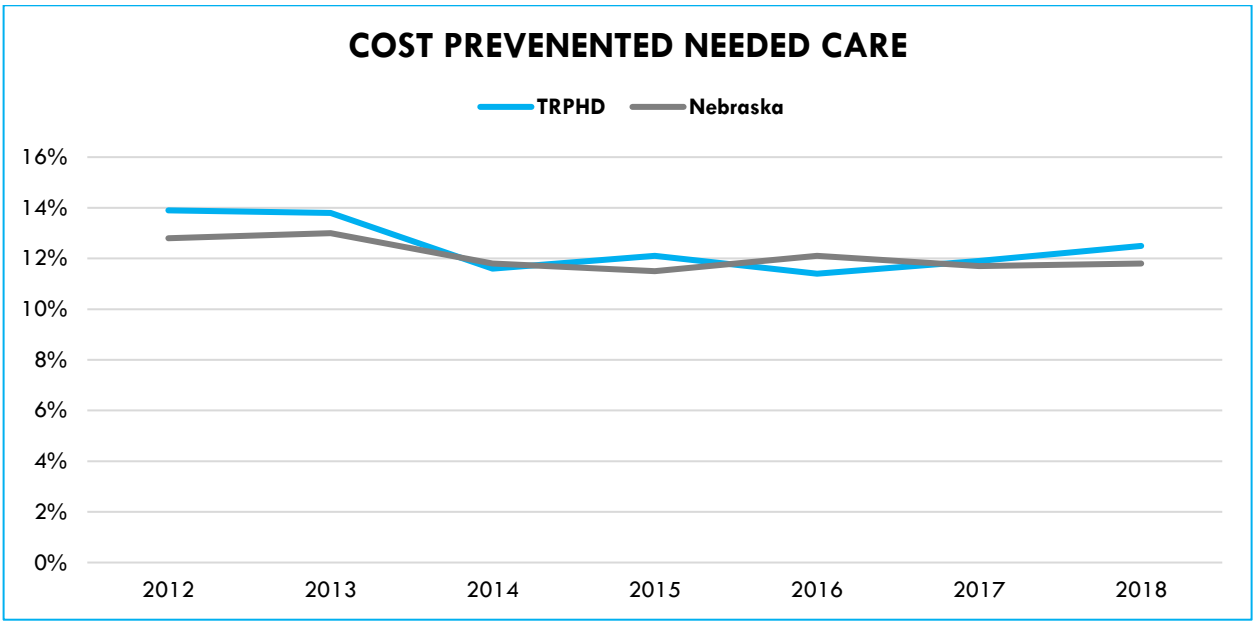


*Percentage of adults 18 and older who report that they do not have a personal doctor or health care provider. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2011 – 2018)

Cost as a Barrier to Care

In 2018, 12.5 percent of TRPHD adults reported that at least once during the past 12 months, needed but were unable to see a doctor due to the cost of care. Since 2012, the percentage of TRPHD adults who have reported that they were unable to see a doctor due to the cost of care has been slightly higher or similar to the State. TRPHD adults have a higher barrier to care due to costs compared to adults at the State level. **Figure 28**.

Figure 28: Cost Prevented Needed Care during the Past Year among Adults*, TRPHD and Nebraska, 2012-2018



*Percentage of adults 18 and older who report that they needed to see a doctor but could not because of cost during the past 12 months
Source: Behavioral Risk Factor Surveillance System (BRFSS, 2011 – 2018)

Shortage Area Designations

Throughout the State of Nebraska, there are geographic areas, populations, and facilities with insufficient primary care, dental and mental health providers, and services. Rural areas often have fewer healthcare resources, so people must travel greater distances to reach healthcare providers. Since people tend to have a greater need for healthcare as they age, access to healthcare services is likely to become increasingly difficult in rural areas as rural hospitals struggle to stay operational and the proportion of elderly in the population increases. (DHHS, 2016; HRSA, https://bhw.hrsa.gov/).

Much of Nebraska has a "state shortage area" or "national shortage area" designation for specific physician specialties, dentists, or psychiatrists and mental health practitioners. In fact, for psychiatry and mental health practitioners, the entire state (except for Omaha and its immediate surrounding areas) is a state-designated mental health shortage area. (Rural Health Information Hub, 2019). The Rural Health Advisory Commission has the responsibility of designating shortage areas for purposes of the Nebraska rural incentive programs for the professions and specialties defined in the Act. Every 3 years a statewide review of all the shortage areas is completed by the Office of Rural Health (Nebraska Rural Health Advisory Commission's, Annual Report, 2018).

The table below summarizes counties in the TRPHD that have been classified as having shortages of health care providers by specialty. **Table 18.**

Table 18: Shortages of Specialty Care in the TRPHD

	SHORTAGE OF:					
TRPHD County:	**General Dentistry***	**Family Practice**	**Psychiatry and Mental Health***	**General Internal Medicine**	**General Surgery**	**Primary Care***
Buffalo	No	Yes	Yes	Yes	Yes	Yes
Dawson	No	No	Yes	No	Yes	No
Franklin	No	Yes	Yes	No	Yes	Yes
Gosper	No	Yes	Yes	Yes	No	Yes
Harlan	No	No	Yes	Yes	Yes	Yes
Kearney	No	Yes	Yes	Yes	Yes	Yes
Phelps	No	Yes	Yes	Yes	No	No
Total number of counties in the TRPHD with specialty care shortages	**0**	**5**	**7**	**5**	**5**	**5**

Source: Nebraska Office of Rural Health, 2016 and 2017 (http://dhhs.ne.gov/publichealth/RuralHealth/Pages/ShortageAreas.aspx)
*Rural Health Information Hub, 2019 (https://www.ruralhealthinfo.org/data-explorer?id=204)

According to studies on the economic impact of rural health care, "One primary care physician in a rural community creates 23 jobs annually. On average, 14 percent of total employment in rural communities is attributed to the health sector". (Doeksen et al., 2012).

Table 19 shows the Health Professionals Shortage Areas (HPSAs) designated by HRSA (Health Resources and Services Administration) as having shortages of primary care, dental care, or mental health providers and may be geographic (a county or service area), population (e.g., low income or Medicaid eligible) or facilities (e.g., federally qualified health centers, or state or federal prisons) (source: https://data.hrsa.gov/tools/shortage-area/hpsa-find). HRSA has identified 11 geographic areas and locations in the TRPHD with Health Professional Shortage Areas (HPSAs).

Table 19: Health Professional Shortage Areas (HPSAs) in the TRPHD

Discipline	HPSA Name	Designation Type
Primary Care	Family Medicine Specialists	Rural Health Clinic
Primary Care	Lexington Regional Health Center Bertrand Clinic	Rural Health Clinic
Primary Care	Lexington Regional Health Center Elwood Clinic	Rural Health Clinic
Dental Health	Family Medicine Specialists	Rural Health Clinic
Dental Health	Lexington Regional Health Center Bertrand Clinic	Rural Health Clinic
Dental Health	Lexington Regional Health Center Elwood Clinic	Rural Health Clinic
Mental Health	Catchment Area 2	Geographic HPSA
Mental Health	Mental Health Catchment Area 3	Geographic HPSA
Mental Health	Family Medicine Specialists	Rural Health Clinic
Mental Health	Lexington Regional Health Center Bertrand Clinic	Rural Health Clinic
Mental Health	Lexington Regional Health Center Elwood Clinic	Rural Health Clinic

Source: HRSA Find (https://data.hrsa.gov/tools/shortage-area/hpsa-find) 2020

Nursing Workforce

The Nebraska Center for Nursing, under the administration of the Licensure Unit at the Nebraska DHHS, Division of Public Health, annually tracks the workforce of Registered Nurses (RNs), Advanced Practice Registered Nurses (APRNs), and Licensed Practical Nurses (LPNs) through the renewal process of their respective licenses. RNs and APRNs renew their licenses on even years, and LPNs renew on odd years. Data is collected and disseminated by **county** based on where nurses work. The Nebraska Center for Nursing also makes nursing workforce projections based on the supply and demand of nurses in **9 economic regions** defined by the Nebraska Department of Labor. See **Figure 29**.

According to the Nebraska Center for Nursing "2020 RN/LPN Biennial report", there are 1,219 RNs and 340 LPNs working in the TRPHD. The current RN workforce rate per 100,000 population in the State of Nebraska is 1,242.5, and both Buffalo County and Phelps County in the TRPHD are higher when compared to the State average (1,747.5 per 100,000 population and 1,422.9 per 100,000 population; respectively). Gosper County has the lowest RN workforce rate in the TRPHD (150.3 per 100,000 population). The total RN workforce rate for the TRPHD is 1,253.0 per 100,000 population.

LPNs show higher workforce rates in the TRPHD when compared to the State (350 vs. 237 LPNs per 100,000 population, respectively), a difference of 113 LPNs per 100,000 population. Phelps County has the highest LPN workforce rate of 498.1 per 100,000 population in the TRPHD. Harlan County has the lowest LPN workforce rate in the TRPHD (266.3 per 100,000 population). **Table 20**.

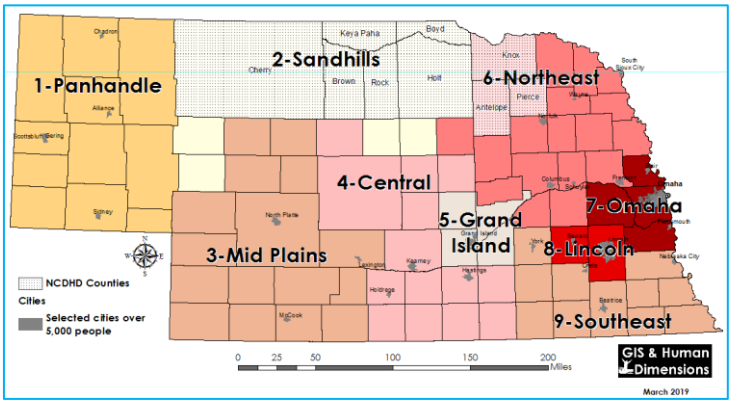
Table 20: RN and LPN workforce in the TRPHD

County:	RNs - 2018	LPNs - 2019	RNs per 100,000	LPNs per 100,000
Buffalo	867	176	1,747.5	354.4
Dawson	153	71	645.3	300.9
Franklin	17	10	562.4	335.7
Gosper	3	6	150.3	301.5
Harlan	19	9	558.7	266.3
Kearney	32	23	489.0	354.1
Phelps	128	45	1,422.9	498.1
TRPHD	**1,219**	**340**	**1,253.0**	**350.0**
Nebraska	23,972	4,584	1,242.5	237.0

Source: Nebraska Center for Nursing, 2020 RN/LPN Biennial Report.

Nursing Workforce Projections

Figure 29: Economic Regions and the TRPHD counties

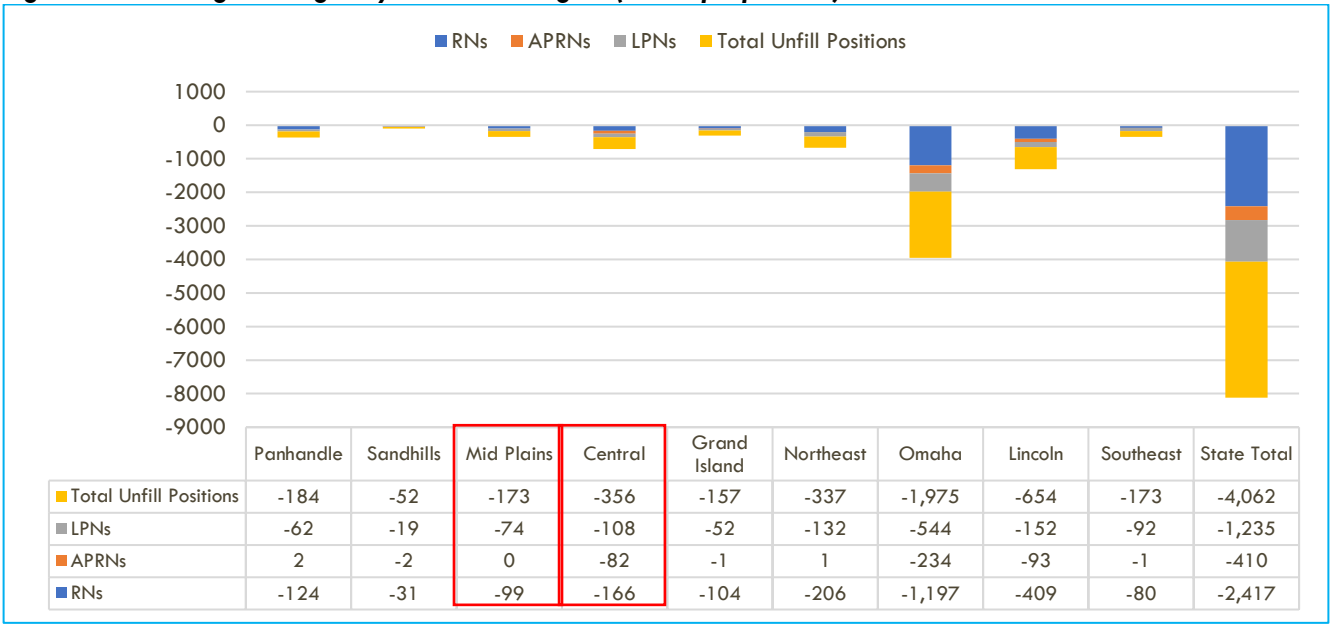


Sources: Nebraska Department of Labor (Economic Regions). Own elaboration.

According to the Nebraska Center for Nursing (2018 Biennial Report), the current shortage of nurses (2019) in the State of Nebraska is 4,616 FTE[2] nurses (it includes RNs, APRNs, and LPNs). This shortage will increase to 5,435 FTE nurses in the year 2025, a nearly 18% growth. Nursing projections are based on the 9 economic regions defined by the Nebraska Department of Labor. The TRPHD includes portions of the **Mid Plains** (2 Counties: Dawson and Gosper) and the **Central** Economic Regions (5 Counties: Buffalo, Phelps, Kearney, Harlan, and Franklin). **Figure 27**. According to nursing projections, the Mid Plains Economic Region is facing a nursing shortage of 173 nurses, and the Central region is facing a shortage of 356 nurses. Over two-thirds of the nursing shortage is due to unfilled RN and APRN positions. **Figure 30**.

[2] FTE: Full-Time Equivalent

Figure 30: Nursing Shortages by Economic Region (2018 projections)



	Panhandle	Sandhills	Mid Plains	Central	Grand Island	Northeast	Omaha	Lincoln	Southeast	State Total
Total Unfill Positions	-184	-52	-173	-356	-157	-337	-1,975	-654	-173	-4,062
LPNs	-62	-19	-74	-108	-52	-132	-544	-152	-92	-1,235
APRNs	2	-2	0	-82	-1	1	-234	-93	-1	-410
RNs	-124	-31	-99	-166	-104	-206	-1,197	-409	-80	-2,417

Source: Nebraska Center for Nursing, 2018.

Chronic Disease

Cardiovascular Disease

Cardiovascular disease (CVD) includes all diseases of the heart and blood vessels, including coronary heart disease, stroke, congestive heart failure, hypertension disease, and atherosclerosis. CVD is a chronic disease, with an onset that often extends decades after exposure to one or more risk factors (DHHS, 2016).

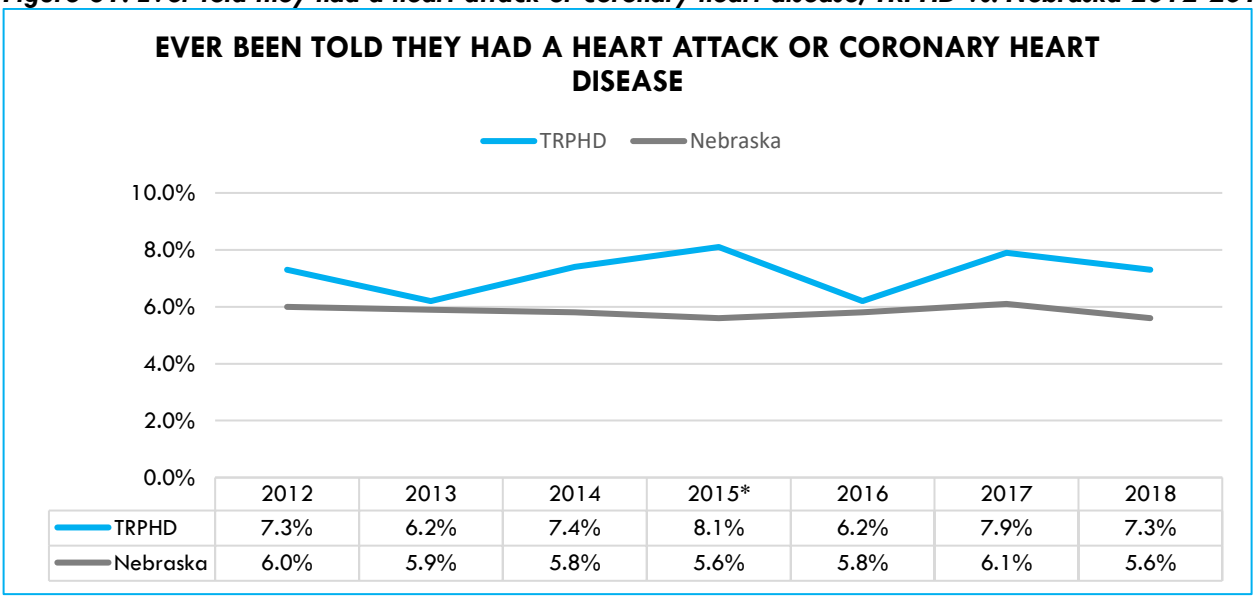
Heart Disease

Coronary heart disease (or coronary artery disease) is a narrowing of the small blood vessels that supply blood and oxygen to the heart (coronary arteries). Coronary heart disease often results from the buildup of fatty material and plaque (atherosclerosis). As the coronary arteries narrow, the flow of blood to the heart can slow or stop. This disease can cause chest pain (stable angina), shortness of breath, heart attack, or other symptoms.

Prevalence

According to the 2018 Nebraska BRFSS, 1 in 14 TRPHD adults (7.3%) reported that they have ever been told they had a heart attack or coronary heart disease. In 2015 the percentage was statistically higher when compared to the State. **Figure 31**.

Figure 31: Ever told they had a heart attack or coronary heart disease, TRPHD vs. Nebraska 2012-2018



	2012	2013	2014	2015*	2016	2017	2018
TRPHD	7.3%	6.2%	7.4%	8.1%	6.2%	7.9%	7.3%
Nebraska	6.0%	5.9%	5.8%	5.6%	5.8%	6.1%	5.6%

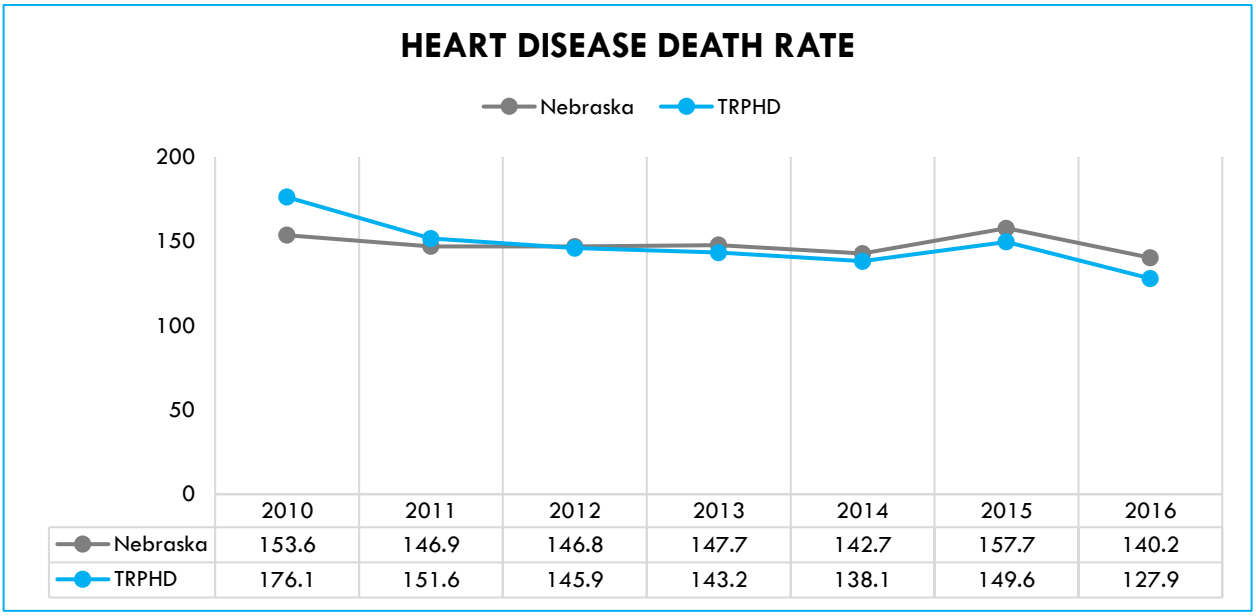
*TRPHD rates are significantly higher than the State. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Mortality

There were 168 deaths due to heart disease in the TRPHD in 2016, accounting for 20 percent of all deaths among TRPHD residents (ranked as the leading cause of death among TRPHD residents). In Nebraska, cancer has been the leading cause of death since 2009.

The age-adjusted rate (AAR) for heart disease death in the TRPHD declined between 2010 and 2016. The AAR in TRPHD was higher than the State until 2012 when the State AAR became higher and has remained higher than TRPHD. **Figure 32.**

Figure 32: Heart Disease Death Rate per 100,000 Population (age-adjusted), TRPHD vs. Nebraska, 2010 to 2016*



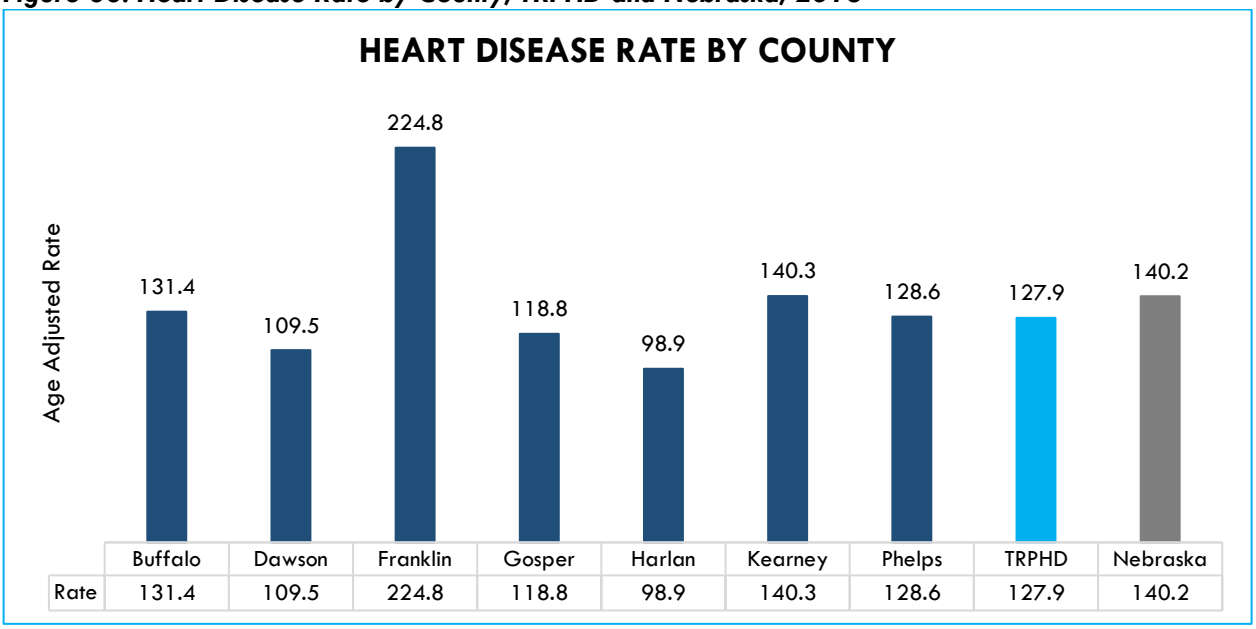
	2010	2011	2012	2013	2014	2015	2016
Nebraska	153.6	146.9	146.8	147.7	142.7	157.7	140.2
TRPHD	176.1	151.6	145.9	143.2	138.1	149.6	127.9

*Yearly Averages 2010 to 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

Heart disease mortality by TRPHD Counties

Franklin County showed the highest heart disease death rate per 100,000 population among all counties in the TRPHD (224.8), nearly 1.8 times higher than the total rate for the TRPHD (127.9), followed by Kearney County (140.3; 1.1 times higher than the total rate for the TRPHD). Harlan showed the lowest heart disease death rate among all counties in the TRPHD (98.9), followed by Dawson County (109.5), 1.3 and 1.2 times lower than the average rate for the TRPHD, respectively. **Figure 33.**

Figure 33: Heart Disease Rate by County, TRPHD and Nebraska, 2016*



*Yearly Average 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018.

Hospitalizations

The Heart disease hospitalization rate per 1,000 Medicare Beneficiaries, 65+, All Races/Ethnicities, both genders, 2014-2016 years combined increased by 120% in the TRPHD when compared to 2009-2011 years combined. **Table 21**.

The Heart disease hospitalization rate for Medicare Beneficiaries for all populations 65+ in the TRPHD was 0.8 points lower when compared to the State of Nebraska (102.0 vs. 102.8 per 1,000 Medicare Beneficiaries, respectively). Nebraska had a lower heart disease hospitalization rate for all populations over 65 years of age when compared to the National level (102.8 vs. 129.6 per 1,000 Medicare Beneficiaries, respectively). **Table 21.**

Buffalo County has maintained the highest heart disease hospitalization rate per 1,000 Medicare Beneficiaries over 65 years of age between 2009-2011 combined years and 2014-2016 combined years among all counties in the TRPHD (56.4 and 129.8, respectively). Phelps County showed the lowest heart disease hospitalization rate among all counties in the TRPHD between 2009-2011 combined years and 2014-2016 combined years (31.6 and 61.3, respectively). Harlan County showed the highest percent change in heart disease hospitalization rate per 1,000 Medicare Beneficiaries over 65 years of age among all counties in the TRPHD between 2009-2011 combined years and 2013-2015 combined years (145%).

Table 21: Heart Disease Hospitalization Rate per 1,000 Medicare Beneficiaries, 65+, All Races/Ethnicities, Both Genders, by County, TRPHD, and State of Nebraska, 2009-2011 and 2014-2016

HEART DISEASE HOSPITALIZATION RATE			
County:	**2009-2011 combined**	**2014-2016 combined**	**Change in hospitalization rate 2009-2011 to 2014-2016**
Buffalo	56.4	129.8	130%
Dawson	37.8	78.4	107%
Franklin	44.7	77.1	72%
Gosper	34.3	68.0	98%
Harlan	34.1	83.5	145%
Kearney	34.1	70.1	106%
Phelps	31.6	61.3	94%
TRPHD	**46.3**	**102.0**	**120%**
Nebraska	42.8	102.8	140%
National Rate	54.3	129.6	139%

Source: Centers for Disease Control and Prevention, Interactive Atlas of Heart Disease and Stroke, Interactive Atlas of Heart Disease and Stroke Tables, State Report with county data (2009-2011 and 2013-2015 combined years). (https://www.cdc.gov/dhdsp/maps/atlas/index.htm).

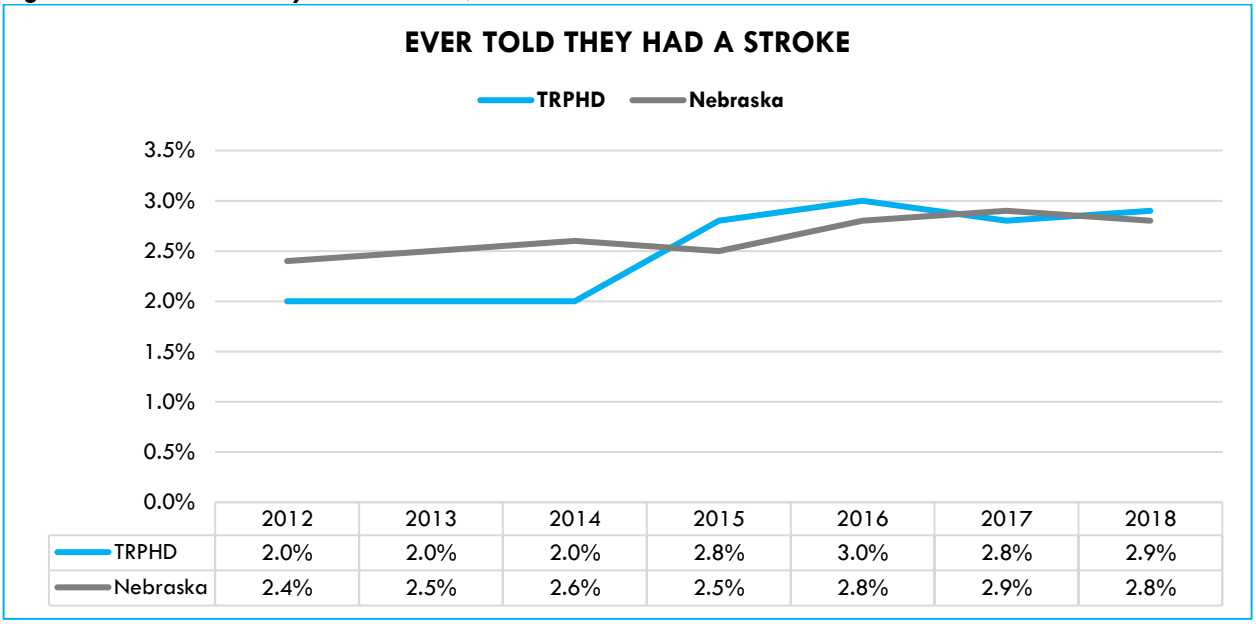
Stroke

A stroke, sometimes called a brain attack, occurs when something blocks the blood supply to part of the brain or when a blood vessel in the brain bursts. In either case, parts of the brain become damaged or die. A stroke can cause lasting brain damage, long-term disability, or even death (CDC, 2019).

Prevalence

According to the 2012-2018 combined years, TRPHD BRFSS, 1 in 40 TRPHD adults (2.9%) reported that they have ever been told they had a stroke. This percentage remained the same in 2012-2014, before an increase in 2015, and has been increasing overall since 2015. TRPHD had a lower rate than the State for 2012-2014, before rising above the State, except in 2017, TRPHD had a lower percentage than the State (2.8% vs. 2.9%, respectively). **Figure 34**.

Figure 34: Ever told they had a stroke, TRPHD vs. Nebraska 2012-2018



	2012	2013	2014	2015	2016	2017	2018
TRPHD	2.0%	2.0%	2.0%	2.8%	3.0%	2.8%	2.9%
Nebraska	2.4%	2.5%	2.6%	2.5%	2.8%	2.9%	2.8%

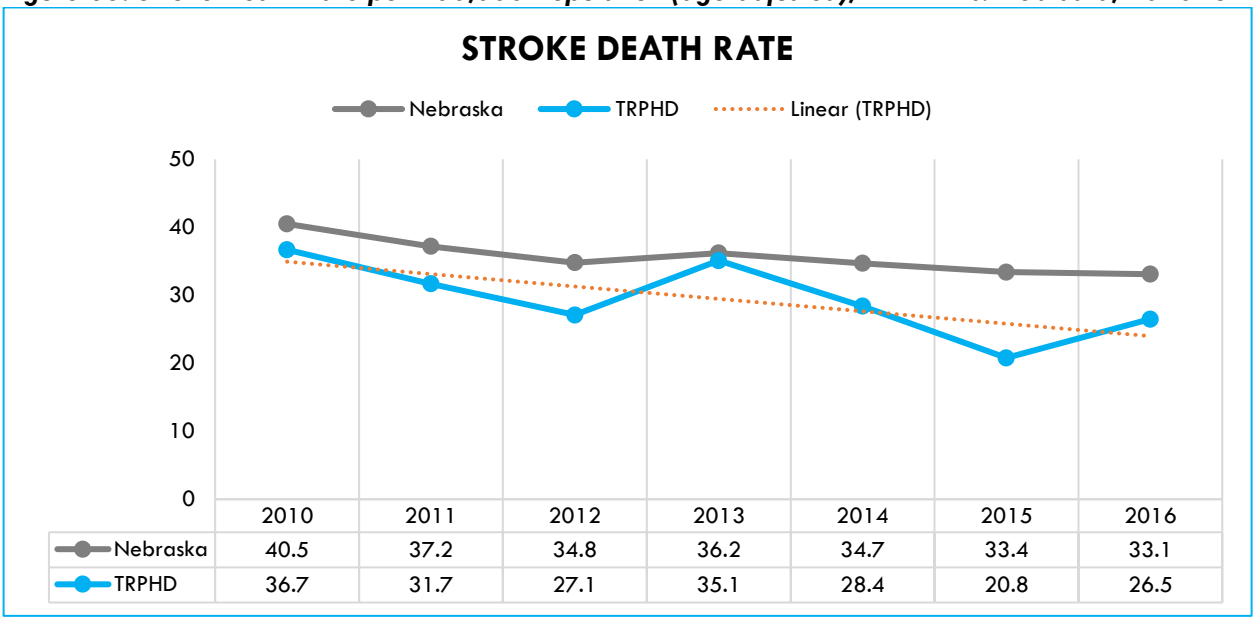
Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Mortality

Stroke was the cause of 181 deaths in the TRPHD during 2012-2016 combined years, accounting for 4.3 percent of all TRPHD deaths during that period. The age-adjusted death rate due to stroke in the TRPHD has steadily declined from 36.7 deaths per 100,000 population in 2010 to 26.5 deaths per 100,000 population in 2016, for a 10.2 percent overall decline (**Figure 35**). As a result, stroke dropped from the fourth to the fifth leading cause of death in the TRPHD beginning in 2012-2016 combined years.

Nebraska death rates due to stroke have experienced a similar decline between 2010 and 2016, decreasing 7.4 percent, from 40.5 to 33.1 deaths per 100,000 population, respectively. **Figure 35.**

Figure 35: Stroke Death Rate per 100,000 Population (age-adjusted), TRPHD vs. Nebraska, 2010 to 2016*



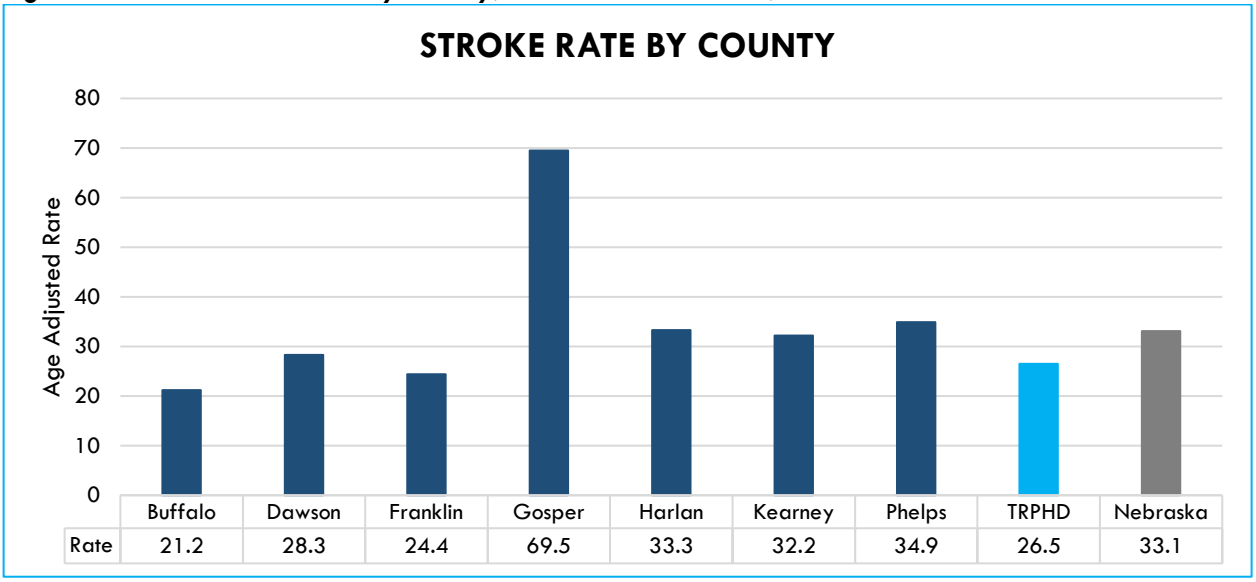
	2010	2011	2012	2013	2014	2015	2016
Nebraska	40.5	37.2	34.8	36.2	34.7	33.4	33.1
TRPHD	36.7	31.7	27.1	35.1	28.4	20.8	26.5

*Yearly Averages 2010 to 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

Stroke mortality by TRPHD Counties

Gosper County shows the highest stroke death rate among all counties in the TRPHD (69.5 per 100,000 population), 2.6 times higher than the total rate for the TRPHD (26.5 per 100,000 population), followed by Phelps County (34.9 per 100,000 population; 1.3 times higher than the total rate for the TRPHD). Buffalo County shows the lowest stroke death rate among all counties in the TRPHD (21.2 per 100,000 population), followed by Franklin County (24.4 per 100,000 population), 1.3 and 1.1 times lower than the average rate for the TRPHD. **Figure 36.**

Figure 36: Stroke Death Rate by County, TRPHD and Nebraska, 2016*



*Yearly Averages 2010 to 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

Hospitalizations

Stroke hospitalization rate per 1,000 Medicare Beneficiaries, 65+, All Races/Ethnicities, both genders, 2014-2016 years combined increased 116% in the TRPHD when compared to 2009-2011 years combined. **Table 22**.

Stroke hospitalization rate for Medicare Beneficiaries for 65+, All Races/Ethnicities, both genders in the TRPHD is 0.6 lower when compared to the State of Nebraska rate (17.3 vs. 17.9 per 1,000 Medicare Beneficiaries, respectively). Nebraska has a lower stroke hospitalization rate for 65+, All Races/Ethnicities, both genders when compared to the National level (17.9 vs. 22.5 per 1,000 Medicare Beneficiaries, respectively). **Table 22**.

Buffalo County has the highest stroke hospitalization rate per 1,000 Medicare Beneficiaries over 65 years of age in the 2014-2016 combined years among all counties in the TRPHD (20.5). While Gosper County shows the lowest stroke hospitalization rate among all counties in the TRPHD during the 2014-2016 combined years. Harlan County showed the lowest stroke hospitalization rate for this population during the 2009-2011 combined years. Kearney County shows the highest percent change in stroke disease hospitalization rate per 1,000 Medicare Beneficiaries over 65 years of age among all counties in the TRPHD between 2009-2011 combined years and 2013-2015 combined years (192%).

Table 22: Stroke Hospitalization Rate per 1,000 Medicare Beneficiaries, 65+, All Races/Ethnicities, Both Genders, by County, TRPHD, and State of Nebraska, 2009-2011 and 2014-2016

STROKE HOSPITALIZATION RATE			
County:	**2009-2011**	**2014-2016**	**Change in hospitalization rate 2009-2011 to 2013-2015**
Buffalo	9.1	20.5	125%
Dawson	7.1	13.1	85%
Franklin	7.1	13.5	90%
Gosper	6.4	12.8	100%
Harlan	5.3	15.3	189%
Kearney	6.3	18.4	192%
Phelps	6.9	12.9	87%
TRPHD	**8.0**	**17.3**	**116%**
Nebraska	8.9	17.9	101%
National Rate	11.6	22.5	94%

Source: Centers for Disease Control and Prevention, Interactive Atlas of Heart Disease and Stroke, Interactive Atlas of Heart Disease and Stroke Tables, State Report with county data (2009-2011 and 2014-2016 combined years). (https://www.cdc.gov/dhdsp/maps/atlas/index.htm).

Clinical Risk Factors for Cardiovascular Disease

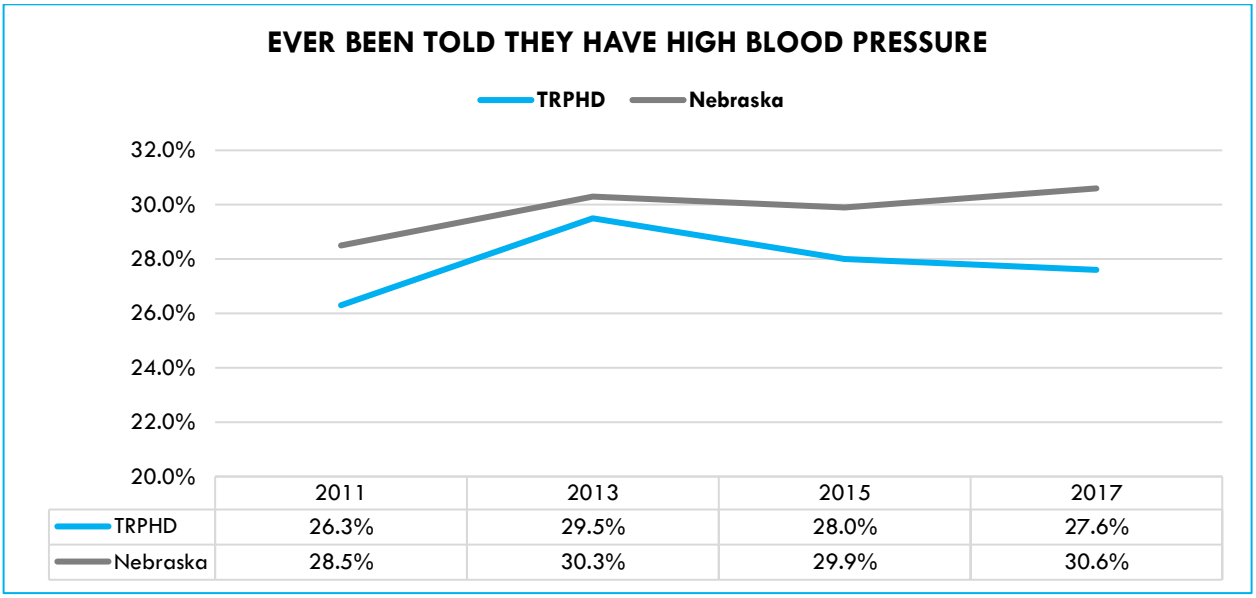
High Blood Pressure

High blood pressure (also referred to as hypertension) occurs when an individual has a systolic blood pressure of 140 mg/dL or higher or a diastolic blood pressure of 90 mg/dL or higher. High blood pressure often goes undetected or is not properly managed. About 1 in 3 U.S. adults -or about 75 million people- have high blood pressure. Only about half (54%) of these people have their high blood pressure under control. Many youth are also being diagnosed with high blood pressure. This common condition increases the risk for heart disease and stroke, two of the leading causes of death for Americans (Merai et al. 2016; Jackson et al. 2018).

Prevalence in the TRPHD

In the TRPHD, the prevalence of high blood pressure has decreased in recent years. In the TRPHD, the proportion of adults reporting they have ever been told they have high blood pressure increased from 26.3% in 2011 to 27.6% in 2017. **Figure 37.**

Figure 37: Ever Been Told They Have High Blood Pressure among Adults*, TRPHD and Nebraska, 2011, 2017



	2011	2013	2015	2017
TRPHD	26.3%	29.5%	28.0%	27.6%
Nebraska	28.5%	30.3%	29.9%	30.6%

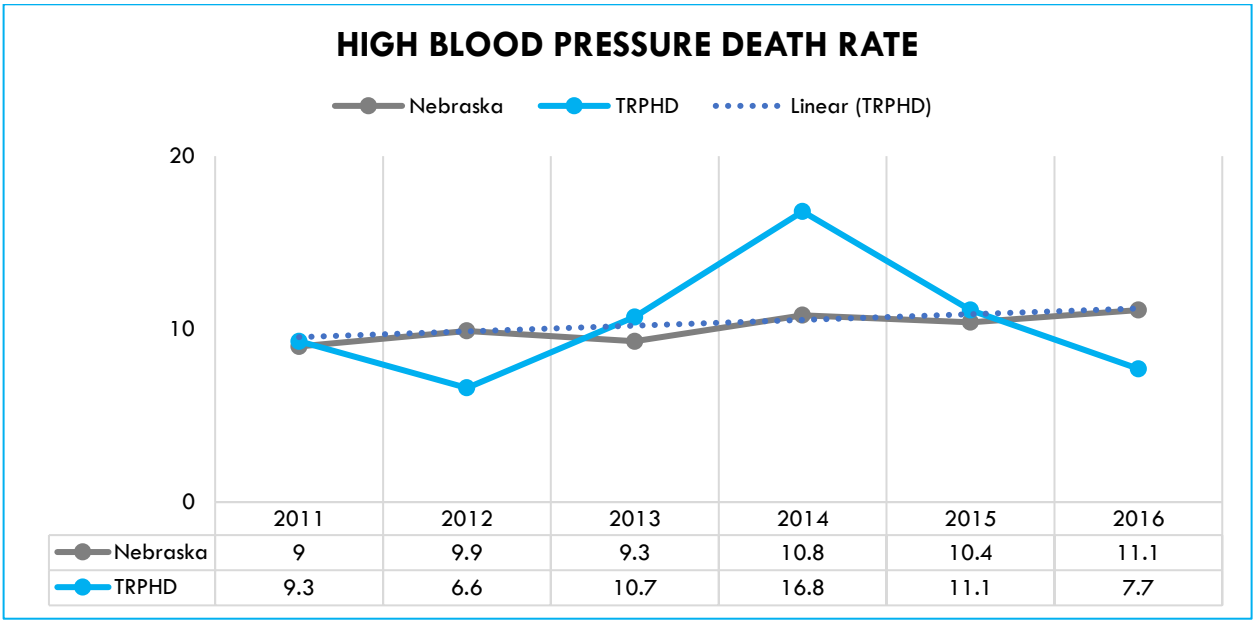
*Differences were statistically significant between TRPHD and Nebraska. Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Most adults who have been diagnosed with high blood pressure (74.3% in the TRPHD and 78.6% in Nebraska in 2017) reported currently taking medication to control their hypertension. This percentage declined in the TRPHD between 2011 (84.0%) and 2017 (74.3%).

Mortality

High blood pressure was the cause of 71 deaths in the TRPHD for 2012-2016 years combined. The age-adjusted death rate due to high blood pressure in the TRPHD has increased and decreased between 2011 and 2016 with a decrease from 9.3 deaths per 100,000 population in 2011 to 7.7 deaths in 2016, which was the lowest rate since 2013, a -17.2% decrease between both periods (**Figure 38**).

Figure 38: High Blood Pressure Death Rate per 100,000 population (age-adjusted), TRPHD and Nebraska, 2011-2016*



	2011	2012	2013	2014	2015	2016
Nebraska	9	9.9	9.3	10.8	10.4	11.1
TRPHD	9.3	6.6	10.7	16.8	11.1	7.7

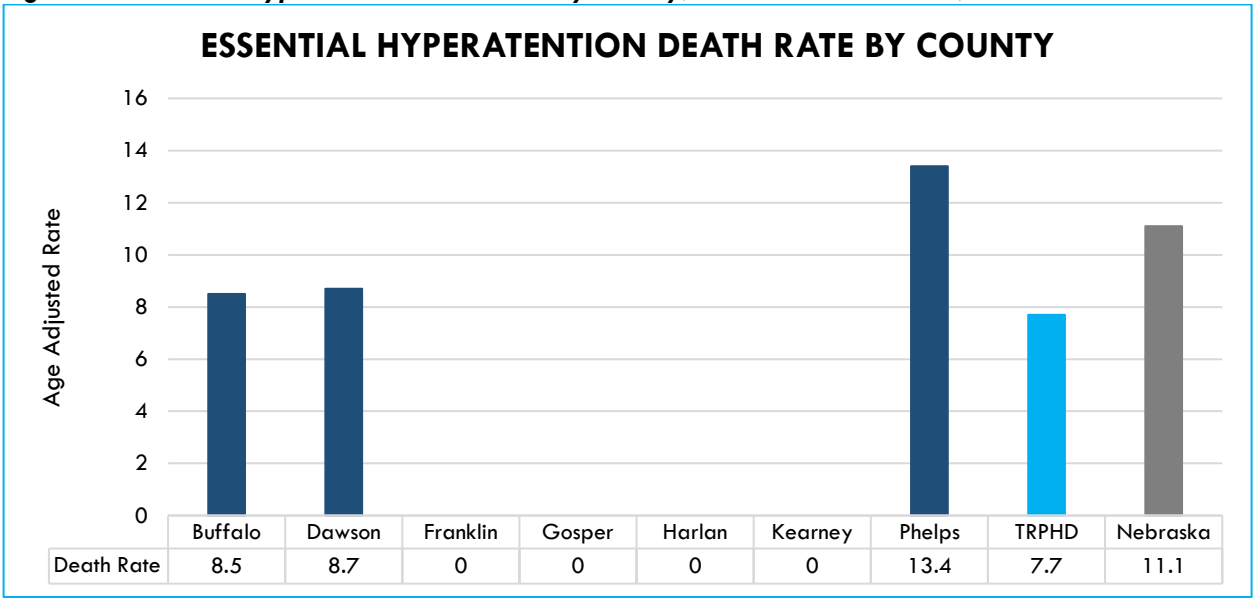
*Yearly Averages 2011 to 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

The TRPHD death rate for high blood pressure in 2016 was 1.4 times lower than the Nebraska death rates (7.7 and 11.1, respectively). However, the TRPHD death rate for high blood pressure was only lower than Nebraska in 2012 and 2016.

High Blood Pressure mortality by TRPHD counties

Phelps county shows the highest high blood pressure death rate among all counties in the TRPHD (13.4 per 100,000 population), followed by Dawson County (8.7 per 100,000 population). The lowest high blood pressure death rate among all counties in the TRPHD were in Franklin, Gosper, Harlan, and Kearney Counties (0 per 100,000 population). **Figure 39**.

Figure 39: Essential Hypertension Death Rate by County, TRPHD and Nebraska, 2013-2017 combined*



*Yearly Averages 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018.

Hospitalizations

Substantial changes in high blood pressure rates per 1,000 Medicare Beneficiaries 65+, All Races/Ethnicities, Both Genders, were experienced between 2009-2011 years combined and 2014-2016 years combined. Hospitalization rates for high blood pressure increased over 6,500 percent in the TRPHD, over 6,500 percent at the State level, and over 4,000 percent at the national level. **Table 23.**

The TRPHD has an average high blood pressure rate of 105.2 per 1,000 Medicare Beneficiaries 65+, All Races/Ethnicities, Both Genders, a difference of 7.9 when compared to the State (113.1 per 1,000).

Buffalo County has the highest Hypertension Hospitalization Rate per 1,000 Medicare Beneficiaries, 65+, All Races/Ethnicities, Both Genders, among all counties in the TRPHD (134.2), followed by Harlan County (87.6).

Franklin County shows the greatest increase for Hypertension Hospitalization Rate per 1,000 Medicare Beneficiaries, 65+, All Races/Ethnicities, Both Genders, between 2009-2011 years combined and 2014-2016 years combined (11,543%) among all counties in the TRPHD. Hypertension Hospitalization Rates for Gosper county were not reported due to small sample size. **Table 23.**

Table 23: Hypertension Hospitalization Rate per 1,000 Medicare Beneficiaries, 65+, All Races/Ethnicities, Both Genders, by County, TRPHD, and State of Nebraska, 2009-2011 and 2014-2016

HYPERTENSION HOSPITALIZATION RATE			
County:	**2009-2011**	**2014-2016**	**Change in hospitalization rate 2009-2011 to 2014-2016**
Buffalo	2.1	134.2	6,290%
Dawson	1.1	77.9	6,982%
Franklin	0.7	81.5	11,543%
Gosper*		68.6	
Harlan	0.9	87.6	9,633%
Kearney	1.2	83.9	6,892%
Phelps	0.7	60.2	8,500%
TRPHD	**1.5**	**105.2**	**6,913%**
Nebraska	1.6	113.1	6,969%
National Rate	3.3	142.8	4,227%

Source: Centers for Disease Control and Prevention, Interactive Atlas of Heart Disease and Stroke, Interactive Atlas of Heart Disease and Stroke Tables, State Report with county data (2009-2011 and 2014-2016 combined years). (https://www.cdc.gov/dhdsp/maps/atlas/index.htm).

High Blood Cholesterol

High blood cholesterol is a major risk factor for coronary heart disease. High cholesterol has no symptoms, so many people do not know that their cholesterol is too high. A simple blood test can check cholesterol levels. Persons with elevated blood cholesterol levels (total cholesterol of 200 mg/dL or higher) are at increased risk of developing coronary heart disease (Nebraska DHHS, 2016; CDC, 2019).

The National Institutes of Health recommend that blood cholesterol levels be checked at least once every five years in healthy adults. For many people with high cholesterol, diet, and exercise alone are enough to lower and maintain cholesterol at healthy levels. Cholesterol-lowering drugs are also available to help manage cholesterol levels. (Nebraska DHHS, 2016).

95 million U.S. adults age 20 or older have total cholesterol levels higher than 200 mg/dL. Nearly 29 million adult Americans have total cholesterol levels higher than 240 mg/dL.3. 7% of U.S. children and adolescents ages 6 to 19 have high total cholesterol. (Benjamin et al., 2017; Nguyen et al., 2015).

In 2017, over 7 out of 10 adults in the TRPHD (78.3%) had their blood cholesterol level checked in the past five years compared to 8 out of 10 adults in Nebraska (84.4%). Among those who have ever had their cholesterol checked, 29.2 percent of adults in the TRPHD reported having ever been told by a health professional that their cholesterol

was high, a percentage slightly lower when compared to the State (31.9%). [No BRFSS data was available between 2011-2016 or 2018 for either the TRPHD or State.]

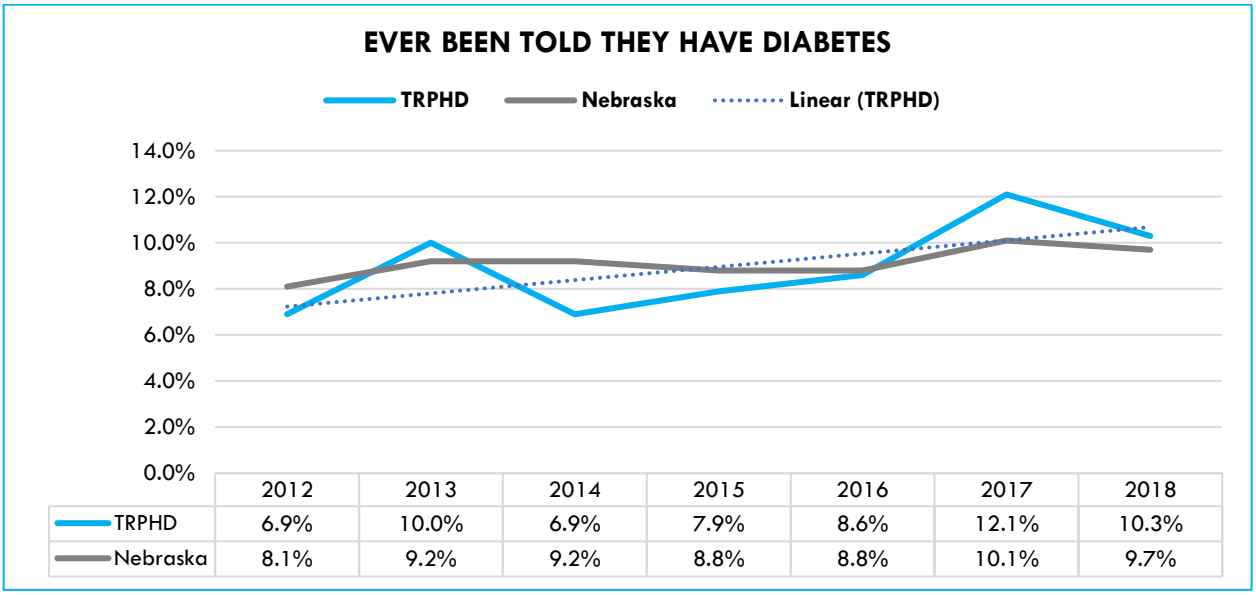
Diabetes

Diabetes is a chronic (long-term) health condition that affects how the body turns food into energy. Diabetes is characterized by elevated blood sugar levels caused by the body not producing or using insulin properly. Insulin helps glucose (sugar) leave the blood and enter the body's cells. Type 1 diabetes occurs when the body does not produce insulin, affecting about 5-10 percent of people with diabetes. Type 2 diabetes develops when the body does not make enough insulin or does not efficiently use insulin, affecting about 90-95 percent of people with diabetes. (Nebraska DHHS, 2016; CDC, 2019).

Diabetes Prevalence

The self-reported prevalence of diagnosed diabetes among adults in the TRPHD had sharp increases between 2012 and 2018 (Figure 45). In 2012, 6.9 percent of the TRPHD adults reported ever having been told that they have diabetes, which increased to 12.1 percent in 2017. A sharp decline was observed in 2018 as the prevalence of being diagnosed with diabetes in the TRPHD decreased to 10.3 percent (almost a 2% decrease from the previous year). The prevalence has been higher in the TRPHD than in the State since 2017.

Figure 40: Ever Been Told they have Diabetes (excluding pregnancy) among Adults*, TRPHD and Nebraska, 2012-2018



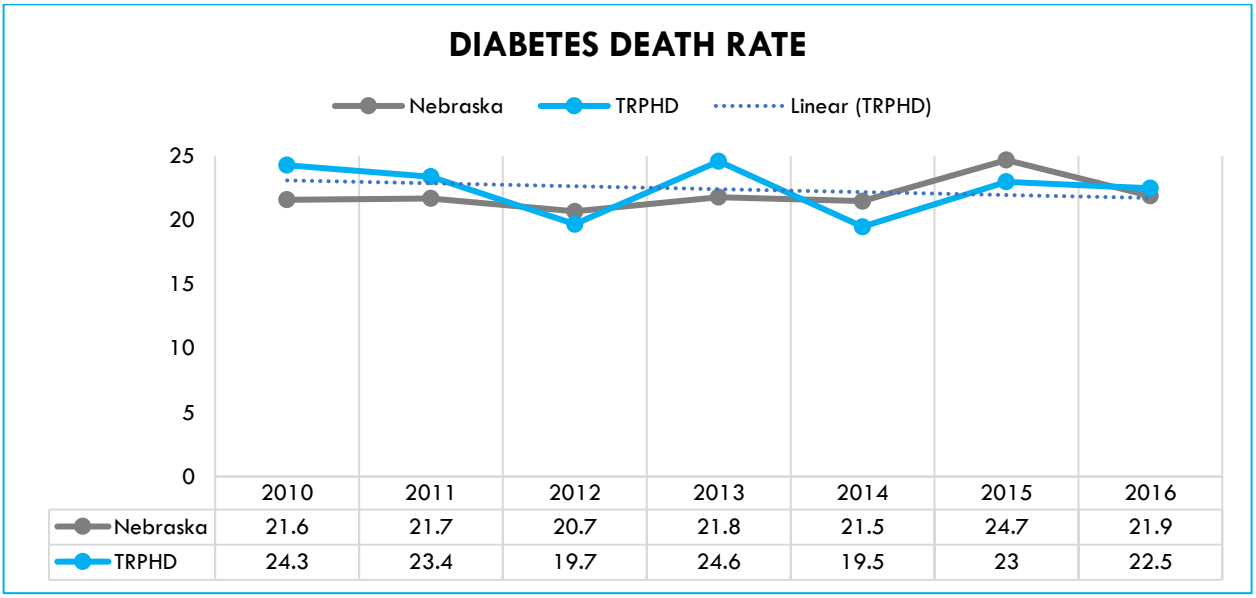
	2012	2013	2014	2015	2016	2017	2018
TRPHD	6.9%	10.0%	6.9%	7.9%	8.6%	12.1%	10.3%
Nebraska	8.1%	9.2%	9.2%	8.8%	8.8%	10.1%	9.7%

*Percentage of adults 18 and older who report that they have ever been told by a doctor, nurse, or other health professionals that they have diabetes (excluding pregnancy. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Diabetes Mortality

Diabetes was the primary cause of 133 deaths in the TRPHD in 2012-2016 combined years, making it the 7th leading cause of death in the TRPHD. Age-adjusted diabetes death rates in the TRPHD have been stable with a slight decrease from 2010 to 2016 (see linear trend line in **Figure 41**).

Figure 41: Diabetes Death Rate per 100,000 population (age-adjusted), TRPHD and Nebraska, 2010 to 2016*



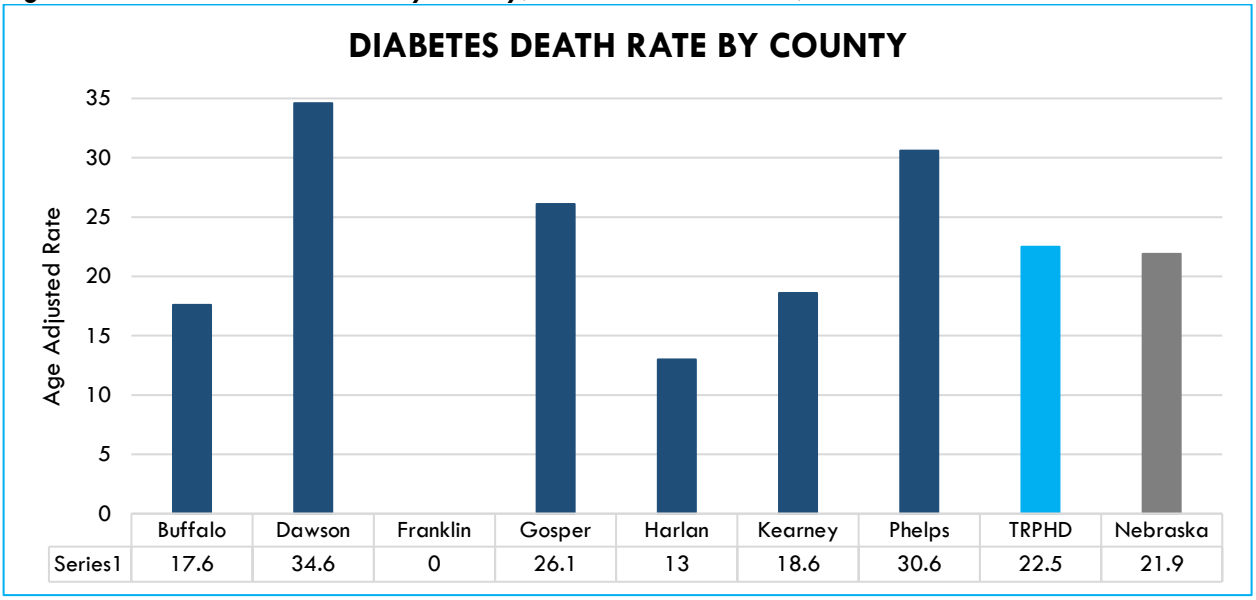
	2010	2011	2012	2013	2014	2015	2016
Nebraska	21.6	21.7	20.7	21.8	21.5	24.7	21.9
TRPHD	24.3	23.4	19.7	24.6	19.5	23	22.5

*Yearly Averages 2011 to 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

Diabetes mortality by TRPHD Counties

Dawson County showed the highest diabetes death rate among all counties in the TRPHD (34.6 per 100,000 population), 1.5 times higher than the total rate for the TRPHD (22.5 per 100,000 population), followed by Phelps County (30.6 per 100,000 population; 1.3 times higher than the total rate for the TRPHD). Franklin County showed the lowest diabetes death rate among all counties in the TRPHD (0 per 100,000 population), followed by Harlan County (13.0 per 100,000 population). **Figure 42**.

Figure 42: Diabetes Death Rate by County, TRPHD and Nebraska, 2016*



*Yearly Averages 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018.

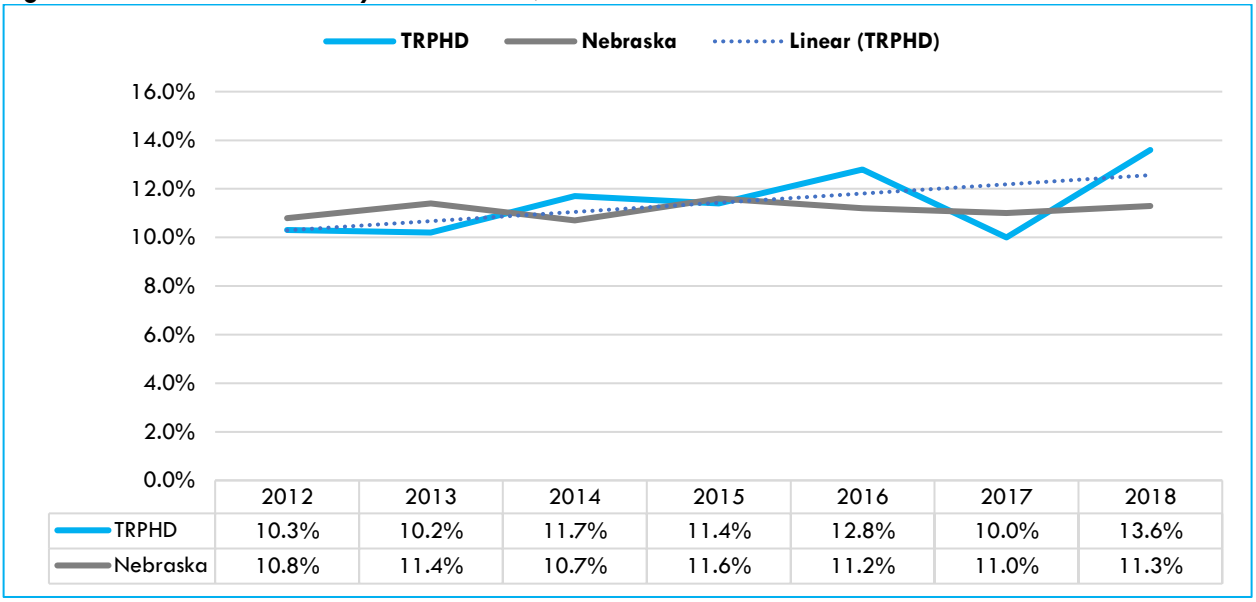
Cancer

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread is not controlled, it can result in death. Cancer is caused by both external factors (e.g., tobacco, infectious organisms, chemicals, and radiation) and internal factors (e.g., inherited mutations, hormones, immune conditions, and mutations that occur from metabolism). These causal factors may act together or in sequence to initiate and promote carcinogenesis. Ten or more years often pass between exposures to external factors and detectable cancer (Nebraska DHHS, 2016).

Cancer Prevalence

According to results from the 2018 Nebraska BRFSS, about 1 in 8 TRPHD adults (13.6%) reported that they have ever been told they have cancer. **Figure 43**. 13.6 percent reported ever being told they have some other form of cancer. These percentages have a positive linear increase since 2012 and do not show any significant difference from the State.

Figure 43: Ever been told they have cancer, 2012-2018



	2012	2013	2014	2015	2016	2017	2018
TRPHD	10.3%	10.2%	11.7%	11.4%	12.8%	10.0%	13.6%
Nebraska	10.8%	11.4%	10.7%	11.6%	11.2%	11.0%	11.3%

*Prevalence rates are statistically significantly higher in the TRPHD than in the State. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

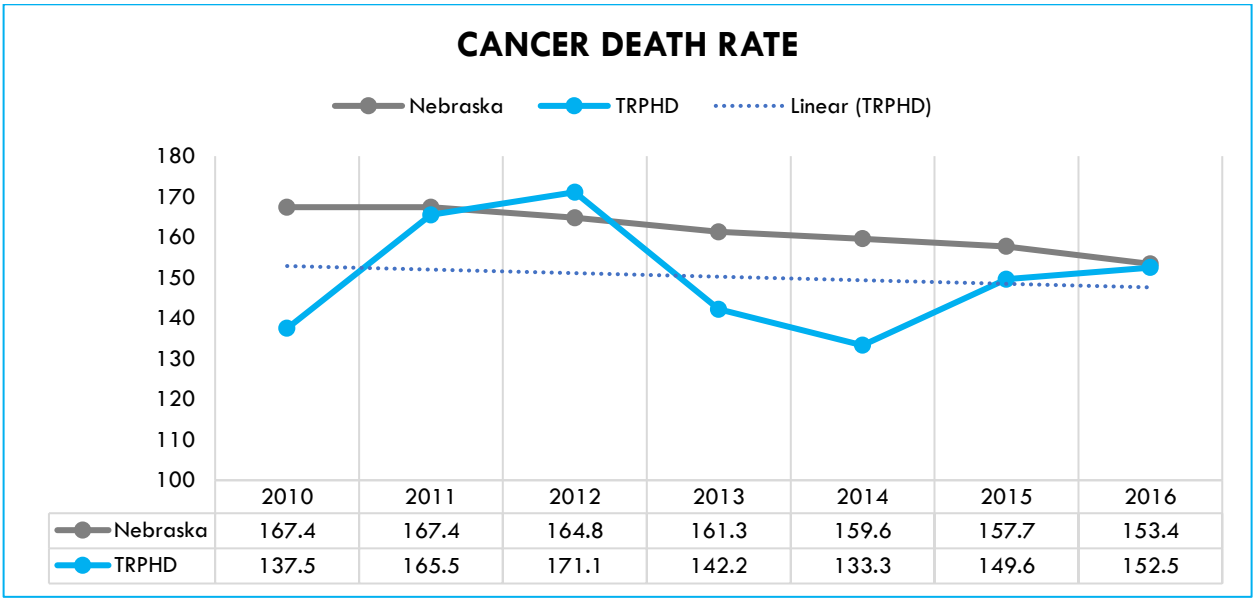
Cancer Mortality

There were 872 deaths in the TRPHD related to cancer during the 2012-2016 combined years, accounting for 1 out of every 4 deaths (Nebraska Vital Statistics, 2018).

The TRPHD's age-adjusted cancer death rate per 100,000 population increased 15 percent between 2010 and 2016, from 137.5 to 152.5, respectively. The cancer death rate in the State during the same period decreased 14 percent (from 167.4 to 153.4 per 100,000 population). **Figure 44**.

The 2016 cancer death rate in the TRPHD was similar when compared to the State (152.5 and 153.4, respectively).

Figure 44: Cancer Death Rate per 100,000 population (age-adjusted), TRPHD and Nebraska, 2010 to 2016*



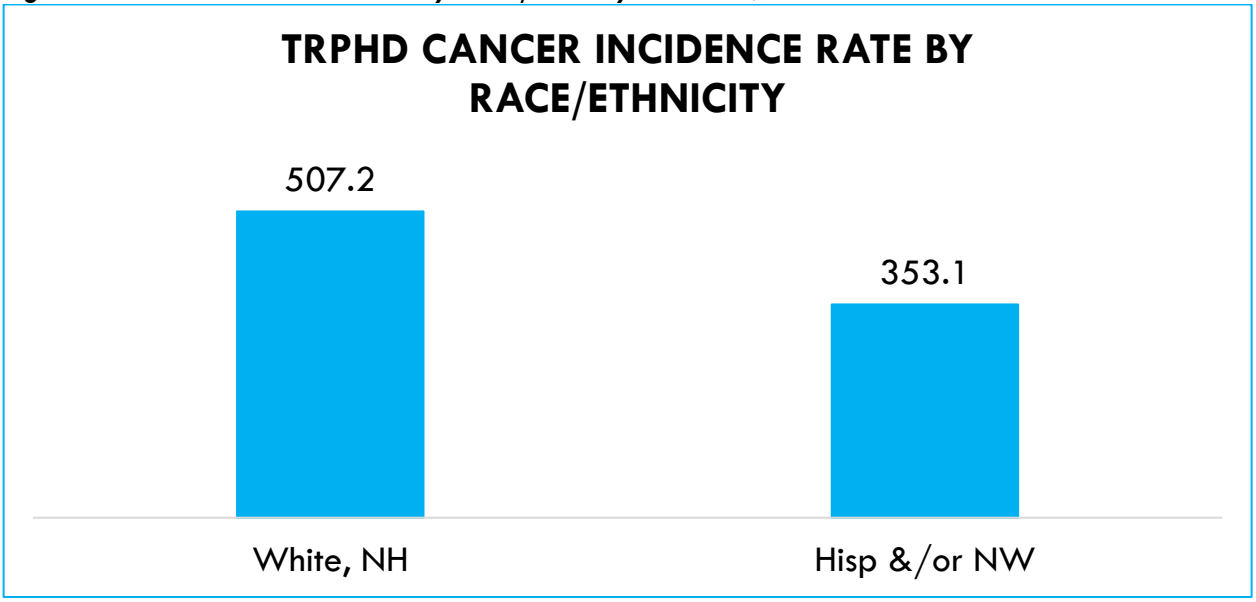
	2010	2011	2012	2013	2014	2015	2016
Nebraska	167.4	167.4	164.8	161.3	159.6	157.7	153.4
TRPHD	137.5	165.5	171.1	142.2	133.3	149.6	152.5

*Yearly Averages 2011 to 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

Race/Ethnicity – Cancer

In terms of race/ethnicity, the Non-Hispanic White population in TRPHD showed a higher cancer rate, 1.4 times higher when compared to the Hispanic and/or Non-White population (507.2 per 100,000 population vs. 353.1 per 100,000 population, respectively). Data was not available for the rest of the races/ethnicities due to the small sample size. **Figure 45.**

Figure 45: Cancer Incidence Rate by Race/Ethnicity in TRPHD, 2012-2016 combined*

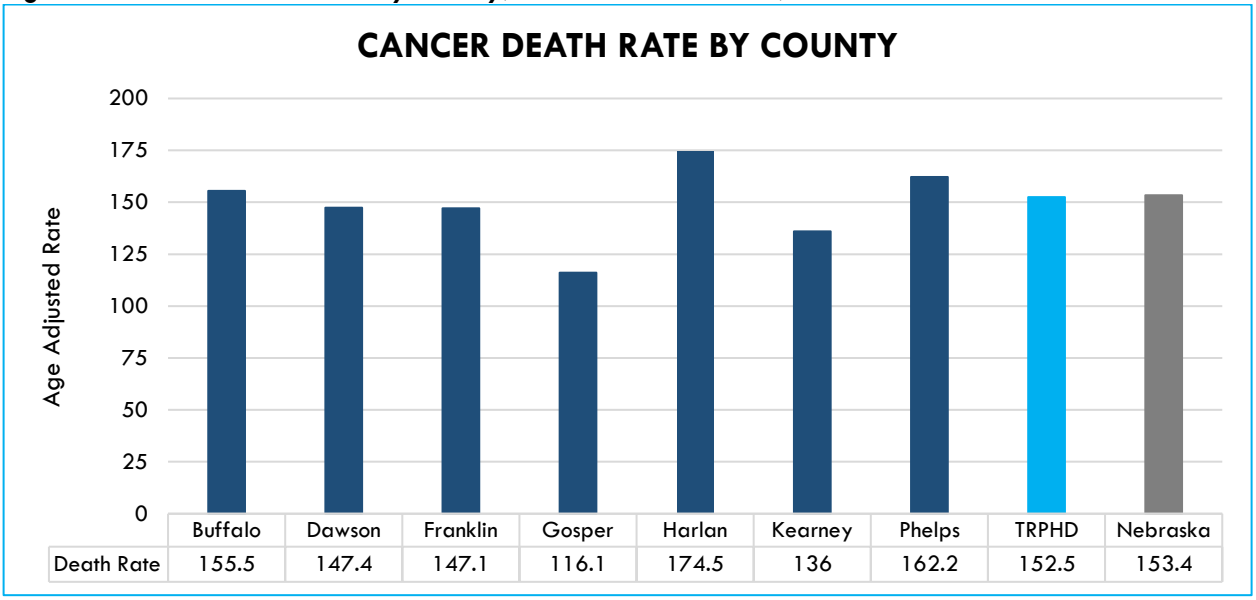


*Five Year Average 2012-2016, Nebraska Cancer Registry, March 17, 2020.

Cancer mortality by TRPHD Counties

Harlan County showed the highest cancer death rate among all counties in the TRPHD (174.5 per 100,000 population), 1.1 times higher than the total rate for the TRPHD (152.5 per 100,000 population), followed by Phelps County (162.2 per 100,000 population; 1.1 times higher than the total rate for the TRPHD). Gosper County showed the lowest cancer death rate among all counties in the TRPHD (116.1 per 100,000 population), followed by Kearney County (136.0 per 100,000 population). **Figure 46.**

Figure 46: Cancer Death Rate by County, TRPHD and Nebraska, 2016*



**Yearly Averages 2016. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018.

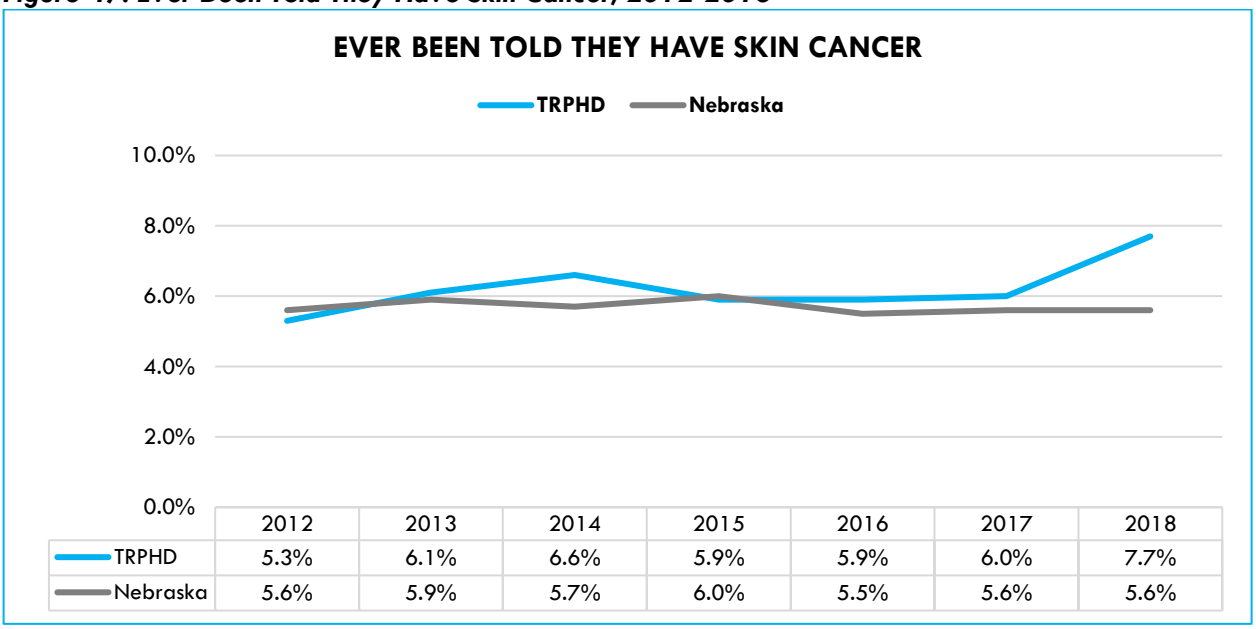
Skin Cancer

Nearly 8 percent reported ever being told they have skin cancer in the TRPHD, compared to 5.6 percent at the State level in 2018. **Figure 47**.

The State of Nebraska ranks 17th highest for skin cancer among all States in the U.S. (25.6 melanomas of the skin per 100,000 population, age-adjusted; Source: CDC, 2015; https://gis.cdc.gov/Cancer/USCS/DataViz.html).

In 2014, the Surgeon General established skin cancer prevention as a high priority for the nation. The CDC webpage contains printable materials with information on the prevention of skin cancer – and other types of cancers, especially for school children and educators. These printable materials are available at https://www.cdc.gov/cancer/dcpc/publications/index.htm

Figure 47: Ever Been Told They Have Skin Cancer, 2012-2018



	2012	2013	2014	2015	2016	2017	2018
TRPHD	5.3%	6.1%	6.6%	5.9%	5.9%	6.0%	7.7%
Nebraska	5.6%	5.9%	5.7%	6.0%	5.5%	5.6%	5.6%

*Prevalence rates are statistically significantly higher in the TRPHD than in the State. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Invasive Female Breast Cancer by Stage of Disease at Diagnosis

Percentage of invasive female breast cancer by stage of disease at diagnosis is available for the 2012-2016 combined years for TRPHD and Nebraska. Nebraska and the TRPHD have a similar diagnosis percentage of female breast cancer at each stage. Two-thirds of females were diagnosed with "localized" breast cancer between 2012 and 2016. During the same period, one-fourth of females were diagnosed with "regional" breast cancer. Nearly eight percent of cases were diagnosed as "Distant" and "Unstaged" stages. **Table 24.**

Table 24: Comparison of the Number and Percentage of Invasive Female Breast Cancer Cases by Stage of Disease at Diagnosis between NE and Two Rivers Public HD Region, 2012-2016*

	Nebraska		**Two Rivers HD Region**	
Stage at Diagnosis	**Number**	%	**Number**	%
Localized	3,835	64.0	193	64.3
Regional	1,702	28.4	78	26.0
Distant	313	5.2	16	5.3
Unstaged	145	2.4	13	4.3
TOTAL	**5,995**	**100.0**	**300**	**100**

Source: Nebraska Cancer Registry Data (2020)

Cervical and Oral Cancers

Cervical cancer death rates have not been reported since 2001, and oral cancer has not been reported since 2010-2014 combined years in the TRPHD due to small sample sizes. Cervical cancer is most often diagnosed between the ages of 35 and 44. About 15% of cervical cancers are diagnosed in women over age 65. Few women under the age of 20 are diagnosed with cervical cancer.

Invasive cervical cancer:

Invasive cervical cases by stage of disease at diagnosis were reported for the TRPHD and Nebraska, 2012-2016 combined years. A total of ten cases have were in the TRPHD, seven of them were "Localized", and four were "Regional". Stage of diagnosis "Distant" and "Unstaged" each had one case. **Table 25.**

Table 25: Comparison of the Number and Percentage of Invasive Cervical Cancer Cases by Stage of Disease at Diagnosis between Nebraska and Two Rivers Public HD Region, 2012-2016*

	Nebraska		Two Rivers Public HD Region	
Stage at Diagnosis	**Number**	**%**	**Number**	**%**
Localized	127	43.8	7	53.8
Regional	102	35.2	4	30.8
Distant	41	14.1	1	7.7
Unstaged	20	6.9	1	7.7
TOTAL	290	100.0	13	100.0

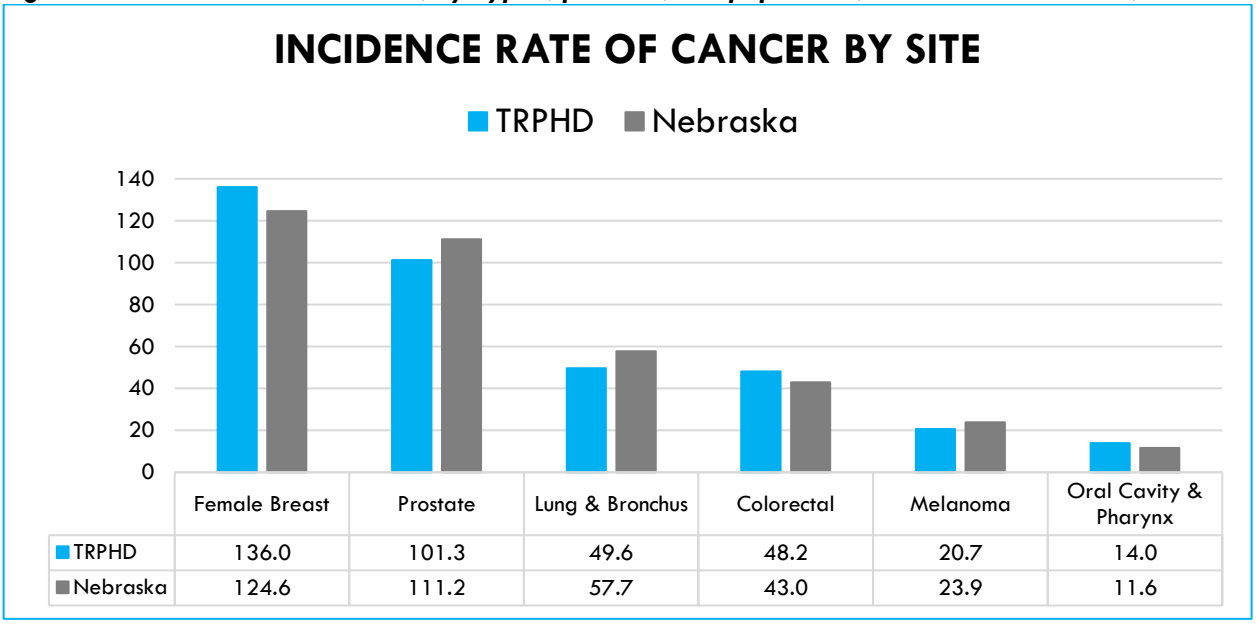
*NOTE: Cases are staged according to the Derived SEER Summary Stage 2000 coding system. Source: Nebraska Cancer Registry (2020)

Incidence of Cancer

For 2012-2016 combined years, a total of 2,471 cases of cancer were recorded in the TRPHD, for an age-adjusted rate of 438.3 cases per 100,000 population. The most diagnosed cancers among TRPHD residents included cancers of the female breast (387), lung (289), prostate (285), and colon (273).

Cancer incidence rates for 2012-2016 combined years (age-adjusted per 100,000 population) were highest for female breast (136.0), and prostate (101.3), followed by lung (49.6), colon (48.2), melanoma (20.7) and oral cavity (14.0). Cervical cancer was not reported due to small sample size (**Figure 48**). Overall, the incidence of cancer by type in the TRPHD was slightly lower when compared to the rates reported at the State level. Female breast, colorectal, and oral cancers are the only cancers where the TRPHD incidence rates were higher than Nebraska rates for 2012-2016 combined years.

Figure 48: Cancer Incidence Rates, by Type*, per 100,000 population, TRPHD and Nebraska, 2012-2016



*Invasive cases only, breast cancer and cervical rates based on the female population, prostate based on the male population. Source: Nebraska Cancer Registry (2020).

Cancer Screening

Getting screening tests regularly may find breast, cervical, and colorectal (colon) cancers early when treatment is likely to work best. Lung cancer screening is recommended for some people who are at high risk. (CDC, 2019).

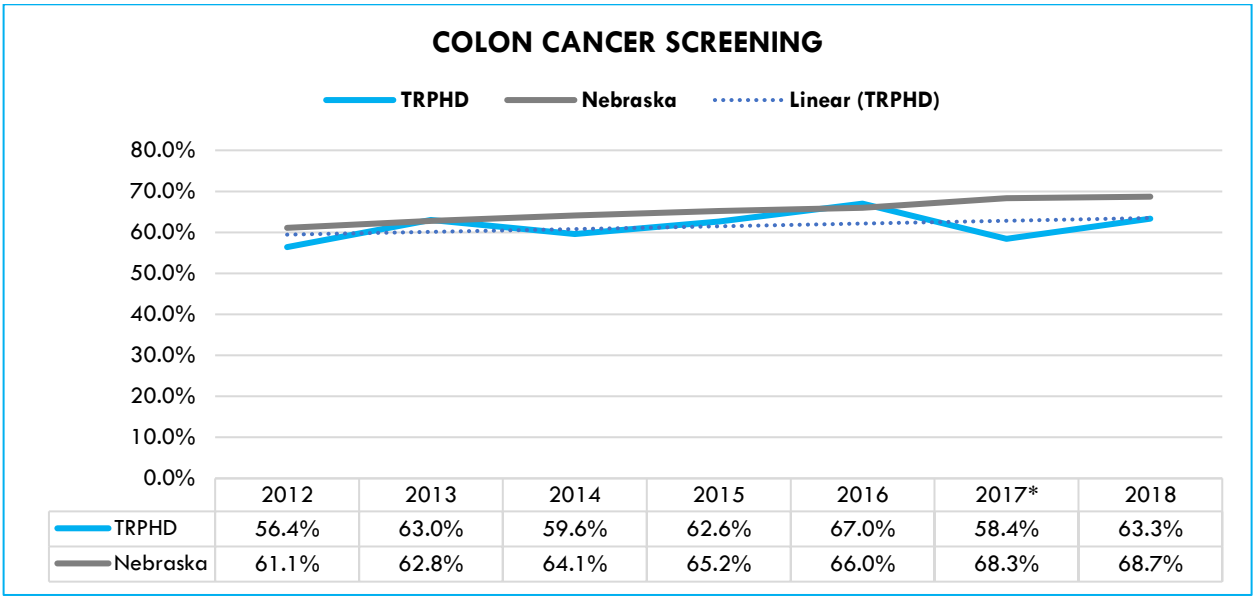
Colon Cancer Screening

The U.S. Preventive Services Task Force recommends screening beginning at age 50. Some groups recommend starting earlier, at age 45. (CDC, 2019[3]).

In 2018, about two-thirds of the TRPHD adults 50 to 75 years old (63.3%) reported being up to date on their colon cancer screening. Colon cancer screening has been inconsistent in the TRPHD since 2012 (**Figure 49**). The percentage increased from 56.4 percent in 2012 to 67 percent in 2016. Despite the steady increase in colon cancer screening in the TRPHD, 50-75-year-old adults in the State continue to be more up to date on their colon cancer screening (68.7% in 2018). In 2017, TRPHD (58.4%) was significantly lower than the State (68.3%).

[3] https://www.cdc.gov/cancer/colorectal/basic_info/screening/

Figure 49: Up to Date on Colon Cancer Screening among Adults 50-75 Years Old*, TRPHD and Nebraska, 2012-2018



	2012	2013	2014	2015	2016	2017*	2018
TRPHD	56.4%	63.0%	59.6%	62.6%	67.0%	58.4%	63.3%
Nebraska	61.1%	62.8%	64.1%	65.2%	66.0%	68.3%	68.7%

* Difference is statistically significant. **Percentage of adults 50-75 years old who report having had a fecal occult blood test (FOBT) during the past year, or sigmoidoscopy during the past 5 years and an FOBT during the past 3 years, or a colonoscopy during the past 10 years. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2019)

Breast Cancer Screening[4]

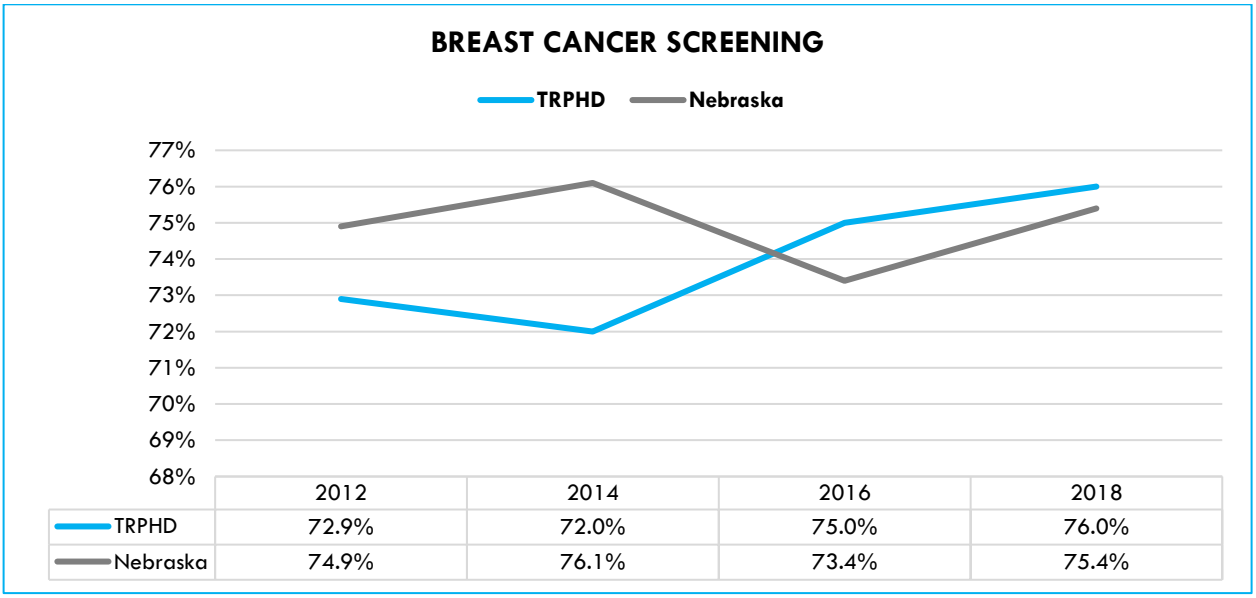
Mammograms are the best way to find breast cancer early when it is easier to treat. Although breast cancer screening cannot prevent breast cancer, it can help find breast cancer early, when it is easier to treat.

The United States Preventive Services Task Force recommends that women who are 50 to 74 years old and are at average risk for breast cancer get a mammogram every two years. Women who are 40 to 49 years old should talk to their doctor or other health care professional about when to start and how often to get a mammogram. Women should weigh the benefits and risks of screening tests when deciding whether to begin getting mammograms before age 50. (CDC, 2019[5]).

In 2018, 3 in 4 TRPHD women 50 to 74 years old (76%) were up to date on their breast cancer screening. The 2018 percentage was slightly higher than the 2016 percentage (75%) (**Figure 50**). The percentage increased between 2012 and 2018 with a slight decline in 2014. Compared to the State, 50-74-year-old women in the TRPHD were more likely to report being up to date on their breast cancer screening in 2016 (75.4% and 76%, respectively).

[4] If you have a low income or do not have health insurance, you may be able to get a free or low-cost screening test through the National Breast and Cervical Cancer Early Detection Program. (https://www.cdc.gov/cancer/nbccedp/screenings.htm)
[5] https://www.cdc.gov/cancer/breast/basic_info/screening.htm

Figure 50: Up to Date on Breast Cancer Screening among Women 50-74 Years Old*, TRPHD and Nebraska, 2012-2018



	2012	2014	2016	2018
TRPHD	72.9%	72.0%	75.0%	76.0%
Nebraska	74.9%	76.1%	73.4%	75.4%

*Percentage of females 50-74 years old who report having had a mammogram during the past 2 years. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2019)

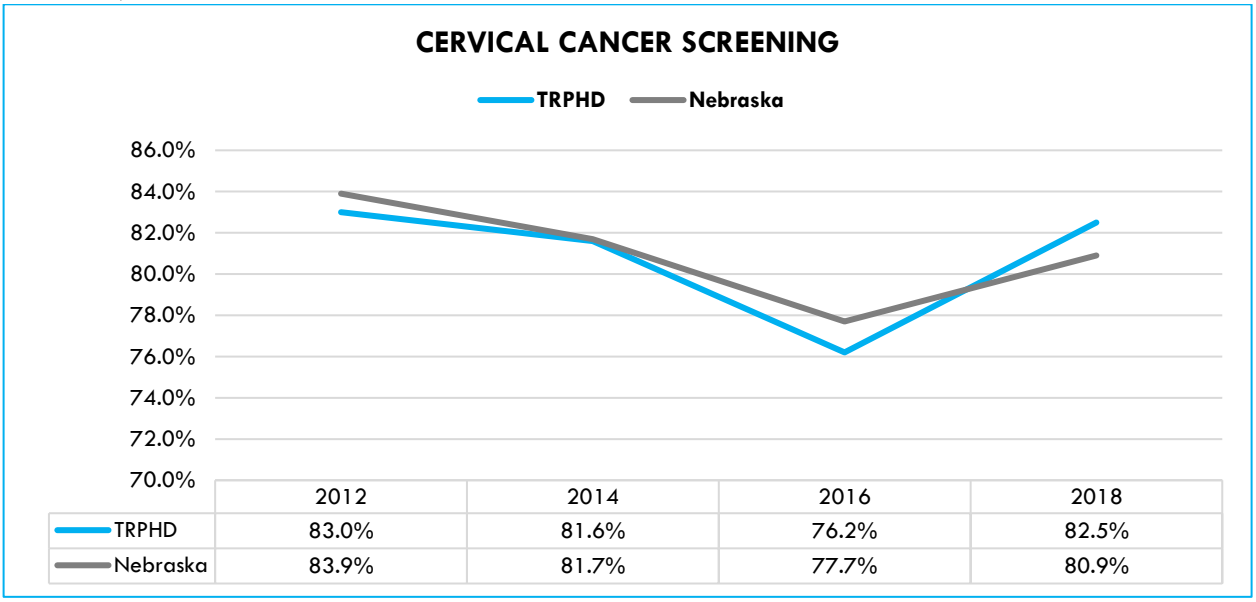
Cervical Cancer Screening

The Pap test can find abnormal cells in the cervix which may turn into cancer. The HPV test looks for the virus (human papillomavirus) that can cause these cell changes. Pap tests also can find cervical cancer early when the chance of being cured is extremely high. The U.S. Preventive Service Task Force recommends that women 21 to 65 years old receive a pap test every three years. (Nebraska DHHS, 2016. CDC, 2019[6]).

In 2018, about 4 in 5 TRPHD women 21 to 65 years old (82.5%) were up to date on their cervical cancer screening. The 2016 percentage was lower than the 2012 percentage (76.2%) (Figure 49). The percentage between 2014 and 2016 declined sharply. In 2016, 21-65-year-old women in TRPHD were less likely than women statewide for being up to date on their cervical cancer screening (76.2% and 77.7%, respectively). The percentage rose between 2016 and 2018 and in 2018 women in the TRPHD were more likely than women statewide for being up-to-date on their cervical cancer screening (82.5% and 80.9%, respectively).

[6] https://www.cdc.gov/cancer/cervical/basic_info/screening.htm

Figure 51: Up to Date on Cervical Cancer Screening among Women 21-65 Years Old*, TRPHD and Nebraska, 2012-2018



	2012	2014	2016	2018
TRPHD	83.0%	81.6%	76.2%	82.5%
Nebraska	83.9%	81.7%	77.7%	80.9%

*Percentage of females 21-65 years old without a hysterectomy who report having a Pap test during the past 3 years. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2019)

Risk and Protective Factors for Chronic Disease

Tobacco Use

Cigarette smoking remains the leading cause of preventable death and disability in the United States, despite a significant decline in the number of people who smoke. Over 16 million Americans have at least one disease caused by smoking. This amounts to $170 billion in direct medical costs that could be used every year for youth smoking prevention programs and stop smoking campaigns to help smokers quit.

There is no safe level of exposure to secondhand tobacco smoke. It causes stroke, lung cancer, and coronary heart disease in adults. Nebraska has a comprehensive smoke-free law that has been in effect since 2009, that prohibits smoking in all indoor areas of workplaces, restaurants, and bars. Since that law was adopted, Nebraska has continued to expand areas where residents are protected from exposure to secondhand smoke. Smoking-related costs due to medical care were estimated at $795 million annually in Nebraska, while the annual cost of smoking-related lost productivity in the state was estimated at an additional $532 million. (CDC, 2019[7]).

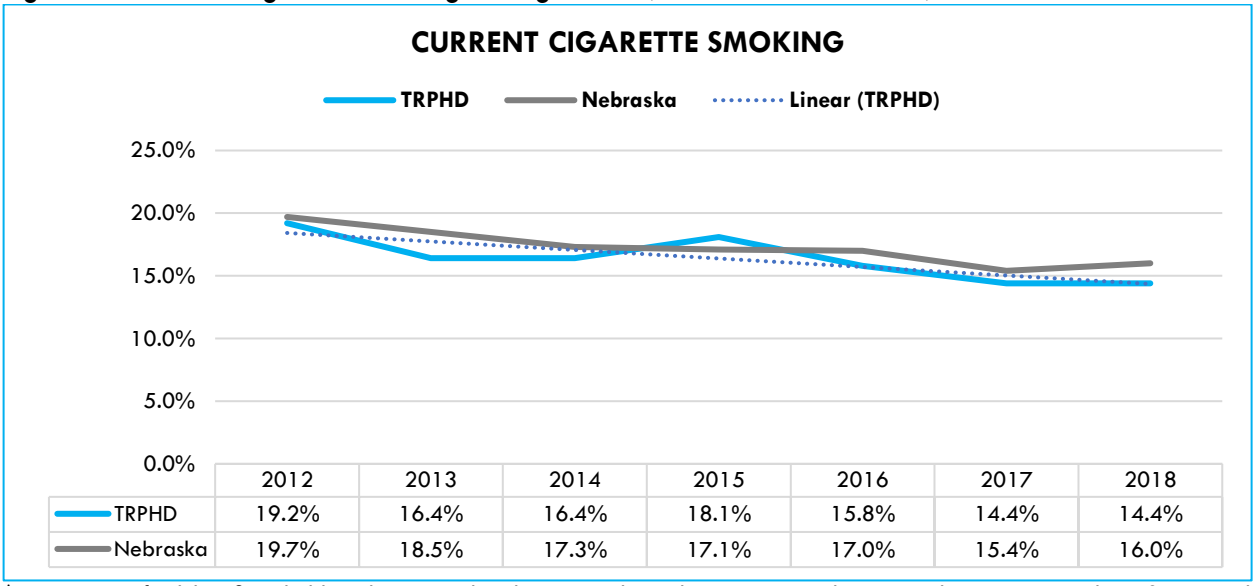
Tobacco Use among Adults

Cigarette Smoking among Adults

In 2018, about 1 in 6 TRPHD adults aged 18 and older (14.4%) reported that they currently smoke cigarettes. Cigarette smoking among TRPHD adults has decreased since 2012 (19.2% to 14.4%), while cigarette smoking among Nebraska adults has also steadily decreased from 19.7 percent in 2012 to 16.0 percent in 2018 (**Figure 52**). Overall, cigarette smoking among TRPHD adults has remained lower when compared to the State since 2012.

[7] https://www.cdc.gov/tobacco/about/osh/state-fact-sheets/nebraska/

Figure 52: Current Cigarette Smoking among Adults*, TRPHD and Nebraska, 2012-2018



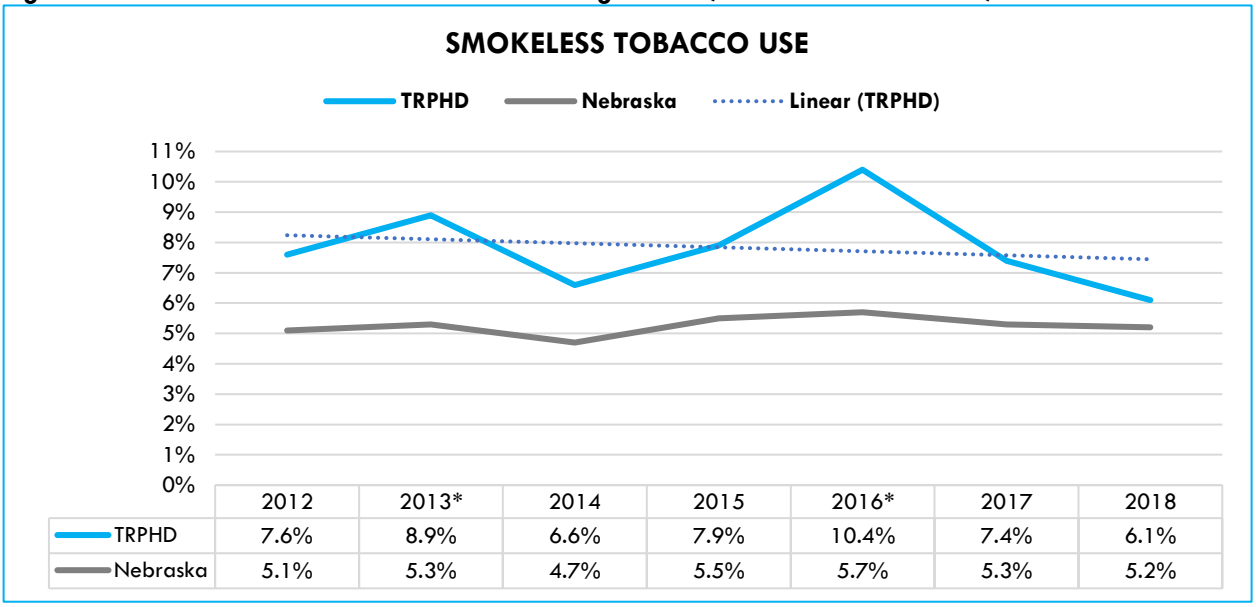
	2012	2013	2014	2015	2016	2017	2018
TRPHD	19.2%	16.4%	16.4%	18.1%	15.8%	14.4%	14.4%
Nebraska	19.7%	18.5%	17.3%	17.1%	17.0%	15.4%	16.0%

*Percentage of adults 18 and older who report that they currently smoke cigarettes either every day or on some days. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2019)

Smokeless Tobacco Use among Adults

In 2018, about 1 in 16 TRPHD adults reported that they currently use smokeless tobacco (6.1%). Smokeless tobacco used among TRPHD adults decreased between 2012 and 2018 and has remained higher when compared to the State. **Figure 53.** While smokeless tobacco use among Nebraska adults has remained stable since 2011, the percentage of TRPHD adults who use smokeless tobacco has increased and decreased over the same time. The percentage of smokeless tobacco users among TRPHD adults decreased from 7.6 percent in 2012 to 6.1 percent in 2018.

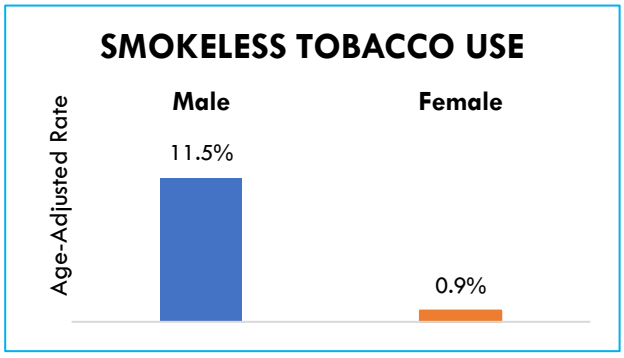
Figure 53: Current Smokeless Tobacco Use among Adults, TRPHD and Nebraska, 2012-2018*



	2012	2013*	2014	2015	2016*	2017	2018
TRPHD	7.6%	8.9%	6.6%	7.9%	10.4%	7.4%	6.1%
Nebraska	5.1%	5.3%	4.7%	5.5%	5.7%	5.3%	5.2%

**Percentage of adults 18 and older who report that they currently use smokeless tobacco products (chewing tobacco, snuff, or snus) either every day on some days. Source: Behavioral Risk Factor Surveillance System (BRFSS, 2019)*

Figure 54: Current Smokeless Tobacco Use by Gender in the TRPHD, 2018



Source: Behavioral Risk Factor Surveillance System (BRFSS, 2019)

It should be noted that men in the TRPHD were nearly 13 times more likely than females in the TRPHD to report current smokeless tobacco use in 2018 (11.5% and 0.9%, respectively). **Figure 54**.

Tobacco Use among Youth

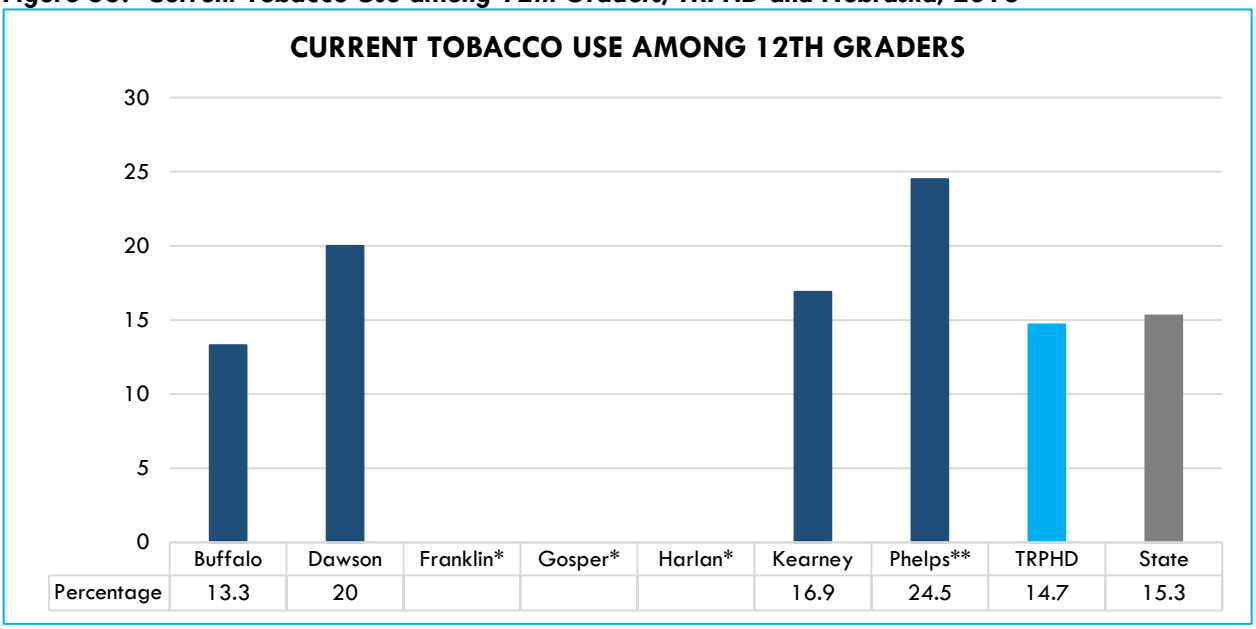
Cigarette Smoking among Youth

In 2017, about 1 in 11 Nebraska high school students (9.6%) reported smoking cigarettes on one or more of the past 30 days. Between 2005 and 2017 the percentage of Nebraska high school students who reported cigarette smoking declined from 21.8 percent to 9.6 percent.

In 2018, about 1 in 6 12th grade students in the TRPHD (14.7%) reported using tobacco, lower when compared to 12th graders in the State (15.3%).

Phelps County showed the highest percentage of 12th graders that use tobacco (24.5%), 1.6 times higher when compared to the TRPHD. Data was not available for Franklin, Gosper, and Harlan counties. **Figure 55**.

Figure 55: Current Tobacco Use among 12th Graders, TRPHD and Nebraska, 2018



*Data not available. ** 2012 data. Source: Nebraska Risk and Protective Factor Student Survey (2018).

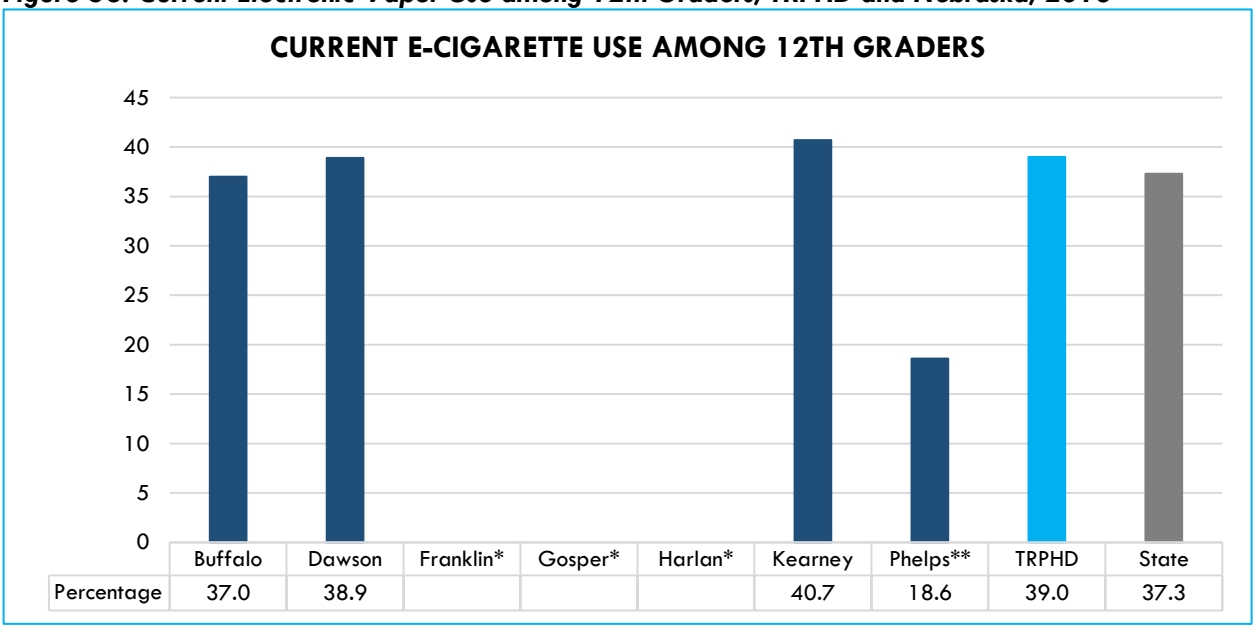
E-Cigarette Use among Youth

In 2017, more than 1 in 3 high school students (36.1%) in Nebraska reported that they had ever used electronic vapor products such as e-cigarettes, e-cigars, e-pipes, vape pipe, vaping pens, e-hookahs, and hookah pens (i.e., e-cigarettes) (2017 YRBS).

The proportion of high school students that reported using an electronic vapor product during the past 30 days decreased between 2015 (22.3%) and 2017 (9.4%) (2017 YRBS). Few differences were seen by gender for lifetime and past 30-day use of electronic vapor products. As grade level increased, the percentage of students that reported lifetime and past 30-day electronic vapor use increased.

In 2018, 39% of 12th graders in the TRPHD reported that they had used an e-cigarette in the last 30 days, which is higher when compared to the State (37.3%).
Kearney County showed the highest percentage of 12th graders that use e-cigarettes (40.7%), and Phelps County showed the lowest percentage (18.6%). Data was not available for Franklin, Gosper, and Harlan counties. **Figure 56**.

Figure 56: Current Electronic Vapor Use among 12th Graders, TRPHD and Nebraska, 2018



*Data not available. ** 2012 data. Source: Nebraska Risk and Protective Factor Student Survey (2019).

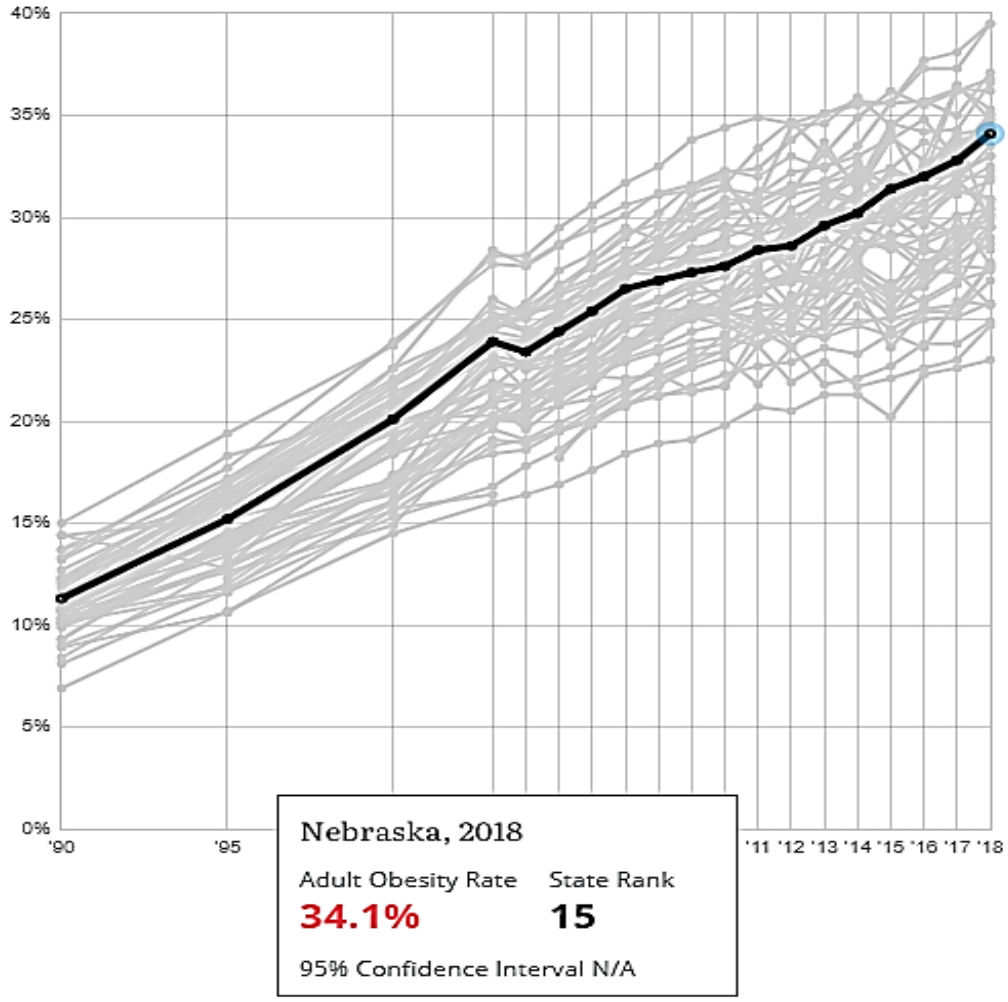
Obesity

Overweight and obesity are measured by an individual's body mass index (BMI) which is calculated as weight in kilograms divided by height in meters squared. Overweight (BMI=25.0-29.9) and obese (BMI=30.0+) individuals are at increased risk for many health conditions, including hypertension, type 2 diabetes, coronary heart disease, stroke, and some cancers. However, even modest weight loss (e.g., 5-7% of total body weight) is likely to produce health benefits (Nebraska DHHS, 2016).

Obesity among Adults

The proportion of adults who are at risk due to obesity has increased considerably over the past 25 years in Nebraska, increasing from 11.6 percent in 1990 to 34.1percent in 2018. Currently, Nebraska is ranked15th for the obesity rate among all states in the U.S. **Figure 57**.

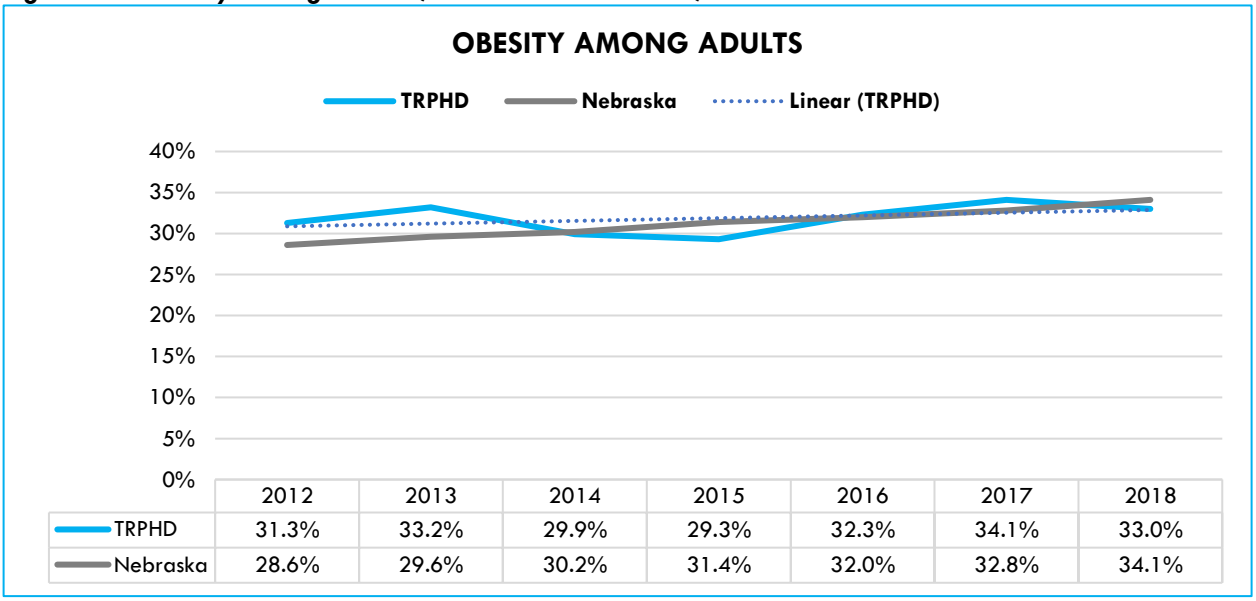
Figure 57: Nebraska Adult Obesity Rate, 1990-2018



Source: BRFSS (2018). https://www.stateofobesity.org/adult-obesity/

Obesity among Nebraska adults increased from 28.6 percent in 2012 to 34.1 percent in 2018. (**Figure 58**). The prevalence of obesity among adults in the TRPHD and Nebraska was similar over the past six years.

Figure 58: Obesity among Adults*, TRPHD and Nebraska, 2012-2018



	2012	2013	2014	2015	2016	2017	2018
TRPHD	31.3%	33.2%	29.9%	29.3%	32.3%	34.1%	33.0%
Nebraska	28.6%	29.6%	30.2%	31.4%	32.0%	32.8%	34.1%

Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Seven out of ten TRPHD adults (68.1%) reported heights and weights that classified them as overweight or obese in 2018.

Table 26 shows the overall prevalence and changes in obesity rates from 2006 to 2013 by county in the TRPHD. **Figure 59** depicts trends in obesity by county between 2006 and 2013 (CDC, Diabetes, and Obesity Data Indicators[8]).

Kearney County experienced the highest percentage increase of change in obesity rates among all counties in the TRPHD between 2009 and 2016 (10.6%), followed by Harlan County (8.2%). Gosper County experienced a decrease percentage of change in obesity rates during the same period (-4.9%).

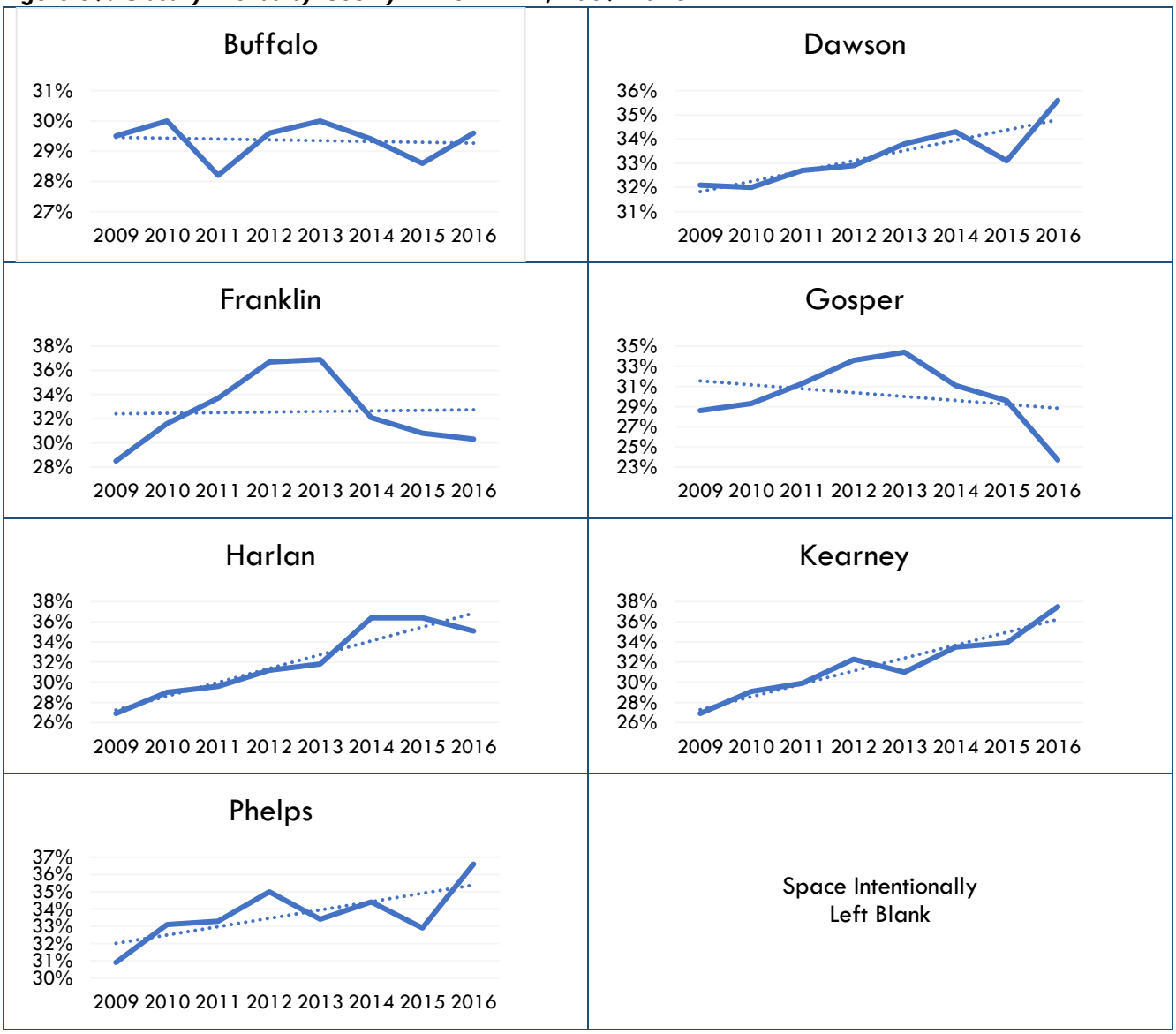
Table 26: Obesity prevalence and percent by county, 2009-2016

	2009	2010	2011	2012	2013	2014	2015	2016	% Change 2009-2016
Buffalo	29.5%	30.0%	28.2%	29.6%	30.0%	29.4%	28.6%	29.6%	0.1%
Dawson	32.1%	32.0%	32.7%	32.9%	33.8%	34.3%	33.1%	35.6%	3.5%
Franklin	28.5%	31.6%	33.7%	36.7%	36.9%	32.1%	30.8%	30.3%	1.8%
Gosper	28.6%	29.3%	31.3%	33.6%	34.4%	31.1%	29.6%	23.7%	-4.9%
Harlan	26.9%	29.0%	29.6%	31.2%	31.8%	36.4%	36.4%	35.1%	8.2%
Kearney	26.9%	29.1%	29.9%	32.3%	31.0%	33.5%	33.9%	37.5%	10.6%
Phelps	30.9%	33.1%	33.3%	35.0%	33.4%	34.4%	32.9%	36.6%	5.7%
Buffalo	29.5%	30.0%	28.2%	29.6%	30.0%	29.4%	28.6%	29.6%	0.1%
Dawson	32.1%	32.0%	32.7%	32.9%	33.8%	34.3%	33.1%	35.6%	3.5%

Source: CDC, Diabetes and Obesity Data Indicators, 2009-2016

[8] https://gis.cdc.gov/grasp/diabetes/DiabetesAtlas.html#

Figure 59: Obesity Trends by County in the TRPHD, 2009-2016



Source: CDC, Diabetes and Obesity Data Indicators, 2009-2016

According to the National Survey of Children's Health, about 1 in 8 Nebraska children ages 10-17 were obese (12%) in 2016/18, a decrease from 2011/12 (13.8%). According to the 2017 YRBS, slightly more than half of all Nebraska high school students (53.1%) reported that they were about the right weight while about 3 in 10 (29.4%) felt that they were slightly or very overweight.

Male students were more likely than female students to report being slightly or very underweight (23.8% and 10.7%, respectively) while female students were more likely than male students to report being slightly or very overweight (33.8% and 25.3%, respectively).

Nutrition

The Dietary Guidelines for Americans (USDA and HHS, 2011) provide U.S. consumers with information and guidance on how to follow a healthy eating pattern, emphasizing nutrient density over energy density, as well as physical activity to help achieve and maintain a healthy weight, promote health, and prevent disease.

The guidelines encourage Americans to balance calories with physical activity to manage weight. They also encourage increased consumption of fruits, vegetables, whole grains, fat-free and low-fat dairy products, and seafood. In contrast, they encourage decreased consumption of foods that are high in salt, saturated and trans fats, cholesterol, added sugars, and refined grains. (Nebraska DHHS, 2016).

Fruit and Vegetable Consumption

Fruit and Vegetable Consumption among Adults

In 2017, 39.3 percent of TRPHD adults reported that they consumed fruits an average of less than one time per day during the past month. The 2017 percentage was higher when compared to the State (36.9%). A lower percentage of females reported that they consumed fruits an average of less than one time per day compared to males in the TRPHD (28.6% vs. 39.3%, respectively).

The 2017 percentage of Nebraska adults reporting that they consumed vegetables an average of less than one time per day during the past month (19.0%) was lower than the percentage of fruit consumption, suggesting that adults consume at least some vegetables more often than fruits.

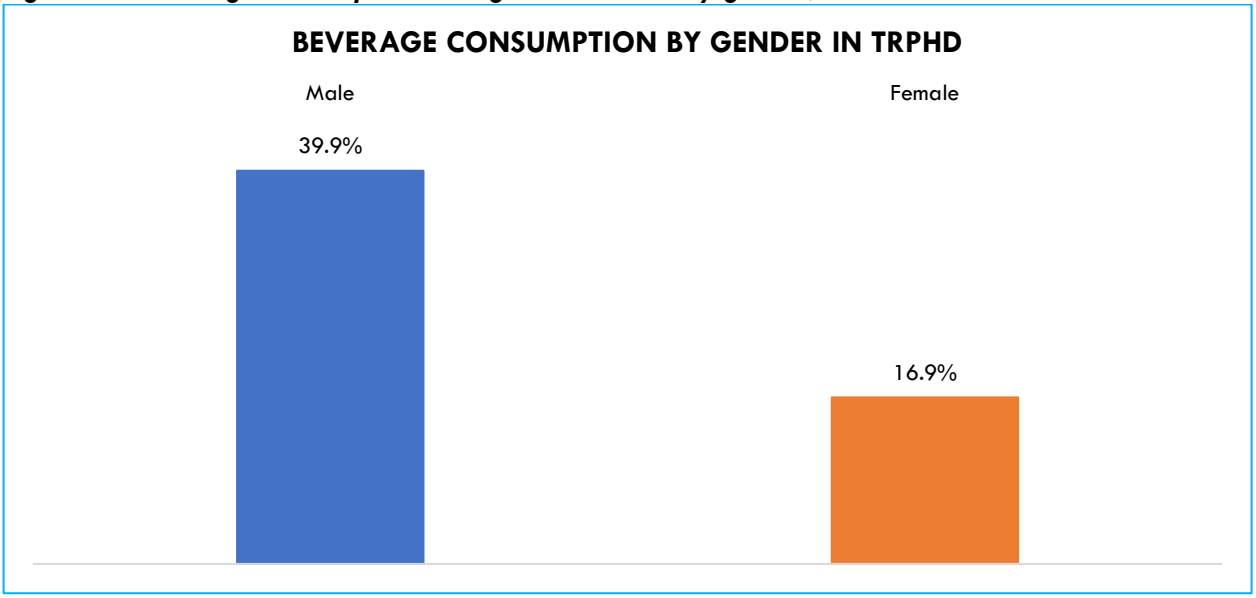
Fruit and Vegetable Consumption among Youth

The percentage of Nebraska high school students who reported consuming fruits or vegetables five or more times per day during the past seven days has remained relatively stable between 2003 and 2017 (data is not available at the health district or county level). During 2017, about 1 in 7 high school students (14.7%) reported consuming fruits and vegetables five or more times per day during the past seven days (YRBS, 2017).

Beverage Consumption among Adults

Over one-fourth of TRPHD adults (28.5%) in 2013 reported consuming sugar-sweetened beverages an average of one or more times per day during the past month. Consumption of sugar-sweetened beverages among males was significantly statistically higher when compared to females in the TRPHD (39.9% vs. 16.9%). **Figure 60.**

Figure 60: Beverage consumption among TRPHD adults by gender, 2013*



Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019; *Data about beverage consumption was collected in 2013, but had not been included in recent BRFSS surveys

Beverage Consumption among Youth

Youth in Nebraska continue to consume large amounts of sugar-sweetened beverages, including regular (non-diet) soda or pop, full-calorie sports drinks, and other sugar-sweetened beverages (such as sweet tea or coffee, flavored milk, and juice drinks, or energy drinks).

In 2017, nearly 1 in 3 Nebraska high school students (30.6%) reported drinking any sugar-sweetened beverage on average of one or more times per day during the past seven days.

Male students were almost two times more likely than female students to report drinking any type of sugar-sweetened beverage (39.7% and 21.1%, respectively). Males were more likely to report drinking soda than females (24.2% and 11.9%, respectively). The same was reported for sports drinks (16.9% and 6.7%, respectively).

Recent research shows that "sugar-sweetened beverage intake associates with all-cause mortality independently of other dietary and lifestyle factors and obesity." (Anderson et., 2019).

Salt Consumption among Adults

Close to half (43.1%) of TRPHD adults in 2018 reported that they were watching or reducing their salt intake, slightly lower when compared to the State (44.0%). A larger proportion of males are watching or reducing their salt intake compared to females in the TRPHD (48.2% vs. 38.6%, respectively).

Physical Activity

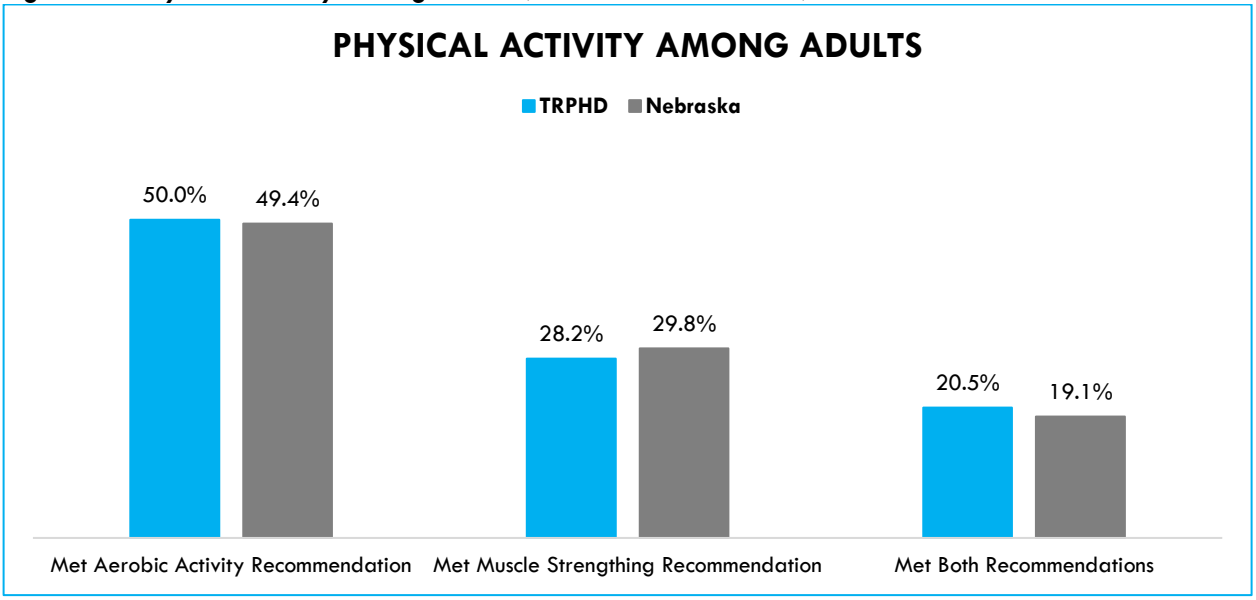
Regular physical activity can help control body weight and reduce the risk of cardiovascular disease, type 2 diabetes, and some cancers. The 2018 report titled Physical Guidelines for Americans (2nd edition) from the U.S. DHHS recommends that "adults should do at least 150 minutes to 300 minutes a week of moderate-intensity, or 75 minutes to 150 minutes a week of vigorous-intensity aerobic physical activity." Also, they should engage in muscle-strengthening activities that work all major muscle groups two or more days per week. Children and adolescents should engage in at least 60 minutes of physical activity each day.

Physical Activity among Adults

Half of TRPHD adults in 2017 reported that they engage in the recommended amount of aerobic physical activity each week (50.0%) while almost one-third reported engaging in the recommended amount of muscle-strengthening activity each week (28.2%).

Overall, 1 in 5 met the current physical activity recommendation (i.e., both aerobic and muscle-strengthening recommendations) in 2017 (20.5%). Adults in the TRPHD, compared to those statewide, were slightly less likely to engage in the recommended amount of muscle-strengthening activity in 2017 (28.2% and 29.8%, respectively) (**Figure 61**).

Figure 61: Physical Activity among Adults, TRPHD and Nebraska, 2017*



Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Physical Activity among Youth

According to the 2008 Physical Activity Guidelines for Americans, students should be physically active for 60 minutes or more per day, which should include most of the minutes in aerobic activity and the inclusion of both muscle- and bone-strengthening activities at least three days per week.

In 2017, over half of Nebraska high school students reported being physically active for 60 or more minutes on five or more of the past seven days, they also reported doing exercises to strengthen or tone their muscles on three or more of the past seven days. Nebraska high school students spend a lot of time engaged in sedentary activities. In 2017, 1 in 5 (19.2%) reported spending three or more hours per day during an average school day watching television while 2 in 5 (38.3%) reported three or more hours playing video games or using a computer for non-school work. Collectively, nearly six out of ten students (57.5%) reported spending three or more hours watching television, playing video games, or using a computer for non-school work during an average school day.

Injury

Injuries are a major public health concern in Nebraska and the United States, resulting in significant numbers of deaths, hospitalizations, and emergency department (ED) visits each year. For Nebraskans ages 1-44 years, unintentional injuries were the leading cause of death. (Nebraska DHHS, 2016).

Deaths due to injury usually occur at a much younger age than deaths due to cancer or heart disease (the first and second leading causes of death in Nebraska for all ages). As a result, the number of years of potential life lost (YPLL) due to injury is disproportionately large.

Injuries, in addition to causing death, also result in a wide variety of adverse health and lifestyle outcomes. In many cases, injury leads to disability, chronic pain, large medical costs, and profound changes in one's daily life. Furthermore, injury affects more than just the injured. Injury impacts families, employers, and communities due to its negative social and economic outcomes. The cost of injuries in the United States is more than $671 billion annually, including medical expenses and productivity losses, according to estimates made by the Centers for Disease Control and Prevention[9].

Nearly $130 billion of the fatal injury costs in the U.S. were attributable to unintentional injuries, followed by suicide ($50.8 billion) and homicide ($26.4 billion).

Medical costs and work loss cost attributable to unintentional injuries in Nebraska and the TRPHD

In Nebraska, the estimated average annual medical costs attributable to unintentional injuries were nearly $9 million, and work loss costs were $383 million (2008-2014). Table 27 shows the estimated average annual medical costs and average work loss costs in the TRPHD by county:

[9] https://www.cdc.gov/injury/wisqars/overview/cost_of_injury.html

Table 27: Average Annual Medical Costs and Work Loss Costs in the TRPHD^, 2008-2014

	Average annual medical costs	Average annual work loss costs
Buffalo	$ 247,996	$ 10,633,734
Dawson	$ 117,905	$ 5,206,437
Franklin	N.A.	N.A.
Gosper	N.A.	N.A.
Harlan	N.A.	N.A.
Kearney	$ 49,728	$ 1,399,583
Phelps	$ 49,728	$ 2,032,525

^Medical and work loss estimates are expressed in year 2005 dollars. *Rates based on 20 or fewer deaths may be unstable. These rates are suppressed for counties. Source: CDC (WISQARS) https://wisqars.cdc.gov:8443/cdcMapFramework/mapModuleInterface.jsp

Unintentional Injury

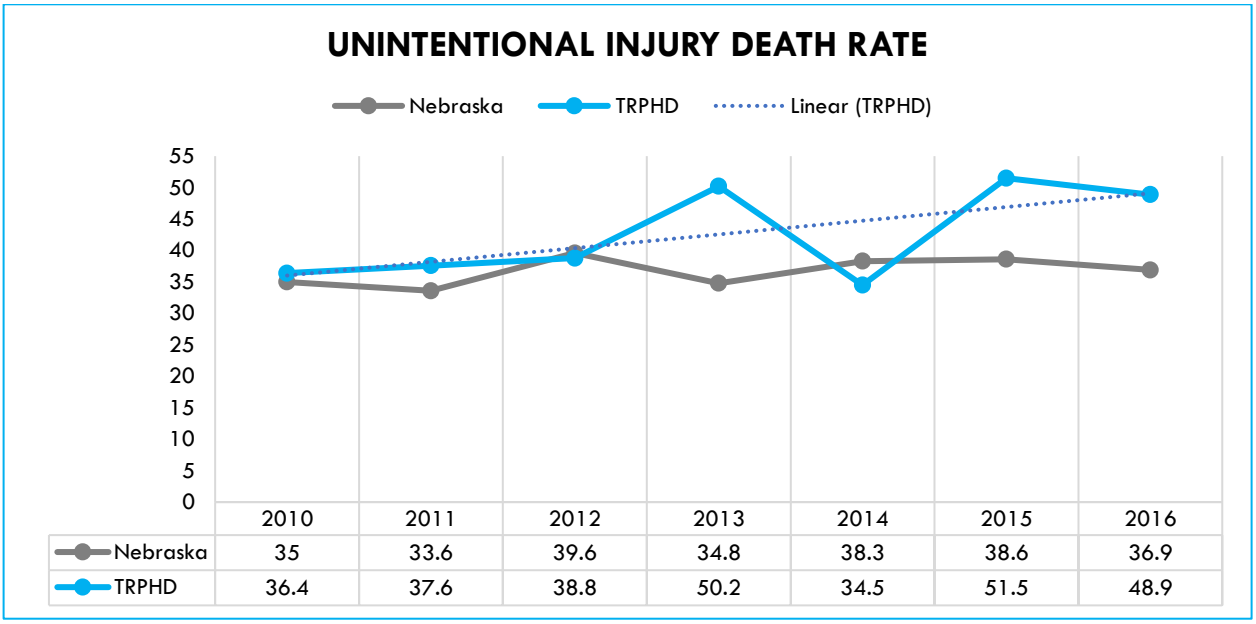
Unintentional Injury Deaths

In the TRPHD, unintentional injury accounted for 50 deaths in 2016 (a total of 236 deaths in 2012-2016 combined years). The mortality rate for unintentional injuries in the TRPHD is 44.4per 100,000 people (2012-2016 combined years), making it the fourth leading cause of death in the health district. The unintentional injury death rate in the TRPHD was 1.2 times higher than the State (44.4 per 100,000 population vs. 37.2 per 100,000 population, respectively).

The age-adjusted death rate due to unintentional injury in the TRPHD increased until 2013. The unintentional injury death rate decreased to 38.3 per 100,000 population in 2014, a 15.7% decrease from 2013, although the unintentional injury death rate in the TRPHD has increased since that period, from 42.9 per 100,000 population (2014) to 48.9 per 100,000 population (2016). **Figure 62.**

The TRPHD has experienced similar injury death rates over the years when compared to the State (except 2013), although the difference has increased since 2014.

Figure 62: Unintentional Injury Death Rate per 100,000 population (age-adjusted), TRPHD and Nebraska, 2010 to 2016



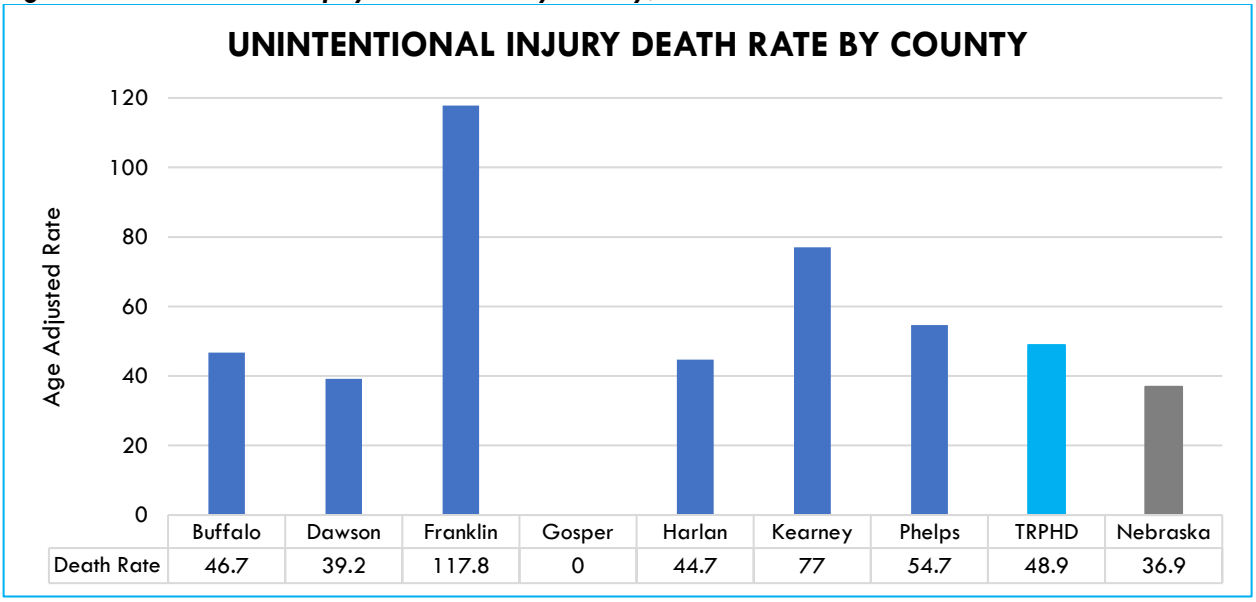
	2010	2011	2012	2013	2014	2015	2016
Nebraska	35	33.6	39.6	34.8	38.3	38.6	36.9
TRPHD	36.4	37.6	38.8	50.2	34.5	51.5	48.9

Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, April 2018.

Unintentional injury death rate by county

Franklin County had the highest unintentional injury death rate in the TRPHD (117.8 per 100,000), 2.4 times higher than the overall unintentional injury death rate in the TRPHD (48.9 per 100,000). **Figure 63.**

Figure 63: Unintentional Injury Death Rate by County, 2016



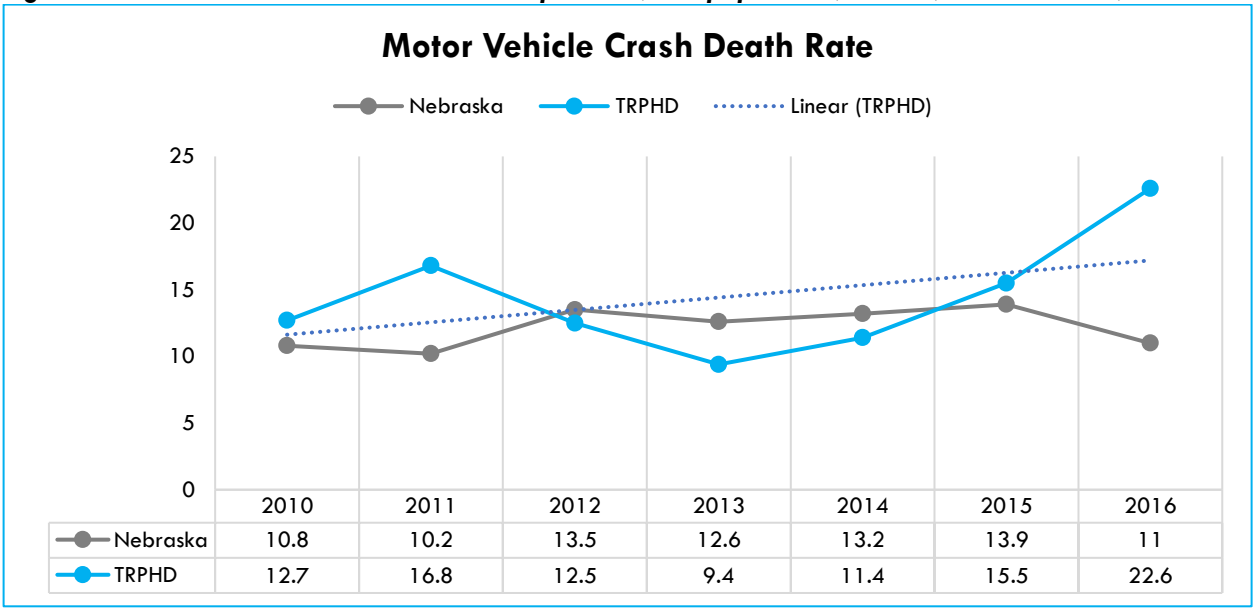
	Buffalo	Dawson	Franklin	Gosper	Harlan	Kearney	Phelps	TRPHD	Nebraska
Death Rate	46.7	39.2	117.8	0	44.7	77	54.7	48.9	36.9

Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018

Motor Vehicle (MV) Crashes

In 2012-2016 combined years, there were 69 fatal motor vehicle crashes in TRPHD[10], for a crude rate of 14.3 deaths per 100,000 population. In 2016 alone, 22 deaths were attributed to motor vehicle crashes (crude rate of 22.6 per 100,000 population). The mortality rate for this cause of death has been on a general increase with since 2010 (increased 9.1% from 2010 to 2016) (**Figure 64**). Compared to the State, the TRPHD had a higher motor vehicle crash death rate for 2012-2016 combined years (12.8 and 14.3, respectively).

Figure 64: Motor Vehicle Crash Death Rate per 100,000 population, TRPHD, and Nebraska, 2010 to 2016



	2010	2011	2012	2013	2014	2015	2016
Nebraska	10.8	10.2	13.5	12.6	13.2	13.9	11
TRPHD	12.7	16.8	12.5	9.4	11.4	15.5	22.6

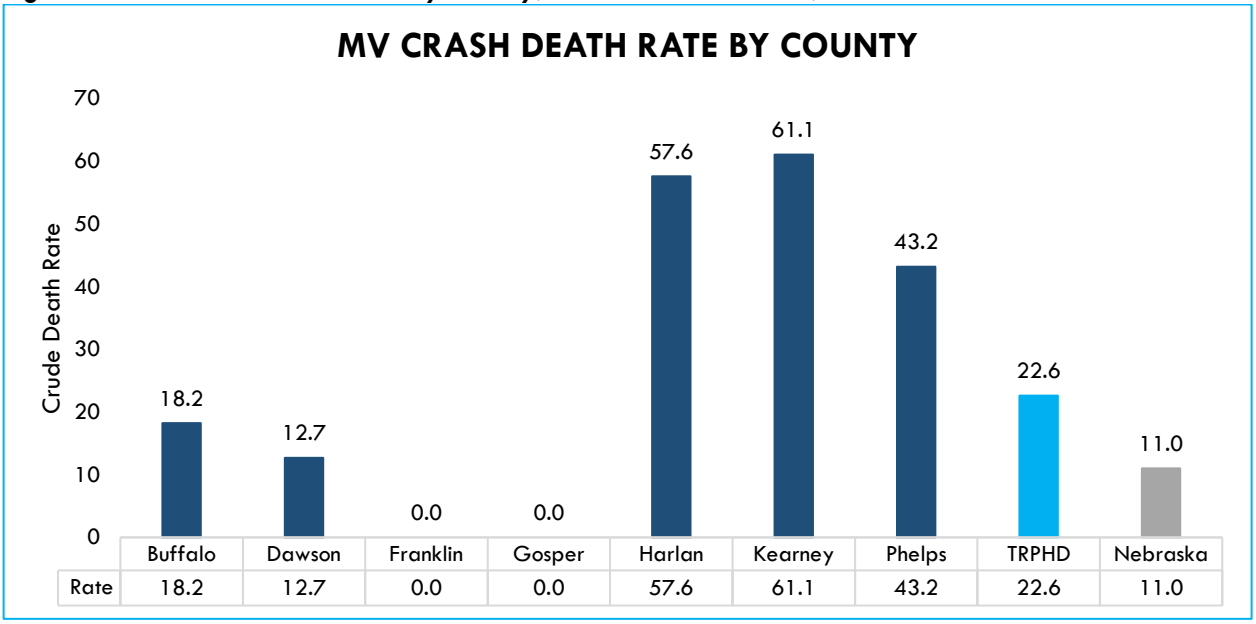
Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

MV Crashes mortality by TRPHD counties

Kearney County showed the highest MV crash death rate among all counties in the TRPHD (61.1 per 100,000 population), 2.7 times higher than the total rate for the TRPHD (22.6 per 100,000 population), followed by Harlan County (57.6 per 100,000 population; 2.5 times higher than the total rate for the TRPHD). Franklin and Gosper Counties showed the lowest MV crash death rate among all counties in the TRPHD (0 per 100,000 population), followed by Dawson County (12.7 per 100,000 population). **Figure 65**.

[10] There were 13 motor vehicle crashes in the year 2017 (AAR 22.8 per 100,000 population)

Figure 65: MV Crash Death Rate by County, TRPHD and Nebraska, 2016*



Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018

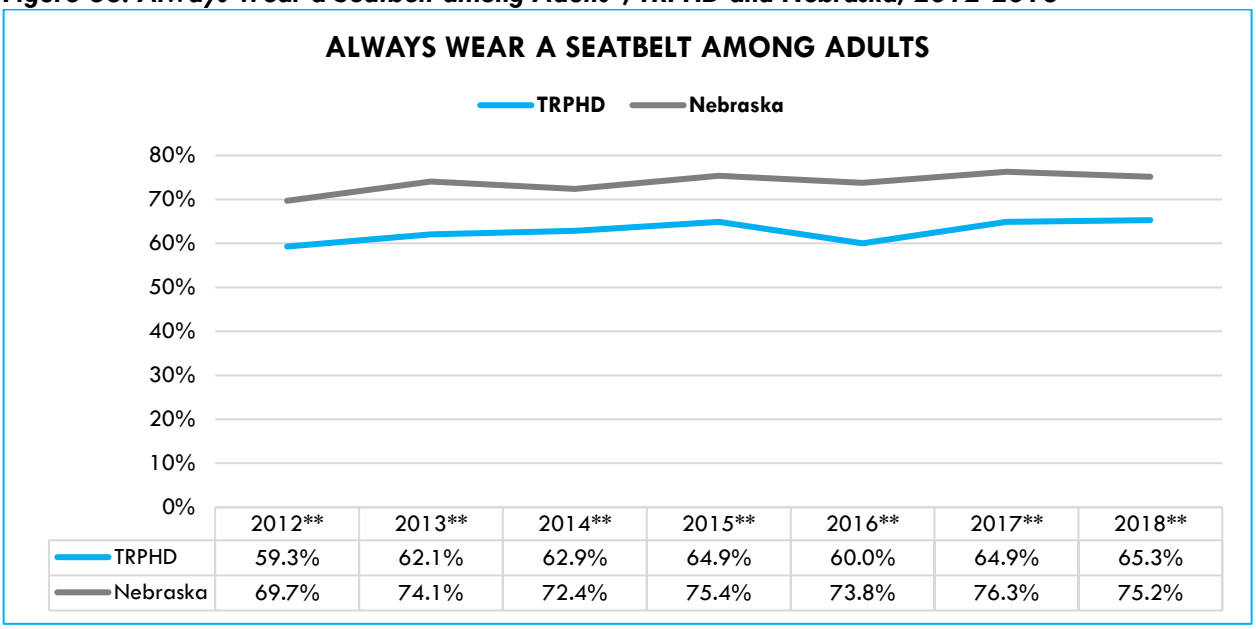
Seatbelt Usage

TRPHD adults were far less likely to report seat belt use than their counterparts in the State.

In 2018, 3 in 4 Nebraska adults (75.2%) reported that they always wear a seatbelt when driving or riding in a car. Overall, the percentage of TRPHD residents who report seat belt use has increased 6 percent since 2012, from 59.3 percent in 2012 to 65.3 percent in 2018 (**Figure 66**).

TRPHD adults were 9.9 percentage points less likely than adults in the State to report always wearing their seatbelt in 2018 (65.3% and 75.2%, respectively). TRPHD adults were significantly lower than adults in the State to report always wearing their seatbelt since 2012.

Figure 66: Always Wear a Seatbelt among Adults*, TRPHD and Nebraska, 2012-2018



	2012**	2013**	2014**	2015**	2016**	2017**	2018**
TRPHD	59.3%	62.1%	62.9%	64.9%	60.0%	64.9%	65.3%
Nebraska	69.7%	74.1%	72.4%	75.4%	73.8%	76.3%	75.2%

*Percent of adults who report that they always use a seatbelt when driving or riding in a car. **Statistically Significant Difference Source: Behavioral Risk Factor Surveillance System (BRFSS)

No data was available at the county or health district levels for use of seatbelts by high school students. Among Nebraska high school students in 2017, 8.5 percent stated that they rarely or never wear a seatbelt when riding in a car driven by someone else. Though the percentage has declined over the past decade (it was 15.9% in 2005).

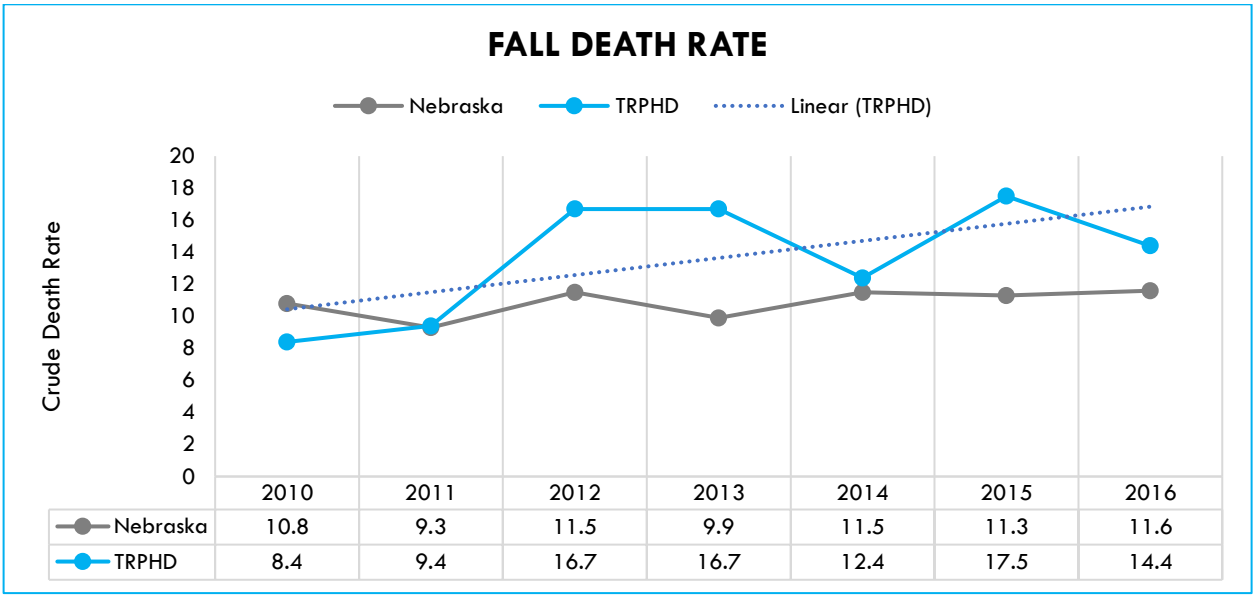
Distracted Driving

In 2017, almost 1 in 4 TRPHD adults (24.9%) reported that they texted while driving a car or other vehicle during the past 30 days (lower when compared to the State: 26.6%). Also, nearly two-thirds (64.9%) reported that that they talked on a cell phone while driving a car or other vehicle during the past 30 days (lower when compared to the State: 66.5%).

Falls

Falls accounted for 75 deaths with a crude rate of 15.5 deaths per 100,000 population in the TRPHD for 2012-2016 combined years. After an increase between 2011 and 2012, the death rate due to falls in the TRPHD decreased in 2014 and has remained higher than the State since 2012. (**Figure 67**). For 2016 combined years, the TRPHD death rate was 2.8 points higher than the State (14.4 per 100,000 population vs. 11.6 per 100,000 population, respectively).

Figure 67: Unintentional Fall Death Rate per 100,000 population (crude rate), TRPHD and Nebraska, 2010-2016*



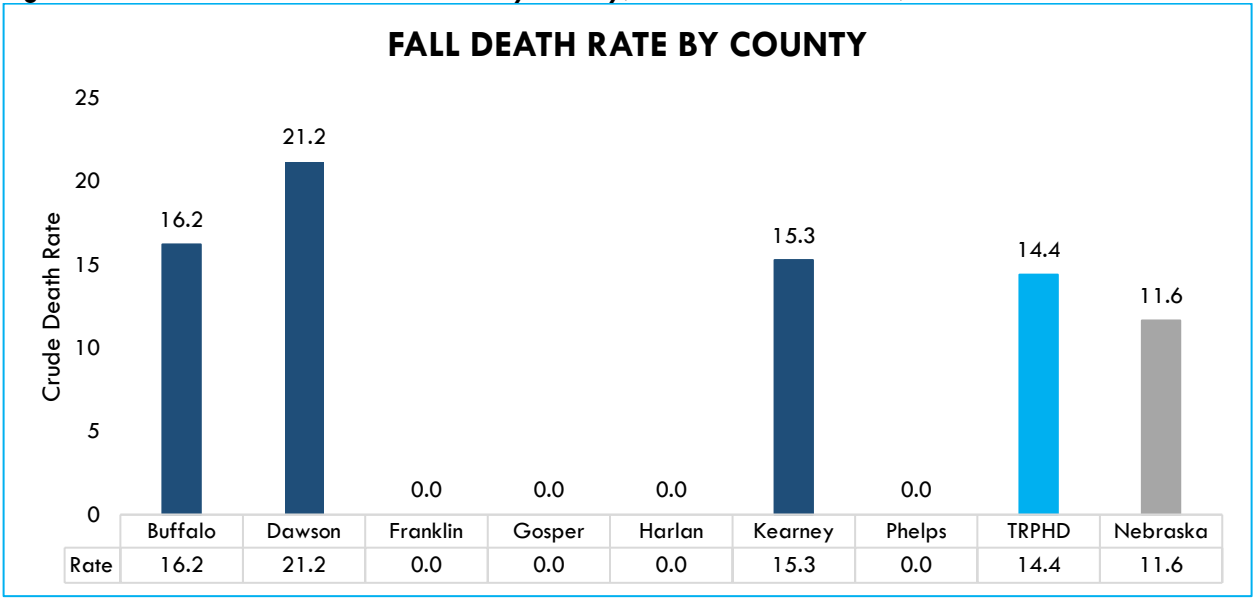
	2010	2011	2012	2013	2014	2015	2016
Nebraska	10.8	9.3	11.5	9.9	11.5	11.3	11.6
TRPHD	8.4	9.4	16.7	16.7	12.4	17.5	14.4

*Yearly average. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

Unintentional Fall mortality by TRPHD counties

Dawson county showed the highest fall mortality rate among all counties in the TRPHD (21.2 per 100,000 population), followed by Buffalo County (16.2 per 100,000 population), and then by Kearney County (15.3 per 100,000 population). The fall rate was 0 for Franklin, Gosper, Harlan, and Phelps Counties. **Figure 68.**

Figure 68: Unintentional Fall Death Rate by County, TRPHD and Nebraska, 2016*



	Buffalo	Dawson	Franklin	Gosper	Harlan	Kearney	Phelps	TRPHD	Nebraska
Rate	16.2	21.2	0.0	0.0	0.0	15.3	0.0	14.4	11.6

Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, April 2018

In 2018, nearly three out of ten TRPHD adults aged 45 and older (26.9%) reported that they had a fall (to the ground or another lower level) during the past year. About 1 in 9 (11.1%) TRPHD adults 45 and older in 2016 reported that they were injured due to a fall in the past year that caused them to limit their regular activities for at least a day or to go see a doctor. (BRFSS, 2019)

TRPHD adults 45 years and older in 2016 were more likely than Nebraska adults 45 years and older to report a fall during the past year that resulted in an injury (11.1% and 10.1%, respectively) and were similar to report a fall during the past year in (26.9% and 25.3%, respectively for 2018).

Intentional Injuries

Intentional injuries include those resulting from violent and abusive behaviors (such as suicides, homicides, assaults, child abuse and neglect, and domestic violence). Suicide is discussed in the Mental Health section of this report.

Homicide

In 2016, there were 245 deaths in Nebraska resulting from homicide for an age-adjusted rate of 3.3 deaths per 100,000 population. The rate has fluctuated inconsistently in Nebraska over the past years with little overall change between 2012 and 2016.

Mental Health and Suicide

Mental health illnesses are common in the United States, with an estimated 50% of all Americans diagnosed with a mental illness or disorder at some point in their lifetime. Mental illnesses, such as depression, are the third most common cause of hospitalization in the United States for those aged 18-44 years old, and adults living with serious mental illness die on average 25 years earlier than others (CDC, 2019).

Mental Illness

Depressive illness (including major depression, bipolar disorder, and dysthymia) is the most common mental illness, affecting roughly 21 million Americans each year. According to the National Health and Nutrition Examination Survey, during 2013–2016, 8.1% of American adults aged 20 and over had depression in each 2-week period. Women (10.4%) were almost twice as likely as were men (5.5%) to have had depression.

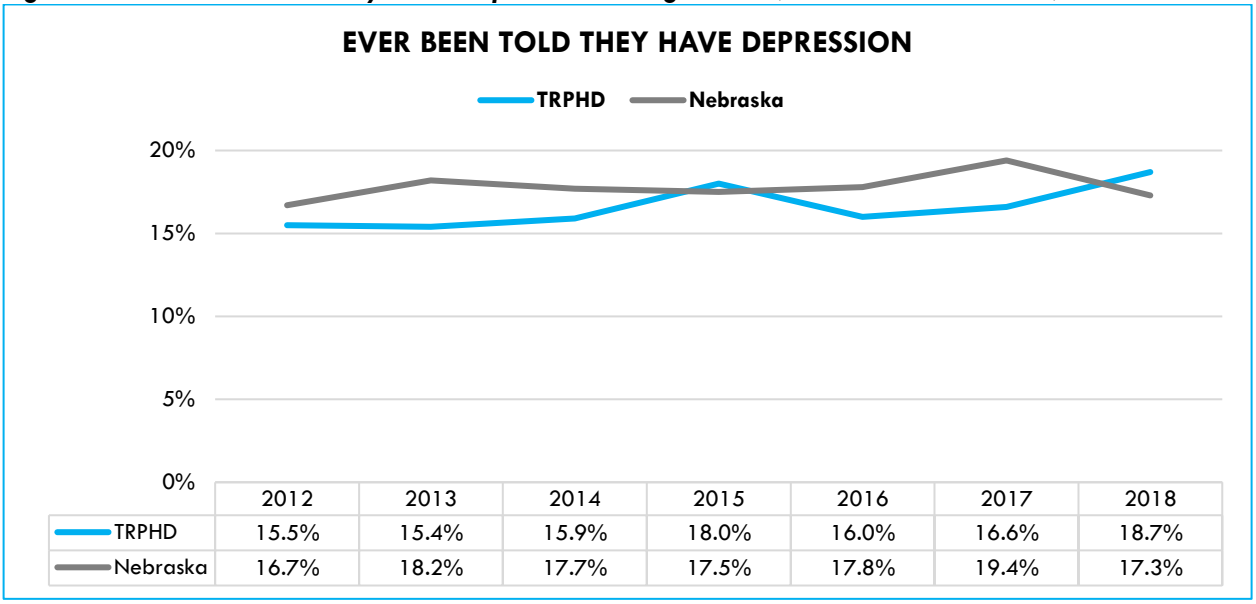
Mental illness is associated with increased morbidity from several chronic diseases, including cardiovascular disease, diabetes, cancer, asthma, and obesity. Unhealthy behaviors such as tobacco and alcohol use as well as rates of injury are also higher in persons with mental illness (Nebraska DHHS, 2016).

Mental Illness among Adults

In 2018, about 1 in 5 TRPHD adults (18.7%) reported having ever been told by a doctor, nurse, or other health professionals that they have a depressive disorder, including depression, major depression, dysthymia, or minor depression (i.e., diagnosed depression).

Between 2012 and 2018 the prevalence of diagnosed depression among TRPHD adults remained relatively stable. Overall, the prevalence of depression among TRPHD adults has been lower than the State since 2012, except in 2015 and 2018. In 2018, the TRPHD prevalence of depression among TRPHD adults was 1.4 points higher than the State (18.7% vs. 17.3%, respectively). (**Figure 69**).

Figure 69: Ever Been Told they have Depression among Adults*, TRPHD and Nebraska, 2012-2018



	2012	2013	2014	2015	2016	2017	2018
TRPHD	15.5%	15.4%	15.9%	18.0%	16.0%	16.6%	18.7%
Nebraska	16.7%	18.2%	17.7%	17.5%	17.8%	19.4%	17.3%

*Percentage of adults 18 and older who report that they have ever been told by a doctor, nurse, or other health professionals that they have a depressive disorder (depression, major depression, dysthymia, or minor depression). Source: Behavioral Risk Factor Surveillance System (BRFSS).

As reported at the national level (National Health and Nutrition Examination Survey, 2013-2016), women in the TRPHD report prevalence rates of depression from 2012 to 2018 that are 1.1 to nearly three times higher than men in the TRPHD (BRFSS). These differences have been statistically significant in four out of seven years between 2012 and 2018. **Table 28.**

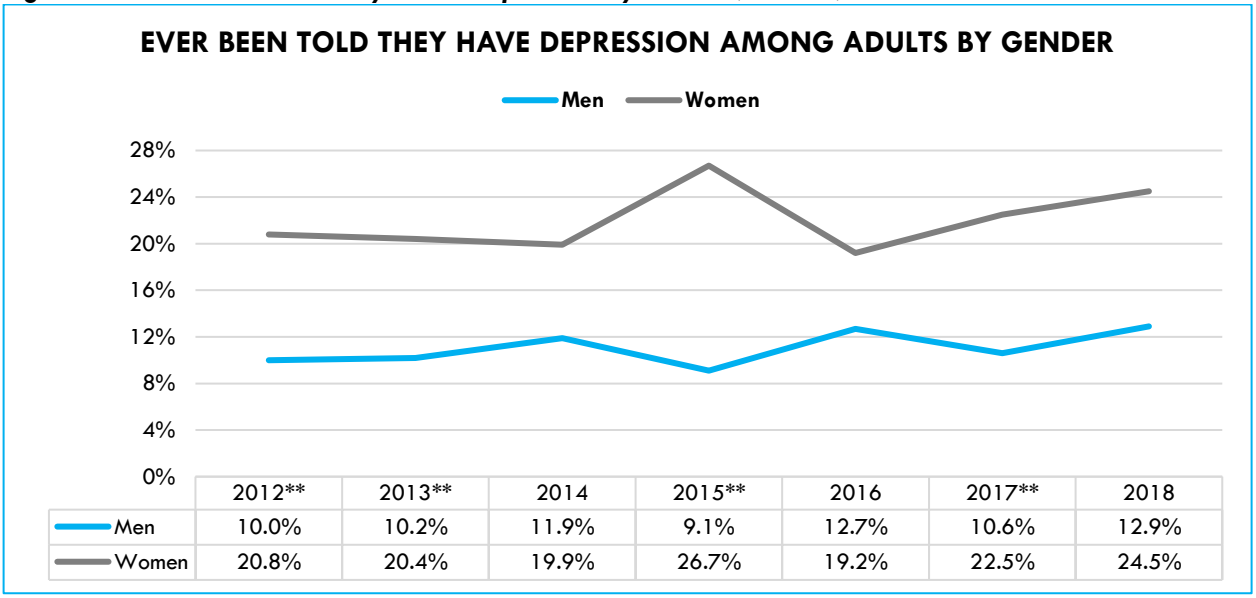
Table 28: Depression Rates by Gender in the TRPHD, 2012-2018

	Men	Women	Depression among women are # times higher than men:
2012**	10.0%	20.8%	2.1
2013**	10.2%	20.4%	2.0
2014	11.9%	19.9%	1.7
2015**	9.1%	26.7%	2.9
2016	12.7%	19.2%	1.5
2017**	10.6%	22.5%	2.1
2018	12.9%	24.5%	1.9

**Differences were statistically significant. Source: Behavioral Risk Factor Surveillance System (BRFSS).

Figure 70 shows the prevalence rate of depression by gender in the TRPHD from 2012 to 2018.

Figure 70: Ever Been Told They Have Depression by Gender, TRPHD, 2012-2018



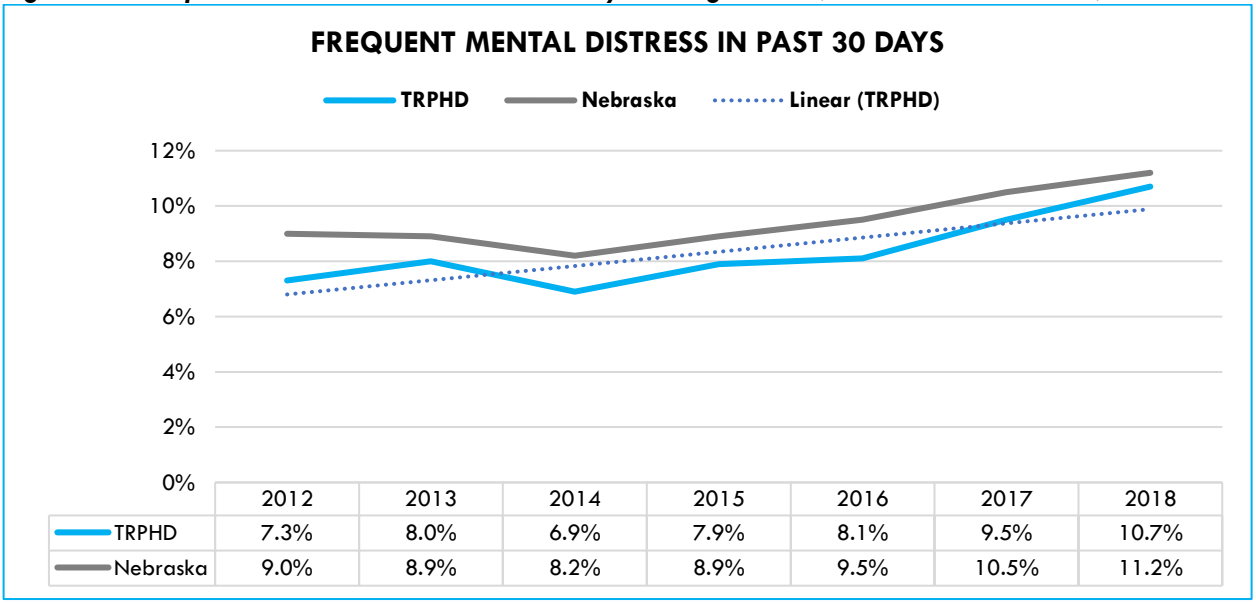
	2012**	2013**	2014	2015**	2016	2017**	2018
Men	10.0%	10.2%	11.9%	9.1%	12.7%	10.6%	12.9%
Women	20.8%	20.4%	19.9%	26.7%	19.2%	22.5%	24.5%

**Differences were statistically significant. Source: Behavioral Risk Factor Surveillance System (BRFSS).

Roughly 1 in 10 TRPHD adults in 2018 (10.7%) reported that their mental health (including stress, depression, and problems with emotions) was not good on 14 or more of the past 30 days (i.e., frequent mental distress).

Frequent mental distress increased between 2012 and 2018 and was consistently lower than the State percentage during this time period (**Figure 71**).

Figure 71: Frequent Mental Distress in Past 30 Days among Adults, TRPHD and Nebraska, 2012-2018*



	2012	2013	2014	2015	2016	2017	2018
TRPHD	7.3%	8.0%	6.9%	7.9%	8.1%	9.5%	10.7%
Nebraska	9.0%	8.9%	8.2%	8.9%	9.5%	10.5%	11.2%

*Percentage of adults 18 and older who report that their mental health (including stress, depression, and problems with emotions) was not good on14 or more of the previous 30 days. Source: Behavioral Risk Factor Surveillance System (BRFSS).

Suicide[11]

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), more than 90 percent of those who die from suicide have a diagnosable mental disorder. Suicide victims are frequently experiencing undiagnosed, undertreated, or untreated depression. (Nebraska DHHS, 2016).

Everyone has a role to play in preventing suicide. For instance, faith communities can work to prevent suicide simply by fostering cultures and norms that are life-preserving, providing perspective and social support to community members, and helping people navigate the struggles of life to find a sustainable sense of hope, meaning, and purpose. Although prior suicide attempts are one of the strongest risk factors for suicide, many people who attempt suicide—9 in 10—do not ultimately die by suicide. Losing a loved one to suicide can be profoundly painful for family members and friends. (SAMHSA, https://www.samhsa.gov/find-help/suicide-prevention).

Death due to Suicide

Suicide was the 10th leading cause of death[12] in the TRPHD during 2012-2016 combined years, claiming 33 lives.

No data was presented for suicide-related deaths in 2011, 2014, and 2015.
The rate of suicide deaths has increased and decreased dramatically year to year for the years reported. The suicide death rate in TRPHD increased 179.7% between 2010 and 2016 to a rate of 17.9 deaths per 100,000 population (age-adjusted), the highest rate since 2010.

The suicide death rate in the TRPHD was lower than the State suicide rate in 2010 and 2013 but was been higher in 2012 and 2016 when compared to the State suicide rates. (**Figure 72**).

---

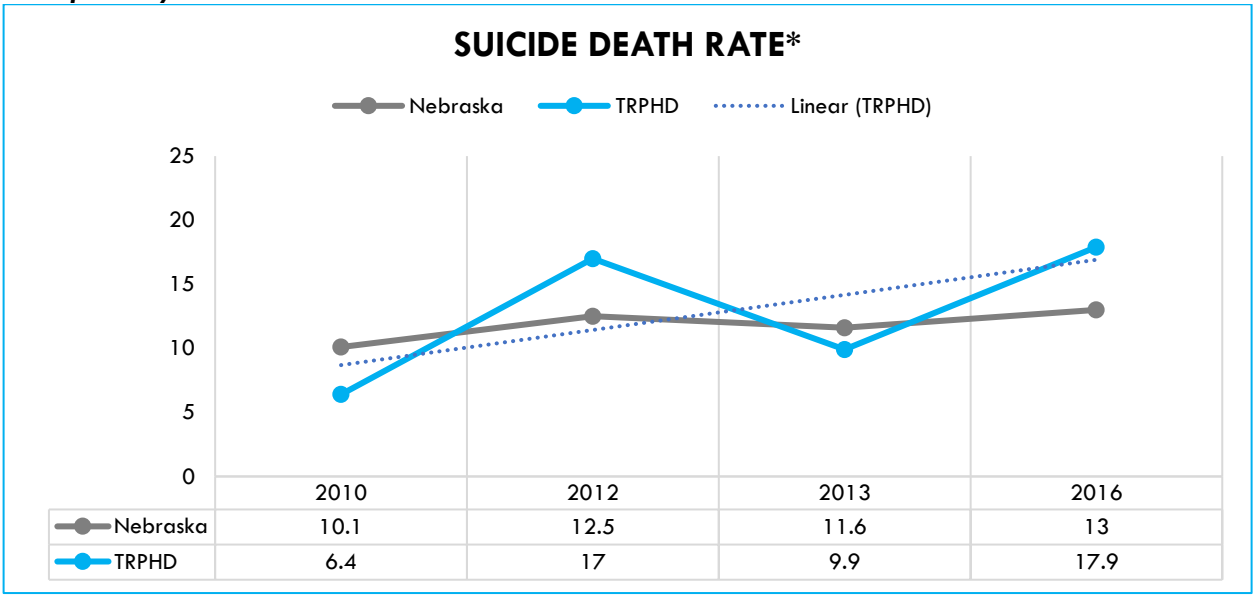
[11] **If you believe someone may be thinking about suicide:**

- Call 911, if danger for self-harm seems imminent.
- Ask them if they are thinking about killing themselves. (This will not put the idea into their head or make it more likely that they will attempt suicide.)
- Listen without judging and show you care.
- Stay with the person (or make sure the person is in a private, secure place with another caring person) until you can get further help.
- Remove any objects that could be used in a suicide attempt.
- Call SAMHSA's National Suicide Prevention Lifeline at 1-800-273-TALK (8255) and follow their guidance.

[12] Based on death rates

The actual number of suicide deaths in the TRPHD also increased during this period, from 60 deaths in 2008-2012 combined years to 62 deaths in 2012-2016 combined years.

Figure 72: Suicide Death Rate per 100,000 population (age-adjusted), TRPHD and Nebraska, 2010-2016 for reported years



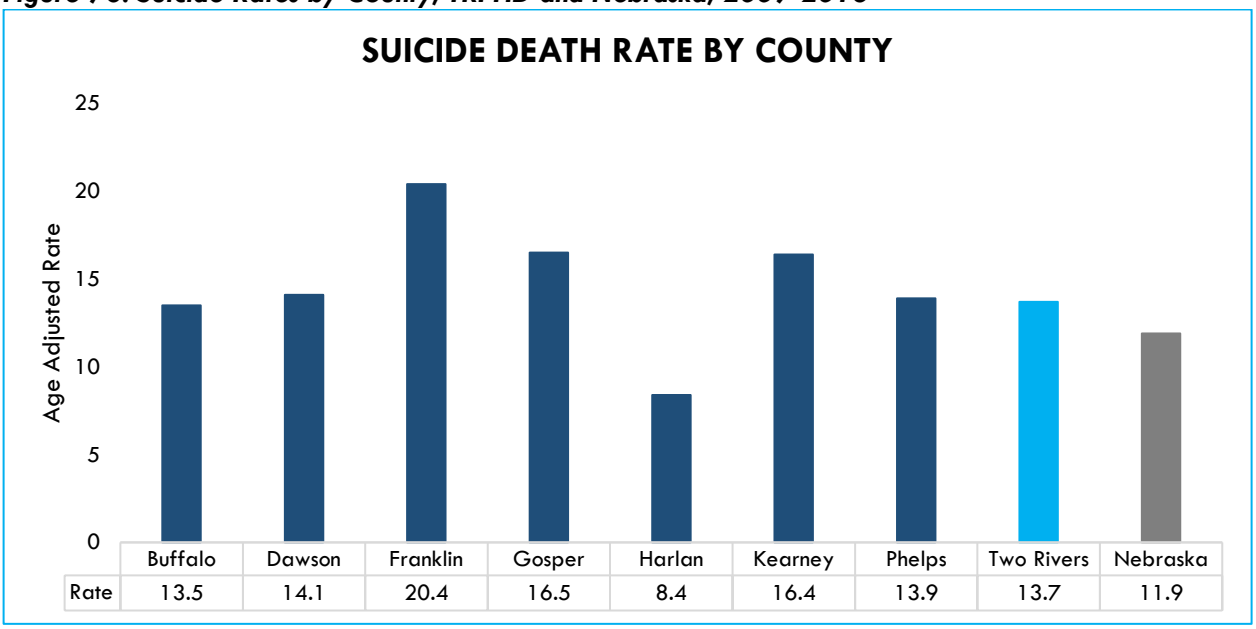
*Data not provided for 2011, 2014, and 2015. Source: Nebraska Vital Records, Nebraska Department of Health and Human Services, December 2011, December 2012, February 2014, December 2014, December 2015, June 2017, and April 2018.

Suicide rates by TRPHD counties

During the 2009-2018 combined years, TRPHD had a total of 130 suicide deaths. The TRPHD age-adjusted rate was higher than Nebraska (13.7 vs. 11.9, respectively).

Franklin county showed the highest suicide rate among all counties in the TRPHD (20.4 per 100,000 population), followed by Gosper County (16.5 per 100,000 population), and then by Kearney County (16.4 per 100,000 population). The suicide death rate was lowest in Harlan County (8.4 per 100,000 population), followed by Buffalo County (13.5 per 100,000 population). **Figure 73.**

Figure 73: Suicide Rates by County, TRPHD and Nebraska, 2009-2018*



Source: Nebraska Vital Records DHHS: The Number and Rates of Suicide Deaths by County in Two Rivers LHD (2009-2018); March 2020

Substance Abuse

Substance abuse generally refers to the use of psychoactive substances, which affect mood, perception, and cognition by altering brain function. Alcohol and drug use fit into this category and are covered within this section.

Alcohol Misuse

Alcohol is the most frequently used and misused substance in the United States, and it can have devastating consequences. Alcohol misuse is especially problematic among youth and college-aged populations. People who drink to excess, including binge and heavy drinkers, are at even greater risk. (SAMHSA, 2019[13]).

Alcohol misuse is associated with injuries and deaths due to motor vehicle crashes, falls, fires, and drowning. Alcohol misuse is also a factor in a substantial proportion of homicides, suicides, domestic violence, and child abuse and neglect cases. Long-term heavy drinking can lead to heart disease, cancer, alcohol-related liver disease, and pancreatitis. Alcohol use during pregnancy is known to cause fetal alcohol syndrome, a leading cause of mental retardation. Excessive alcohol use is currently the third leading lifestyle-related cause of death for people in the United States each year. (Nebraska DHHS, 2016).

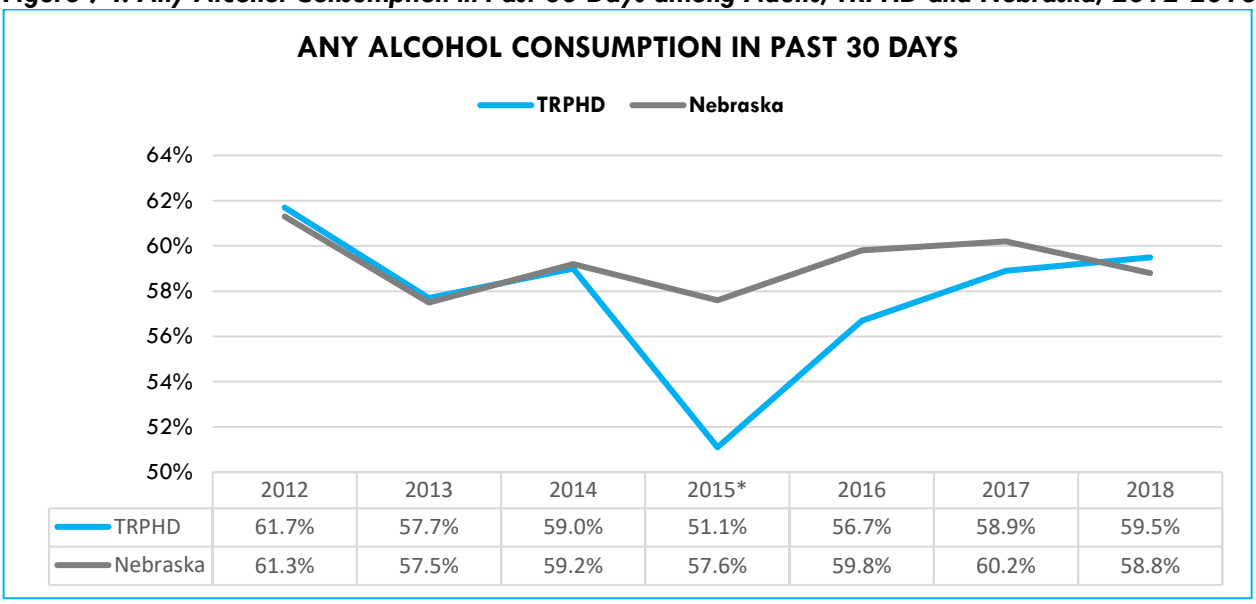
Alcohol Use among Adults

Any Alcohol Use among Adults

In 2018, 59.5 percent of TRPHD adults reported consuming at least one drink of an alcoholic beverage (such as beer, wine, wine coolers, liquor, or cocktails) during the past month. This percentage has remained stable and lower when compared to the State since 2012. In 2015, the rate for any alcohol consumption in the past 30 days was significantly lower for TRPHD when compared to the State (51.1% to 57.6%, respectively). **Figure 74**.

[13] https://www.samhsa.gov/data/taxonomy/term/6529

Figure 74: Any Alcohol Consumption in Past 30 Days among Adults, TRPHD and Nebraska, 2012-2018

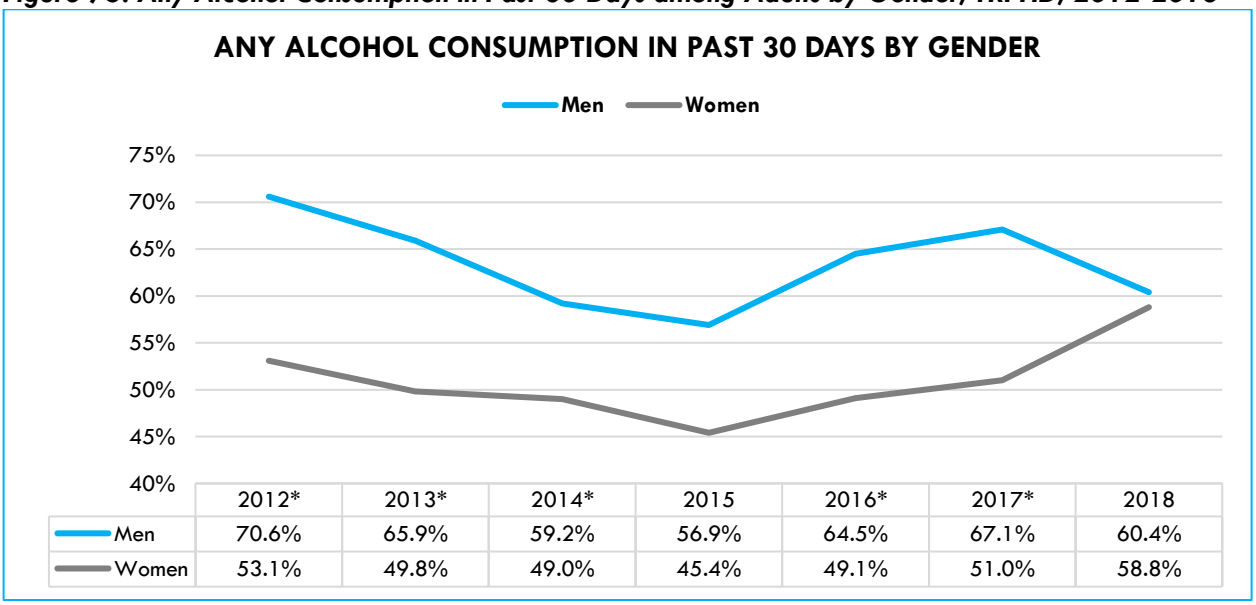


	2012	2013	2014	2015*	2016	2017	2018
TRPHD	61.7%	57.7%	59.0%	51.1%	56.7%	58.9%	59.5%
Nebraska	61.3%	57.5%	59.2%	57.6%	59.8%	60.2%	58.8%

*Differences are statistically significant. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

The rate for any consumption in the past 30 days was significantly different for men and women in 2012, 2013, 2014, 2016, and 2017 with the rate higher for men than women. The overall rate for men's alcohol consumption in TRPHD has been on the decline, while the overall rate for women has been increasing. **Figure 75.**

Figure 75: Any Alcohol Consumption in Past 30 Days among Adults by Gender, TRPHD, 2012-2018



	2012*	2013*	2014*	2015	2016*	2017*	2018
Men	70.6%	65.9%	59.2%	56.9%	64.5%	67.1%	60.4%
Women	53.1%	49.8%	49.0%	45.4%	49.1%	51.0%	58.8%

*Differences are statistically significant. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

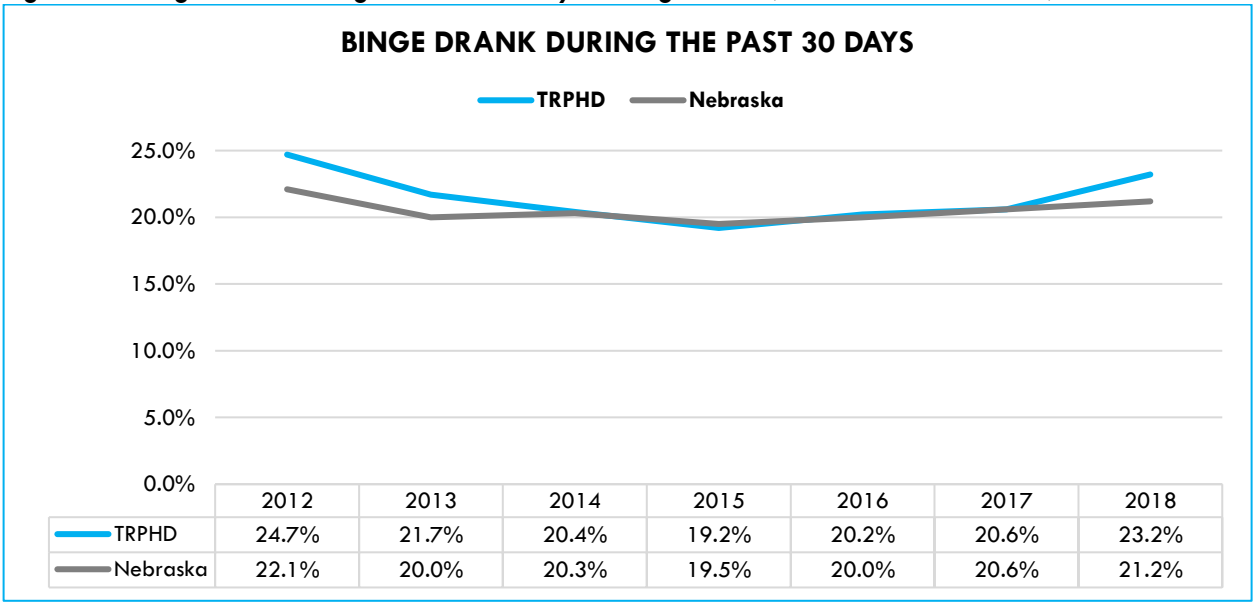
Binge Drinking

Binge Drinking among Adults

Binge drinking is defined as five or more drinks for men and four or more drinks for women (beer, wine, wine coolers, cocktails, or liquor) during one drinking occasion. In 2018, 1 in 4 TRPHD adults (23.2%) reported binge drinking at least once during the past month. Binge drinking prevalence has decreased by 1.3% in the TRPHD in the last six years, from 24.7% in 2012 to 23.2% in 2018. (**Figure 76**).

TRPHD adults, compared to adults statewide have generally reported higher percentages of binge drinking.

Figure 76: Binge Drank during the Past 30 Days among Adults*, TRPHD and Nebraska, 2012-2018

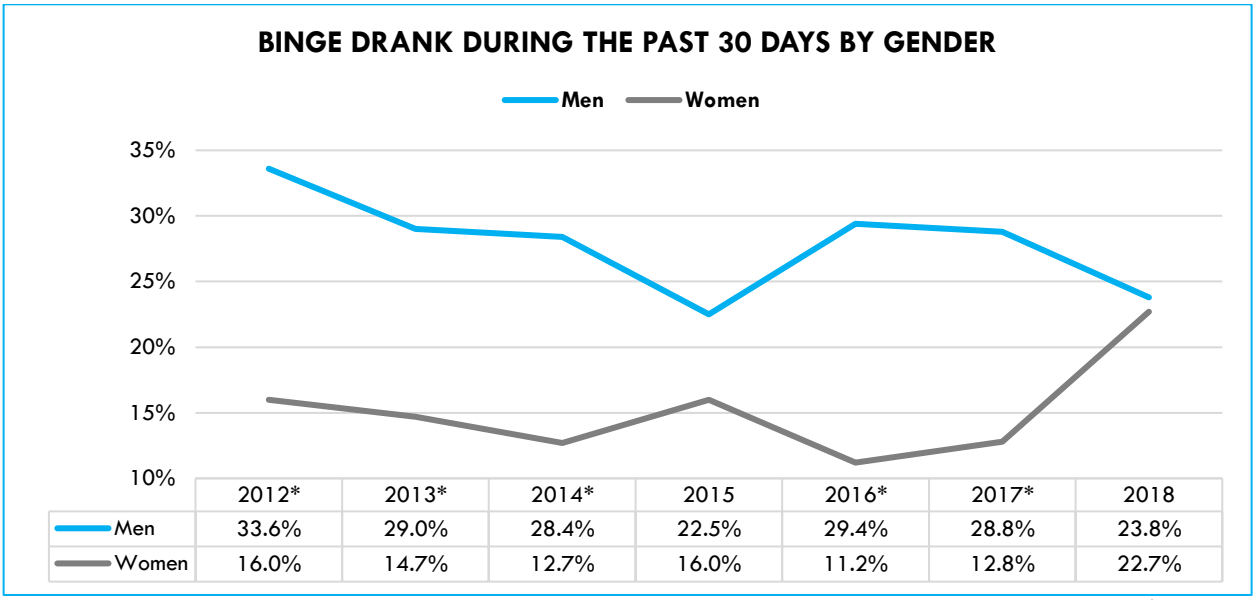


	2012	2013	2014	2015	2016	2017	2018
TRPHD	24.7%	21.7%	20.4%	19.2%	20.2%	20.6%	23.2%
Nebraska	22.1%	20.0%	20.3%	19.5%	20.0%	20.6%	21.2%

*Percentage of adults who report having five or more alcoholic drinks for men/four or more alcoholic beverages for women on at least one occasion during the past 30 days. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

The rate for TRPHD adults was significantly different for women and men for several years: 2012, 2013, 2014, 2016, and 2017; with the rate of binge drinking being higher for men than women. **Figure 77**.

Figure 77: Binge Drank during the Past 30 Days among Adults** by Gender, TRPHD, and Nebraska, 2012-2018



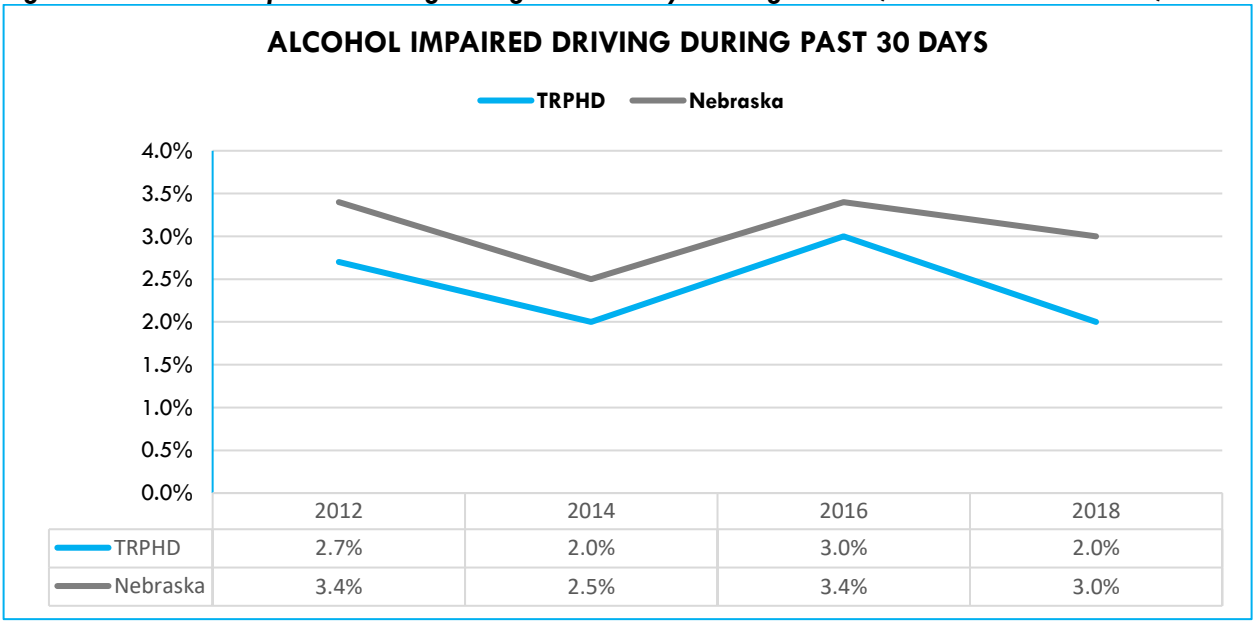
	2012*	2013*	2014*	2015	2016*	2017*	2018
Men	33.6%	29.0%	28.4%	22.5%	29.4%	28.8%	23.8%
Women	16.0%	14.7%	12.7%	16.0%	11.2%	12.8%	22.7%

*Differences are statistically significant. **Percentage of adults who report having five or more alcoholic drinks for men/four or more alcoholic beverages for women on at least one occasion during the past 30 days. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Alcohol-Impaired Driving among Adults

In 2018, 2.0 percent of TRPHD adults (1 in 50) reported that they drove a motor vehicle after drinking too much alcohol during the past 30 days. The percentage has remained lower or similar when compared to the state percentage over the past few years (**Figure 78**).

Figure 78: Alcohol-Impaired Driving during Past 30 Days among Adults*, TRPHD and Nebraska, 2012-2018

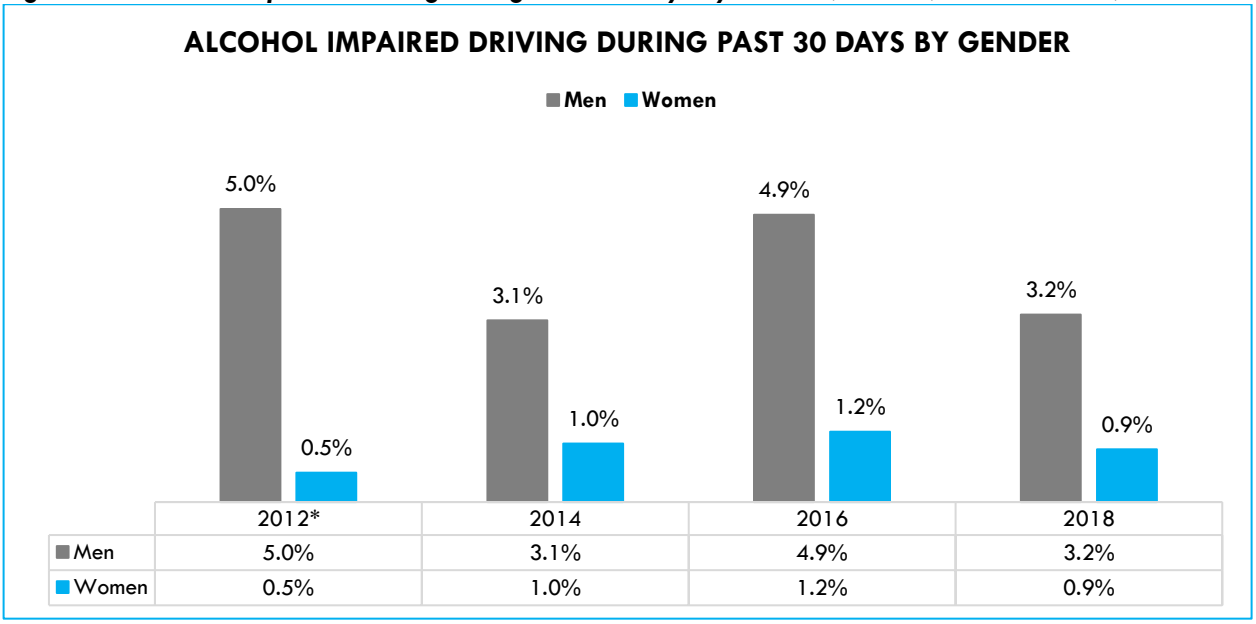


	2012	2014	2016	2018
TRPHD	2.7%	2.0%	3.0%	2.0%
Nebraska	3.4%	2.5%	3.4%	3.0%

*Percentage of adults 18 and older who report driving after having had perhaps too much to drink during the past 30 days. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Men in TRPHD were statistically significantly more likely to drive under the influence of alcohol when compared to women in 2012. Differences were not statistically significant in the following years (2014-2018). **Figure 79**.

Figure 79: Alcohol-Impaired Driving during Past 30 Days by Gender, TRPHD, and Nebraska, 2012-2018



	2012*	2014	2016	2018
Men	5.0%	3.1%	4.9%	3.2%
Women	0.5%	1.0%	1.2%	0.9%

*Differences are statistically significant. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Youth

In 2017, the Youth Risk Behavior Survey (2016/2017 YRBS State-Level Data) reported 10.5 percent of students statewide engaged in binge drinking over the past 30 days[14]. Nebraska students report 3 percent less binge drinking when compared to students in the United States, (10.5% vs. 13.5%, respectively).

In 2018, the Nebraska Risk and Protective Factor Survey (NRPFSS) reported 14.3% of 12th graders in the TRPHD had engaged in binge drinking in the past 30 days[15], 0.8 percent less when compared to 2016 (15.1%). The percentage of binge drinking among 12th graders is almost 1% less when compared to the State (14.3% vs. 15.0%, respectively).

The perception of risk associated with having 5+ drinks of alcohol 1 or 2 times per week decreases with age, as 4 out of 10 8th graders perceive it as a "great risk", but that perception of risk decreases to 3 out of 10 12th graders (43.1% vs. 36.4%, respectively).

[14] The definition of binge drinking was changed to 5 or more drinks for males and 4 or more drinks for females on the 2017 YRBS. Due to this change, trend data for binge drinking are not comparable to 2017.

[15] Percentage who reported having five or more drinks of alcohol in a row, within a couple of hours

In the 2018 NRPFSS, 9.8 percent of 12th graders said they had driven a car when they had been drinking and 18.1 percent reported riding with someone who had been drinking alcohol (18.8% for 8th graders).

Marijuana Use

The proportion of Nebraska students that reported lifetime marijuana use and past 30-day marijuana use increased between 1991 and 2003 before declining between 2003 and 2017.

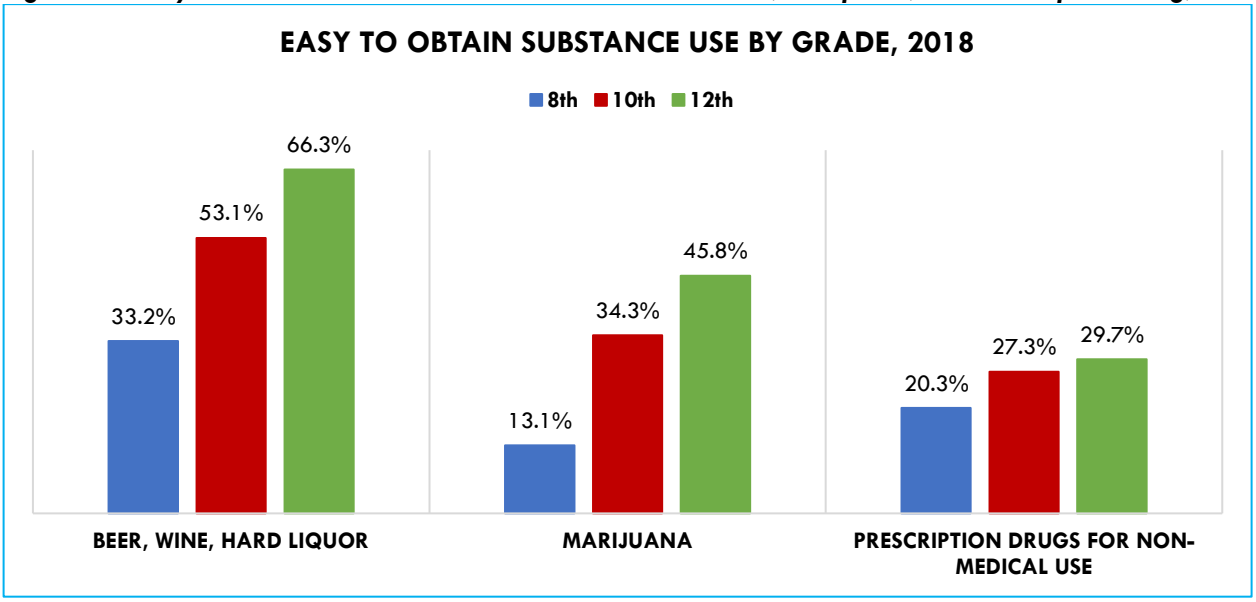
The 2017 percentages for lifetime and past 30-day marijuana use (25.4% and 13.4%, respectively) have remained consistent when compared to recent years. However, they show a significant decrease from the levels reported in 2003 (34.6% and 18.3%, respectively). (YRBS, 2017).

For 12th grade students in the TRPHD, lifetime marijuana use has decreased from 29.3% in 2010 to 27.8% in 2018. (NRPFSS, 2018).

- The current use of marijuana for 12th graders in the TRPHD increased from 12.4% in 2010 to 13.1% in 2018. (NRPFSS, 2018).

Alcohol (i.e., beer, wine, hard liquor) was mentioned as the easiest substance to obtain among all students in the TRPHD in 2018, followed by marijuana, and then by prescription drugs for non-medical use. **Figure 80**.

Figure 80: Easy to Obtain Substance Use in the TRPHD: Alcohol, Marijuana, and Prescription Drug, 2018



Source: Nebraska Risk and Protective Factor Student Survey (NRPFSS, 2018). Two Rivers Public Health Department.

Prescription Drug Use

In 2018, 6.3 percent of TRPHD 12th graders reported lifetime non-medical prescription drug misuse (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, Xanax). This percentage was lower when compared to 12th graders at the State level (8.1%). Current prescription drug misuse was almost the same for TRPHD 12th graders when compared to 12th graders at the State level in 2018 (2.3% vs. 2.2%).

Lifetime and current prescription drug misuse by 12th graders at the State level were lower when compared to the United States.

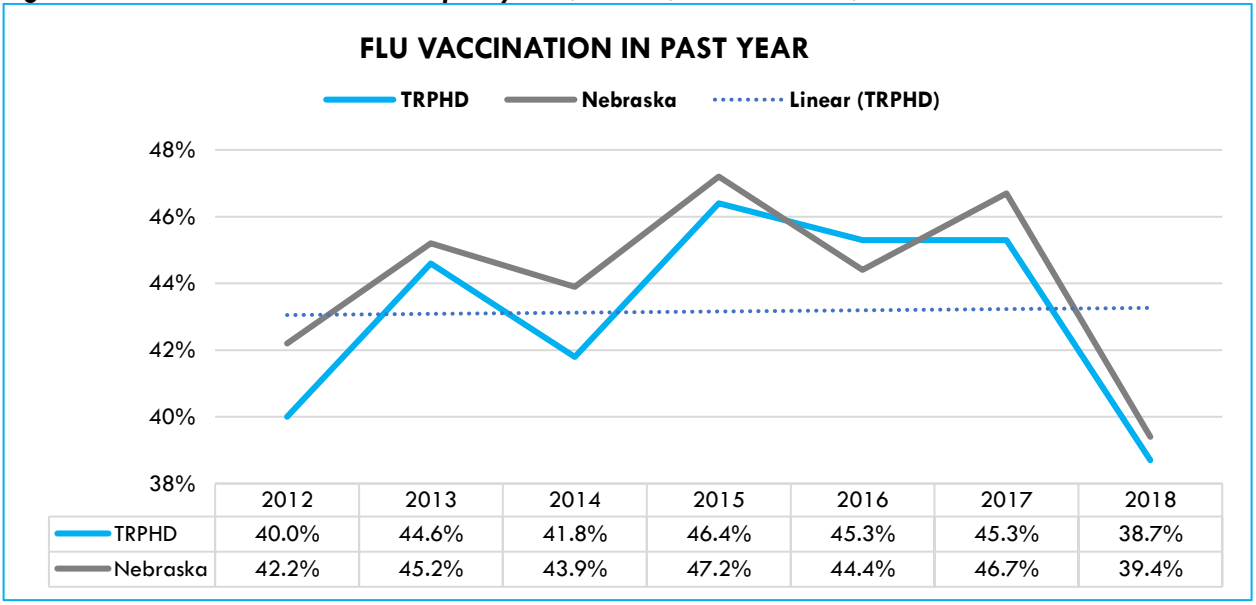
Influenza and Pneumonia Vaccinations

Influenza Vaccinations

Influenza, commonly referred to as the flu, is a virus that causes respiratory illness. Older people, young children, and people with some health conditions are at a higher risk of influenza complications. A vaccine is available to reduce the risk of flu illnesses, hospitalizations, and flu-related death in children. The flu vaccine is recommended yearly for everyone 6 months or older unless they have serious allergies to the contents of the vaccine. (Centers for Disease Control and Prevention, 2019a)

In 2018, roughly one-third of TRPHD adults aged 18 and older (38.7%) had a flu vaccination in the past year, slightly lower than Nebraska (39.4%). The TRPHD percentage was lower than Nebraska since 2012 except in 2016. **Figure 81.**

Figure 81: Had a Flu Vaccination in past year*, TRPHD, and Nebraska, 2012-2018

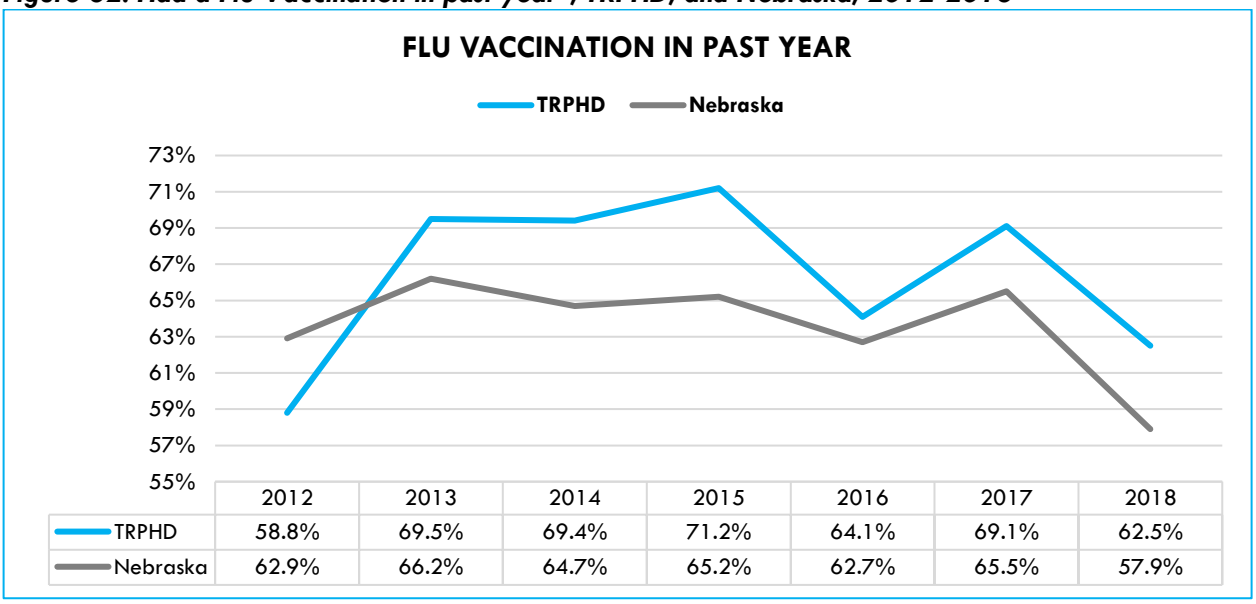


	2012	2013	2014	2015	2016	2017	2018
TRPHD	40.0%	44.6%	41.8%	46.4%	45.3%	45.3%	38.7%
Nebraska	42.2%	45.2%	43.9%	47.2%	44.4%	46.7%	39.4%

*Percentage of adults 18 years and older who report having a flu vaccination in the past year. Source: Behavioral Risk Factor Surveillance System (BRFSS). November 2019

TRPHD adults 65 years and older were more likely to get a flu vaccination (62.5%), higher than the Nebraska percentage (57.9%) in 2018. The TRPHD percentage was lower than Nebraska's in 2013 but has been higher than Nebraska since 2014. **Figure 82.**

Figure 82: Had a Flu Vaccination in past year*, TRPHD, and Nebraska, 2012-2018



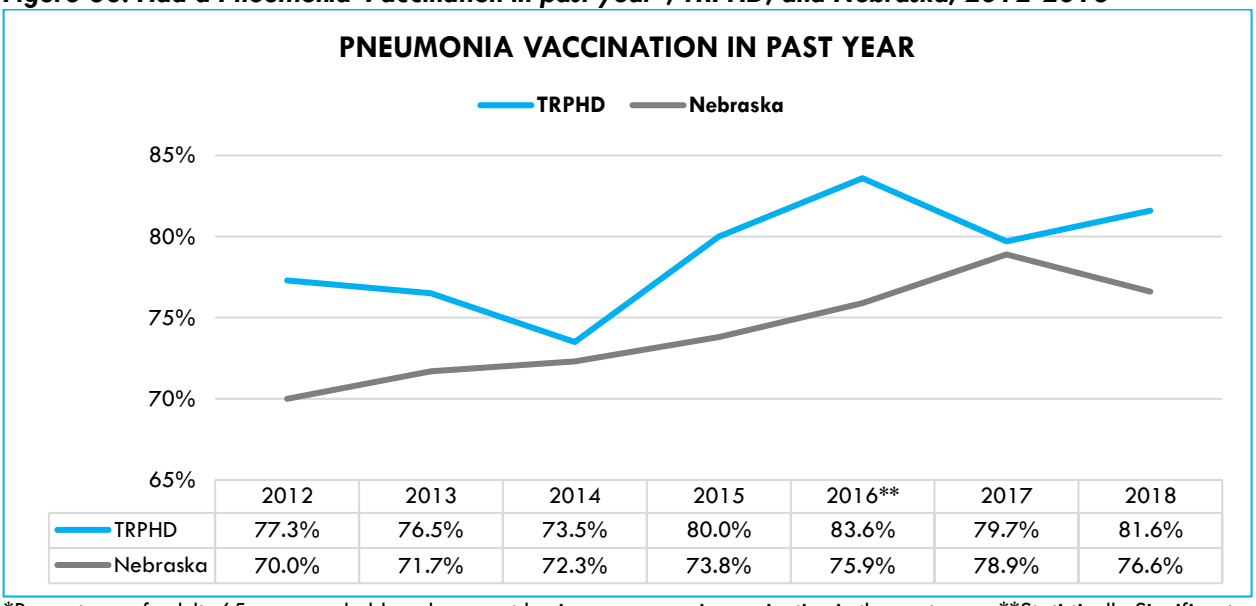
	2012	2013	2014	2015	2016	2017	2018
TRPHD	58.8%	69.5%	69.4%	71.2%	64.1%	69.1%	62.5%
Nebraska	62.9%	66.2%	64.7%	65.2%	62.7%	65.5%	57.9%

*Percentage of adults 65 years and older who report having a flu vaccination in the past year. Source: Behavioral Risk Factor Surveillance System (BRFSS). November 2019

Pneumonia Vaccination

The pneumonia vaccine is recommended for all adults 65 years or older (Centers for Disease Control and Prevention, 2019b). In 2018, 81.6% of TRPHD adults aged 65 or older received a pneumonia vaccination, 5% higher than the Nebraska 65 or older population (76.6%). TRPHD had a higher percentage than Nebraska since 2012. In 2016, the percentage of adults in TRPHD who received a pneumonia vaccine was significantly higher than the percentage of Nebraskans (83.6% vs. 75.9%, respectively). **Figure 83.**

Figure 83: Had a Pneumonia Vaccination in past year*, TRPHD, and Nebraska, 2012-2018



	2012	2013	2014	2015	2016**	2017	2018
TRPHD	77.3%	76.5%	73.5%	80.0%	83.6%	79.7%	81.6%
Nebraska	70.0%	71.7%	72.3%	73.8%	75.9%	78.9%	76.6%

*Percentage of adults 65 years and older who report having a pneumonia vaccination in the past year. **Statistically Significant Difference. Source: Behavioral Risk Factor Surveillance System (BRFSS). November 2019

Childhood Vaccinations

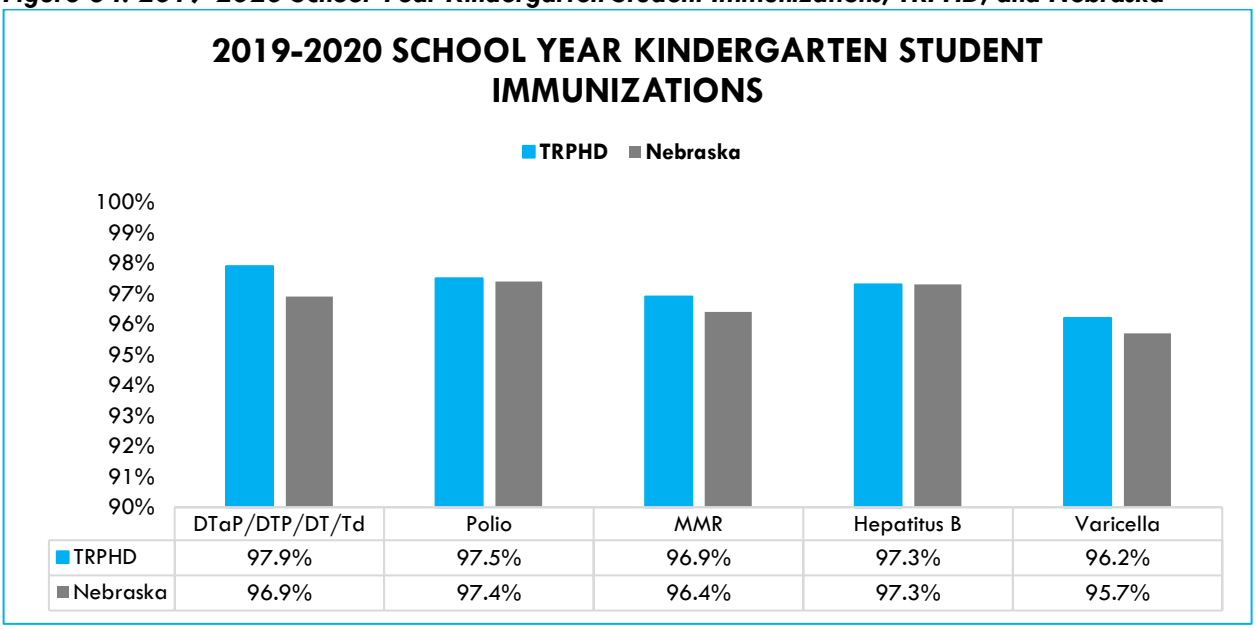
Vaccinations are important in childhood to increase immunity to potentially life-threatening diseases: Chickenpox, Diphtheria, Flu, Hepatitis A, Hepatitis B, Hib, HPV, Measles, Meningococcal meningitis, Mumps, Polio, Pneumococcal meningitis, Rotavirus, Rubella, Tetanus, and Whooping Cough. Several vaccinations occur in early childhood and continue as children become teens[16]. (Centers for Disease Control and Prevention, 2019c)

Kindergarten Vaccination

Nebraska requires vaccinations for children entering the school systems in Kindergarten including DTaP, DTP, DT, or Td vaccine; Polio vaccine; Hepatitis B; MMR or MMRV; and Varicella. Exemptions for vaccines can only be for medical, religious, or provision or military reasons.

For the 2019-2020 school year, over 95% of TRPHD Kindergarteners received all vaccinations, comparable the state of Nebraska (over 95%). **Figure 84.**

Figure 84: 2019-2020 School Year Kindergarten Student Immunizations, TRPHD, and Nebraska



	DTaP/DTP/DT/Td	Polio	MMR	Hepatitus B	Varicella
TRPHD	97.9%	97.5%	96.9%	97.3%	96.2%
Nebraska	96.9%	97.4%	96.4%	97.3%	95.7%

Source: Two Rivers Public Health Department, March 2020

The TRPHD has over 95% of Kindergarten students with all required vaccinations, except for Franklin, Gosper, and Harlan counties. **Table 29.**

[16] Centers for Disease and Control Vaccine Schedule https://www.cdc.gov/vaccines/parents/schedules/index.html

Table 29: 2019-2020 Kindergarten School Year Student Immunizations; County, TRPHD, and Nebraska

	DTaP/DTP/DT/Td	Polio	MMR	Hepatitis B	Varicella
Buffalo	98.3%	98.1%	96.6%	97.5%	96.3%
Dawson	98.5%	98.0%	98.7%	99.2%	98.2%
Franklin	95.8%	95.8%	95.8%	83.3%	87.5%
Gosper	94.1%	94.1%	94.1%	94.1%	94.1%
Harlan	96.0%	96.0%	96.0%	92.0%	92.0%
Kearney	95.5%	95.5%	95.5%	95.5%	94.3%
Phelps	96.5%	95.6%	94.7%	95.6%	93.9%
TRPHD	**97.9%**	**97.5%**	**96.9%**	**97.3%**	**96.2%**
Nebraska	96.9%	97.4%	96.4%	97.3%	95.7%

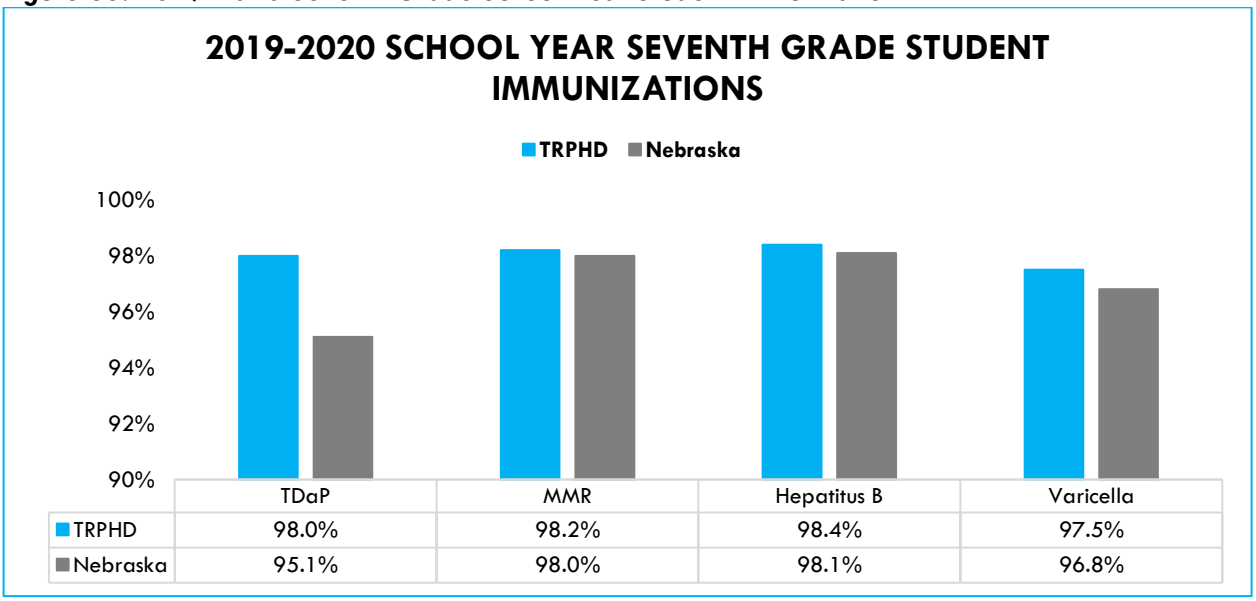
Source: Two Rivers Public Health Department, March 2020

Seventh Grade Vaccinations

Seventh-grade students in Nebraska are required to be up to date on all vaccinations required for Kindergarten students, as well as TDaP booster vaccine.

For the 2019-2020 school year, over 97% of TRPHD students received all vaccinations. TRPHD Seventh graders had a higher percentage for all vaccinations than other Nebraska seventh grade students. **Figure 85.**

Figure 85: 2019-2020 Seventh Grade School Year Student Immunization



Source: Two Rivers Public Health Department, March 2020

Franklin County has the highest percentage of Seventh-grade students with up to date vaccinations, with 100% for TDaP, MMR, and Varicella. Gosper county has the lowest percentage of Seventh-grade students with up to date vaccinations; 76.9% for all vaccines. **Table 30.**

Table 30: 2019-2020 School Year Kindergarten Student Immunizations; County, TRPHD, and Nebraska

	DTaP	MMR	Hepatitis B	Varicella
Buffalo	98.7%	99.1%	99.4%	97.8%
Dawson	99.2%	99.5%	99.0%	99.0%
Franklin	100.0%	93.0%	100.0%	100.0%
Gosper	76.9%	76.9%	76.9%	76.9%
Harlan	87.0%	87.0%	87.0%	87.0%
Kearney	98.4%	99.2%	99.2%	98.4%
Phelps	94.0%	94.0%	94.0%	94.0%
TRPHD	**98.0%**	**98.2%**	**98.4%**	**97.5%**
Nebraska	95.1%	98.0%	98.1%	96.8%

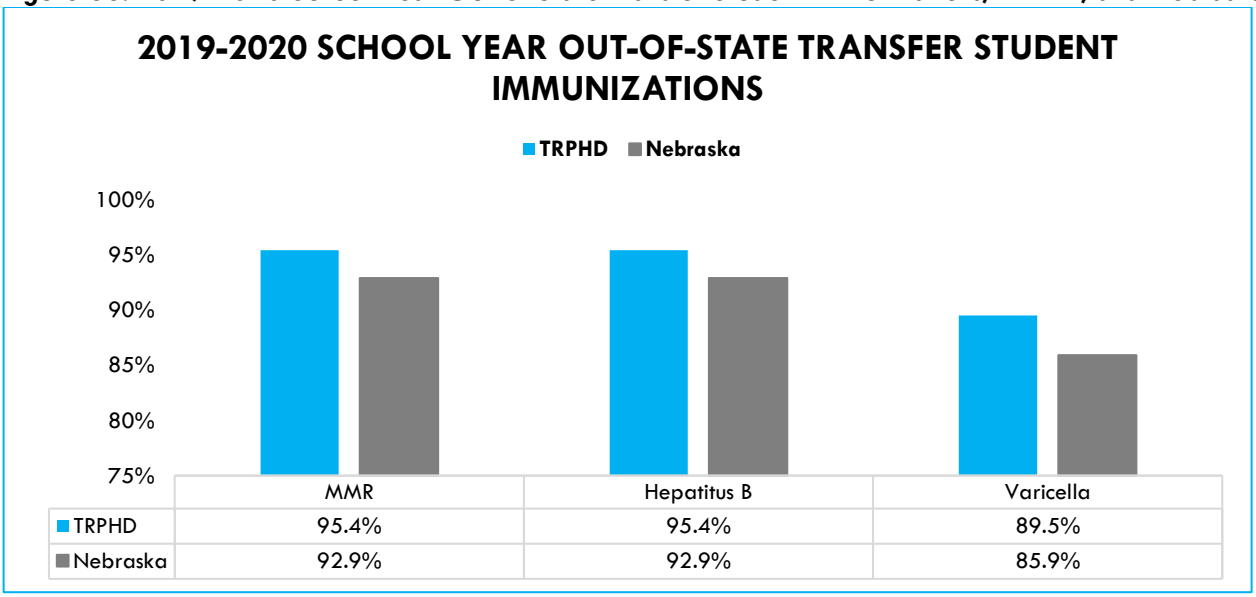
Source: Two Rivers Public Health Department, March 2020

Out-of-State Transfer Student Vaccinations

Students who transfer from out-of-state must be current with all immunizations required for the grade entered.

TRPHD Out-of-State Transfer Students were immunized at a higher percentage than Nebraska Out-of-State Transfers for all vaccination types. **Figure 86.**

Figure 86: 2019-2020 School Year Out-of-State Transfer Student Immunizations, TRPHD, and Nebraska



Source: Two Rivers Public Health Department, March 2020

Franklin, Gosper, and Kearney counties had 100% immunizations for all Out-of-State transfer students. **Table 31.**

Table 31: 2019-2020 School Year Out-of-State Transfer Student Immunizations; County, TRPHD, and Nebraska

	MMR	Hepatitis B	Varicella
Buffalo	93.3%	93.3%	96.2%
Dawson	96.6%	96.6%	84.9%
Franklin	100.0%	100.0%	100.0%
Gosper	100.0%	100.0%	100.0%
Harlan	100.0%	100.0%	62.5%
Kearney	100.0%	100.0%	62.5%
Phelps	92.9%	92.9%	92.9%
TRPHD	**95.4%**	**95.4%**	**89.5%**
Nebraska	92.9%	92.9%	85.9%

Source: Two Rivers Public Health Department, March 2020

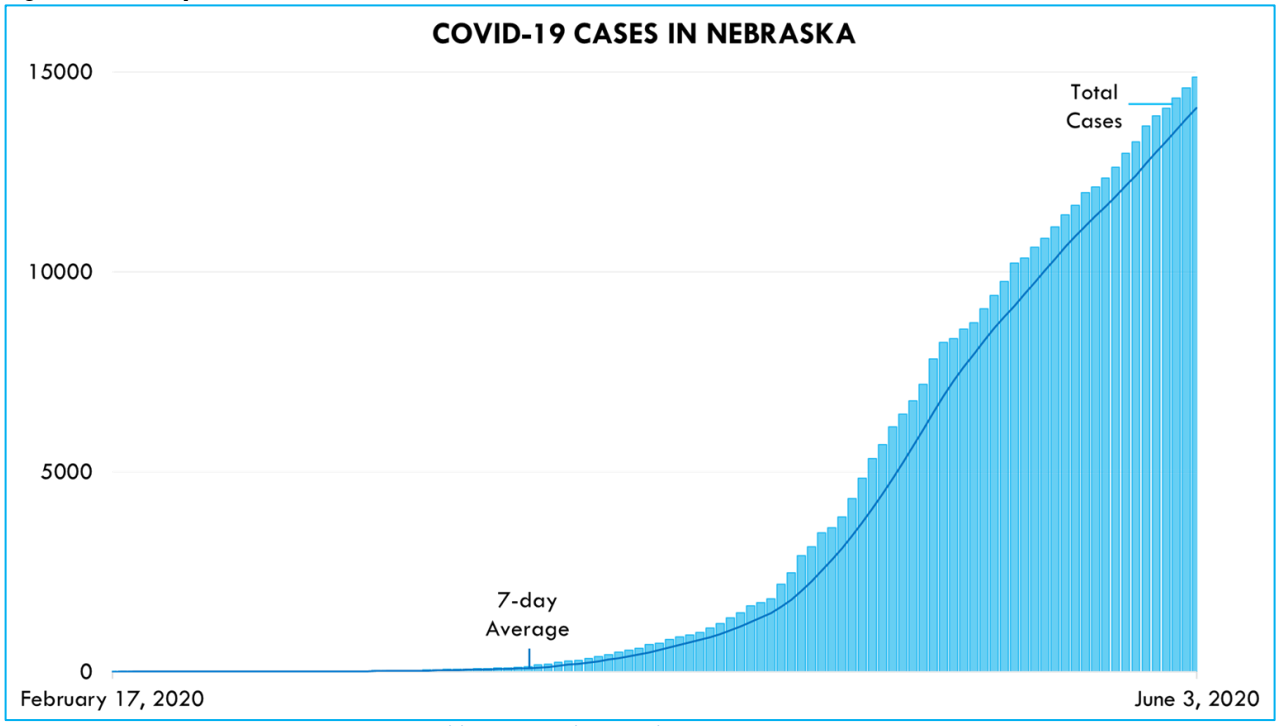
COVID-19

COVID-19 Cases

"A novel coronavirus is a new coronavirus that has not been previously identified." In late 2019, a new coronavirus was identified in China. The World Health Organization named it COVID-19 on February 11, 2020. COVID-19 spread quickly and overwhelmed medical centers. The first case was diagnosed in the United States on January 21, 2020, in the State of Washington. On March 11, 2020, the WHO declared COVID-19 a Pandemic. (Centers for Disease Control and Prevention, 2020)

The first reported COVID-19 case in Nebraska was diagnosed on February 17, 2020. As of June 3, 2020, Nebraska had reported 14,866 COVID-19 cases. **Figure 87**.

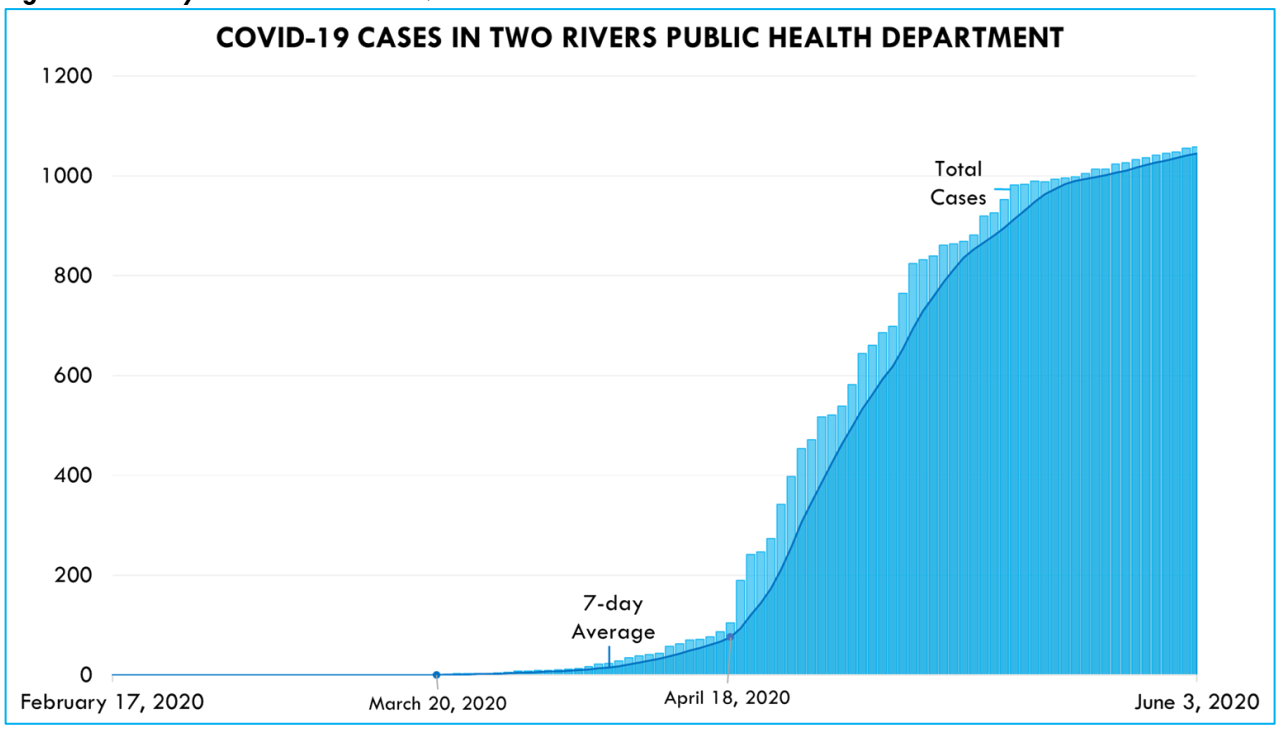
Figure 87: Daily Total of COVID-19 Cases in Nebraska



Source: New York Times (June 4, 2020), https://github.com/nytimes/covid-19-data

TRPHD had the first reported case of COVID-19 on March 20, 2020, in Buffalo County. As of June 3, 2020, there have been 1,058 cases of diagnosed COVID-19 in the TRPHD. **Figure 88**.

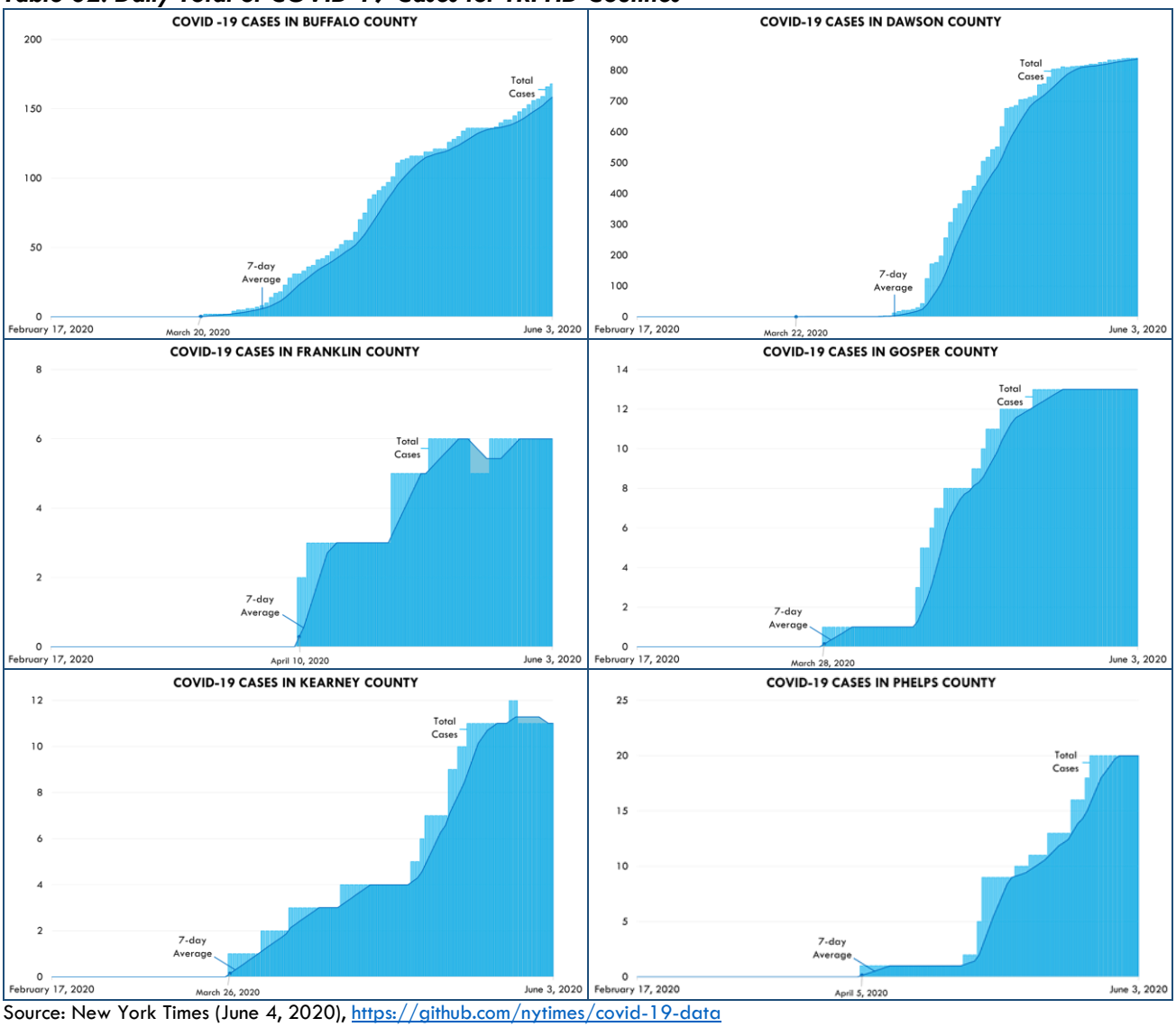
Figure 88: Daily Total of COVID-19 Cases in TRPHD



Source: New York Times (June 4, 2020), https://github.com/nytimes/covid-19-data

The first three cases of COVID-19 were in Buffalo County. The second county to report COVID-19 cases was Dawson County. Only Harlan County has no reported COVID-19 cases as of June 3, 2020. **Table 32.**

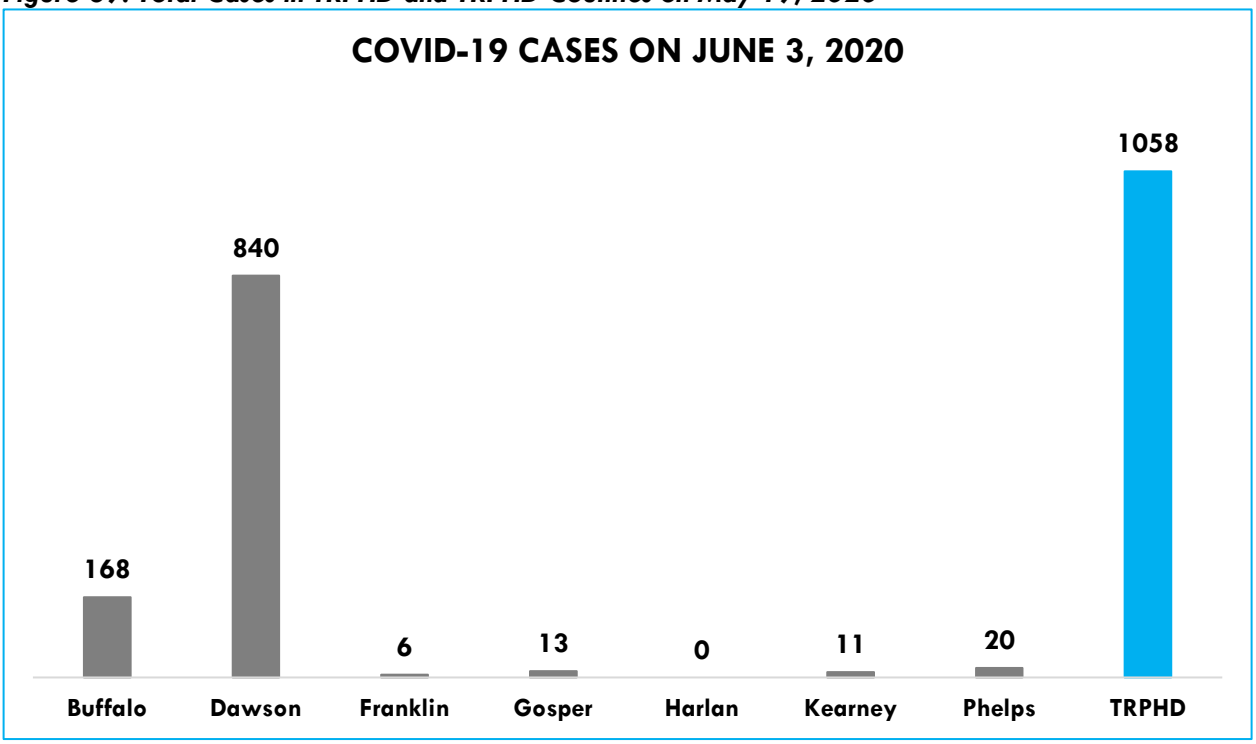
Table 32: Daily Total of COVID-19 Cases for TRPHD Counties



Source: New York Times (June 4, 2020), https://github.com/nytimes/covid-19-data

As of June 3, 2020, Dawson County had the highest number of COVID-19 cases followed by Buffalo County (840 vs. 168; respectively). Harlan County had no recorded cases. Franklin County had the lowest number of confirmed cases (6), followed by Kearney County (11). **Figure 89.**

Figure 89: Total Cases in TRPHD and TRPHD Counties on May 19, 2020

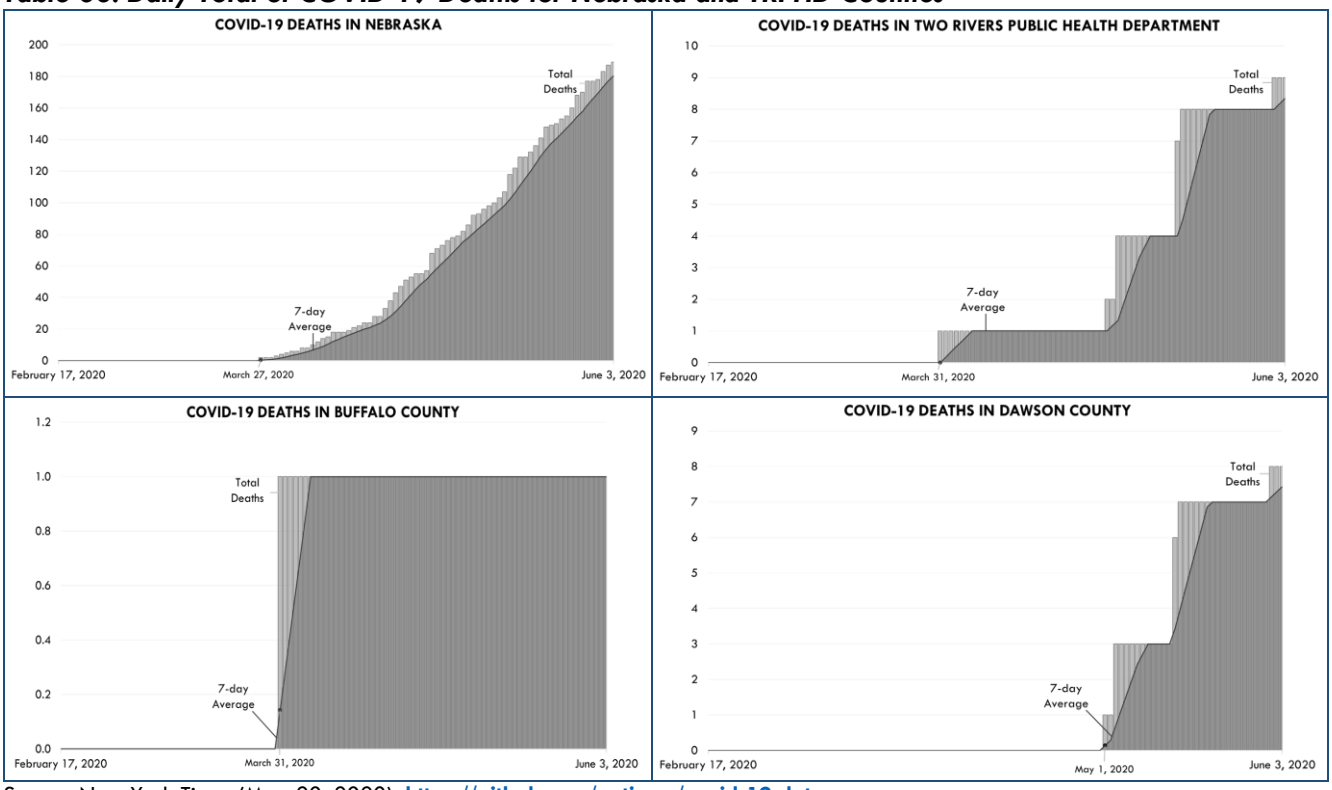


Source: New York Times (June 4, 2020), https://github.com/nytimes/covid-19-data

COVID-19 Deaths

As of June 3, 2020, Nebraska has reported 189 deaths caused by COVID-19. TRPHD has 9 reported COVID-19 related deaths. The first death occurred in Buffalo County on March 31, 2020; the second death occurred in Dawson County on May 1, 2020. **Table 33.**

Table 33: Daily Total of COVID-19 Deaths for Nebraska and TRPHD Counties



Source: New York Times (May 20, 2020), https://github.com/nytimes/covid-19-data

See **Appendix F** for additional figures for COVID-19 cases and deaths in Nebraska, TRPHD, and TRPHD counties.

Child Abuse and Neglect

Child Abuse and Neglect

The state of Nebraska has five different areas served by the Division of Children and Family Services. Two Rivers Public Health District has counties in the Western Service Area and the Central Service Area. Both Dawson and Gosper County are in the Western Service Area. The Central Service Area has five of the TRPHD counties: Buffalo, Phelps, Harlan, Kearney, and Franklin Counties.

Buffalo County reported the most abuse/neglect calls in 2019 (838) followed by Dawson County (415). TRPHD had a total of 1,623 abuse/neglect calls in 2018. **Table 34.**

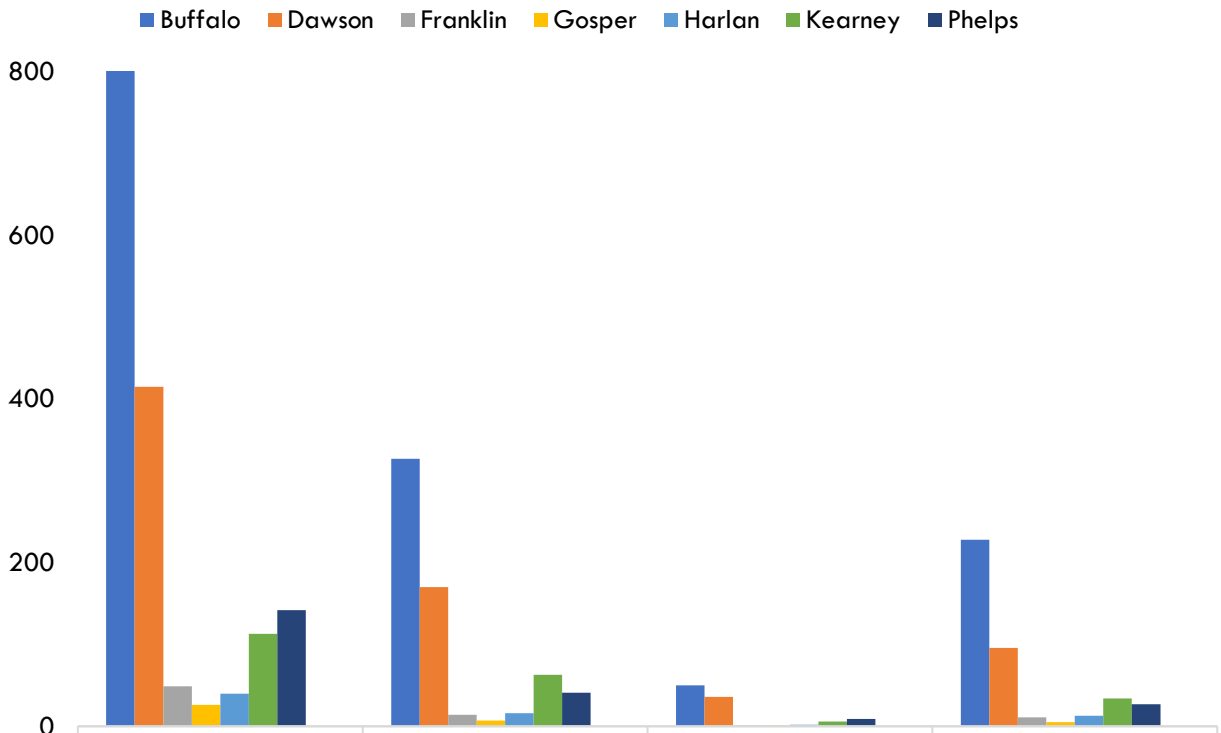
Table 34: 2018 Child Abuse and Neglect Reports by County and Service Areas in TRPHD

	Abuse/ Neglect Calls	Reports Assessed	Substantiated	Unfounded	Unable to Locate	Dependent Child	Alternative Response	DHHS Assessment in Process
Buffalo	838	39%	15%	70%	1%	5%	2%	0%
Dawson	415	41%	21%	56%	1%	5%	6%	0%
Franklin	49	29%	7%	79%	0%	0%	0%	0%
Gosper	26	27%	14%	71%	0%	0%	14%	0%
Harlan	40	40%	13%	81%	0%	0%	6%	0%
Kearney	113	43%	12%	69%	4%	0%	8%	0%
Phelps	142	29%	22%	66%	0%	0%	7%	0%
TRPHD	**1,623**	**39%**	**16%**	**65%**	**1%**	**4%**	**4%**	**0%**
Western Service Area	3,185	39%	15%	72%	2%	3%	6%	0.2%
Central Service Area	3,845	36%	13%	72%	2%	3%	6%	0.3%
Nebraska	36,480	33%	16%	68%	2%	2%	5%	1%

Source: Nebraska Department of Health and Human Services. 2018 Annual Child Abuse and Neglect Data.

Buffalo County had the highest number of abuse and neglect calls (838), reports assessed (327), substantiated reports (50), and unfounded reports (228). Dawson is the second-highest number of calls (415), reports assessed (170), substantiated reports (36), and unfounded reports (96). Gosper county has the lowest calls of the TRPHD counties: abuse/neglect calls (26), reports assessed (7), substantiated reports (1), and unfounded reports (5). **Figure 90.**

Figure 90: Child Abuse and Neglect Call Numbers and Outcomes by County in 2018

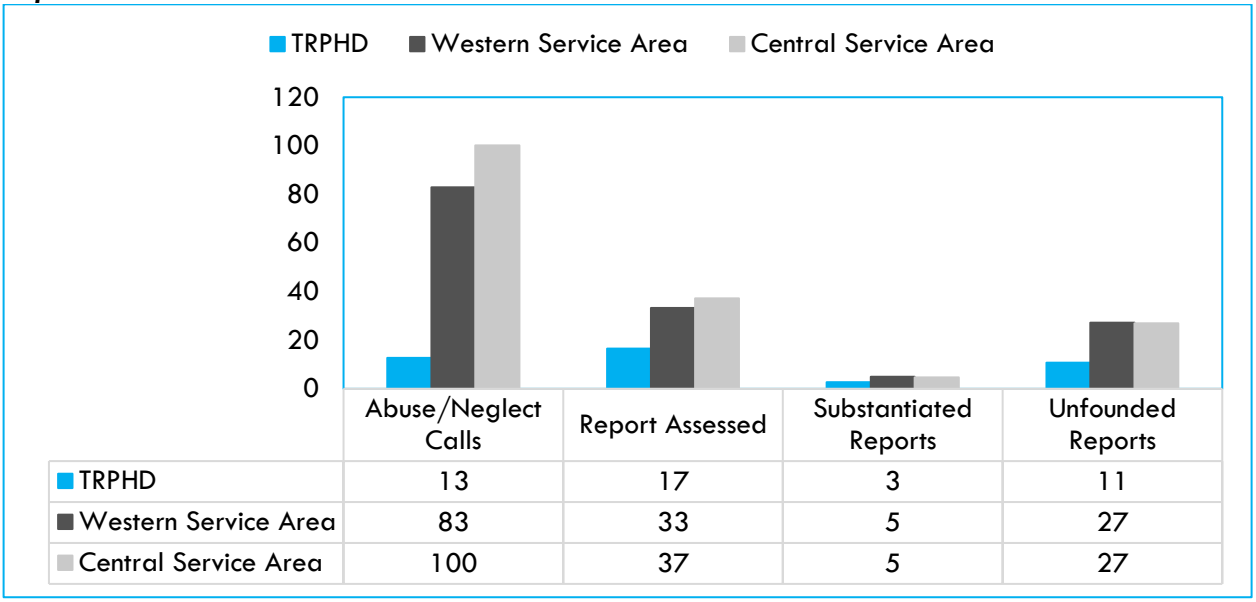


	Abuse/Neglect Calls	Report Assessed	Substantiated Reports	Unfounded Reports
Buffalo	838	327	50	228
Dawson	415	170	36	96
Franklin	49	14	1	11
Gosper	26	7	1	5
Harlan	40	16	2	13
Kearney	113	63	6	34
Phelps	142	41	9	27
TRPHD	1623	638	105	414

Source: Nebraska Department of Health and Human Services. 2018 Annual Child Abuse and Neglect Data.

The TRPHD has lower abuse neglect calls, reports assessed, substantiated reports, and unfounded reports when compared to the DHHS Western and Central Service Areas. **Figure 91**.

Figure 91: TRPHD and DHHS Service Areas 2018 Child Abuse and Neglect Call Rate per 1,000 Intake Reports



	Abuse/Neglect Calls	Report Assessed	Substantiated Reports	Unfounded Reports
TRPHD	13	17	3	11
Western Service Area	83	33	5	27
Central Service Area	100	37	5	27

Source: Nebraska Department of Health and Human Services. 2018 Annual Child Abuse and Neglect Data.

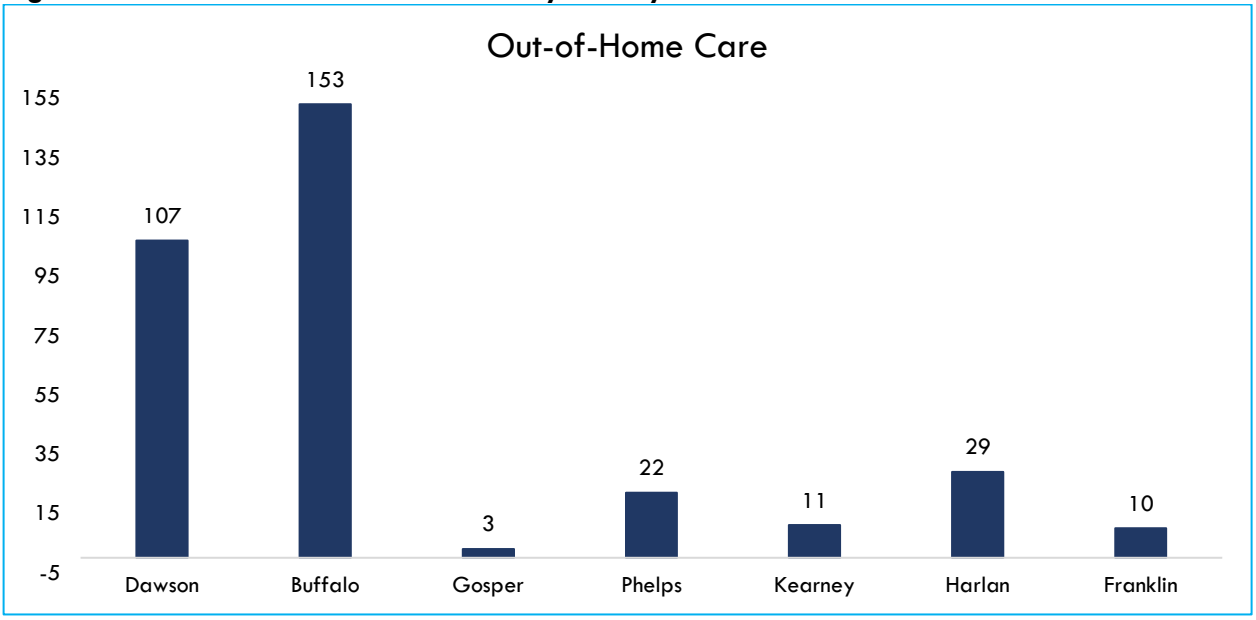
Out of Home Placement

The Nebraska Department of Health and Human Services define out-of-home care as "24-hour substitute care for children placed away from their parents or guardians and for whom the State agency has placement and care responsibility" and includes foster family homes, foster homes of relatives, group homes, emergency shelters, residential treatment facilities, child-care institutions, pre-adoptive homes, detention facilities, youth rehabilitation facilities, and runaways from any of those facility types.[17] The goal of out-of-home care is to make sure children leave in a better situation than when they entered.

In 2018, Buffalo County had the highest number of out-of-home care (153), followed by Dawson County (107). Gosper County had the lowest number of out-of-home care (3). **Figure 92**.

[17] State of Nebraska Foster Care Review Office: Annual Report 2017-2018

Figure 92: Out-of-Home Care Numbers by County in 2018



Source: Out of Home Placement Data, Division of Children and Family Services, Nebraska DHHS (March 2020)

TRPHD has seen a slight decline in out-of-home care from 2011 to 2018 (-0.1%). Kearney County had the greatest decline (-0.7%) in out-of-home care out of all the counties, followed by Phelps county (-0.4%). Only two counties experienced an increase in out-of-home care from 2011 to 2018: Harlan County (0.9%) and Franklin County (0.2%). **Table 35.**

Table 35: Out-of-Home Care by County in TRPHD from 2011 to 2018

County TRPHD	2011	2012	2013	2014	2015	2016	2017	2018	% Change 2011-2018
Buffalo	159	155	192	211	198	205	200	153	-0.1%
Dawson	116	107	91	70	70	117	148	107	-0.1%
Franklin	8	15	20	19	12	13	0	10	0.2%
Gosper	5	2	2	1	5	3	6	3	-0.4%
Harlan	15	10	11	10	9	12	25	29	0.9%
Kearney	33	33	35	33	20	18	16	11	-0.7%
Phelps	26	30	29	29	20	25	21	22	-0.4%
TRPHD	**362**	**352**	**380**	**373**	**334**	**393**	**416**	**335**	**-0.1%**

Source: Out of Home Placement Data, Division of Children and Family Services, Nebraska DHHS (March 2020)

Sexually Transmitted Diseases

Sexually transmitted diseases (STDs) remain a major public health challenge in the United States. Although progress has been made in preventing, diagnosing, and treating some STDs, the CDC estimates that nearly 20 million new infections occur each year in the United States, with half of these infections occurring among young people aged 15-24.

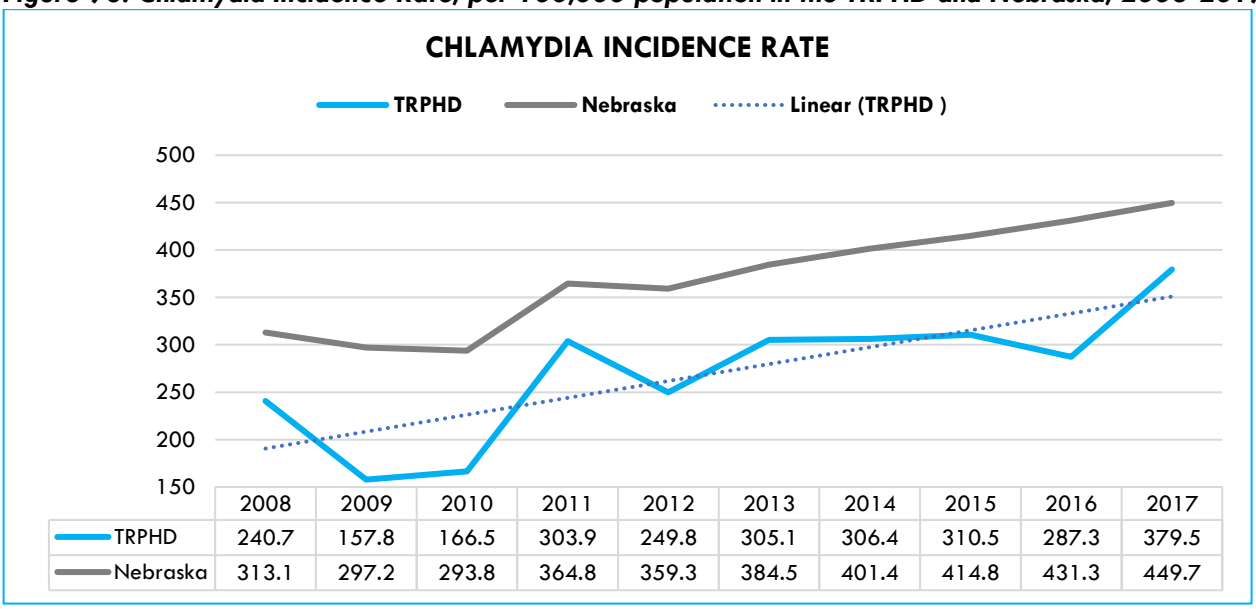
STDs are also the cause of many harmful and often irreversible complications, such as reproductive health problems and fetal and perinatal health problems. Studies also suggest that people with gonorrhea, chlamydia, and syphilis are at increased risk for HIV. In addition to the physical and psychological consequences of STDs, they account for $16 billion annually in U.S. healthcare costs.

There was a total of 447 new STD cases diagnosed in the TRPHD in 2017[18]. STD rates in the TRPHD have increased in recent years but remain lower than comparable statewide rates.

Chlamydia is the most common STD in the TRPHD, accounting for 4 out of 5 reported STD cases in the health district in 2017 (83.2%).

The incidence rate for chlamydia in the TRPHD has been on a general incline from 2008 to 2017 (from 240.7 to 379.5 new cases per 100,000 population, respectively). The TRPHD rate (379.5) was lower than the state rate (449.7) in 2017. **Figure 93.**

Figure 93: Chlamydia Incidence Rate, per 100,000 population in the TRPHD and Nebraska, 2008-2017



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
TRPHD	240.7	157.8	166.5	303.9	249.8	305.1	306.4	310.5	287.3	379.5
Nebraska	313.1	297.2	293.8	364.8	359.3	384.5	401.4	414.8	431.3	449.7

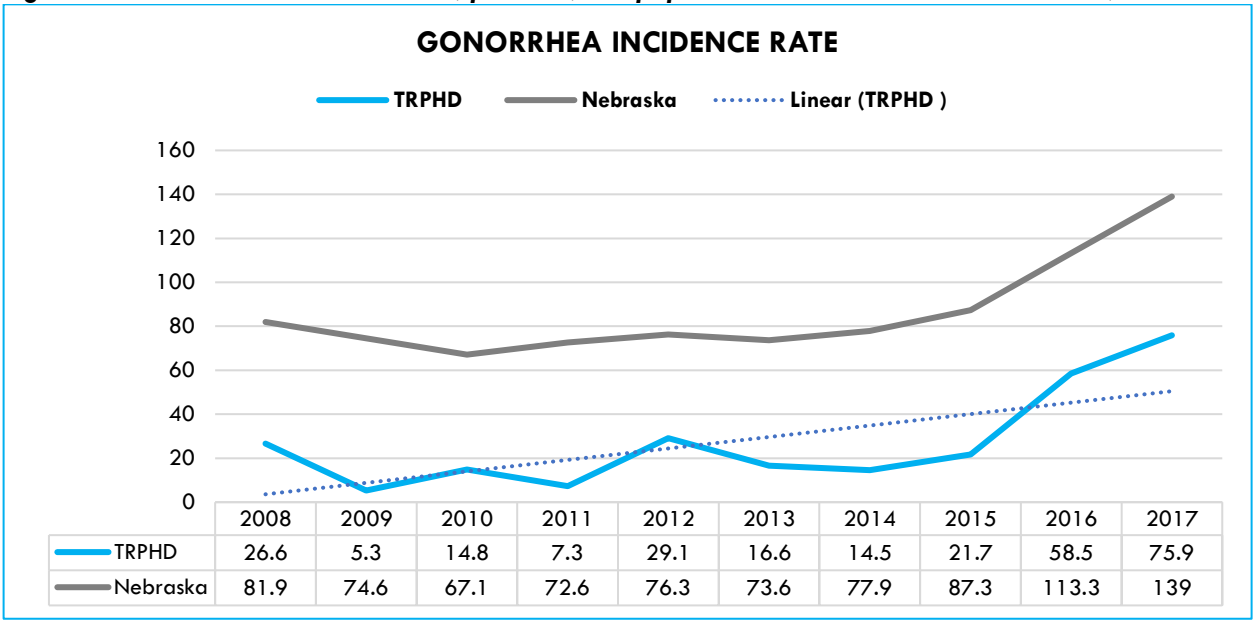
Source: Division of Public Health, Nebraska Department of Health and Human Services, March 2020

[18] Syphilis is not reported due to small sample size.

Gonorrhea is the second most common STD in the TRPHD, accounting for 15.9 percent of STD cases in 2017.

Incidence of gonorrhea also increased from 26.6 per 100,000 population in 2008, to 75.9 new cases per 100,000 population in 2017 a 185 percent increase. **Table 94**.

Figure 94: Gonorrhea Incidence Rate, per 100,000 population in the TRPHD and Nebraska, 2008-2017



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
TRPHD	26.6	5.3	14.8	7.3	29.1	16.6	14.5	21.7	58.5	75.9
Nebraska	81.9	74.6	67.1	72.6	76.3	73.6	77.9	87.3	113.3	139

Source: Division of Public Health, Nebraska Department of Health and Human Services, March 2020

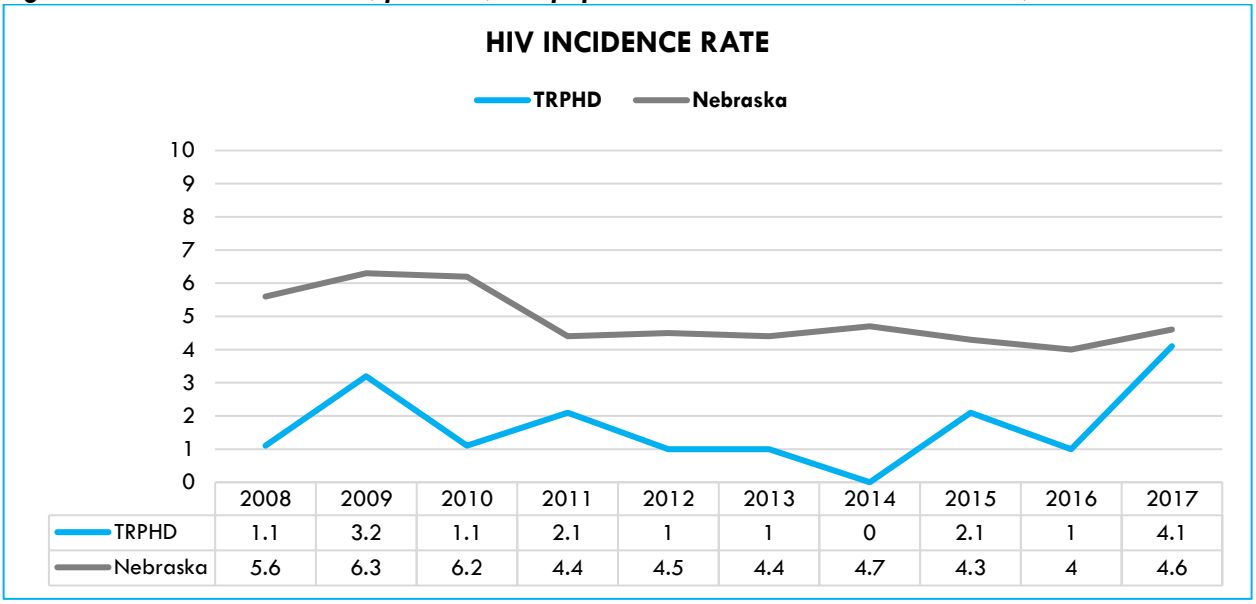
HIV/AIDS

AIDS (acquired immunodeficiency syndrome) is a chronic, life-threatening condition caused by the human immunodeficiency virus (HIV). By damaging or destroying the cells of a person's immune system, HIV interferes with the body's ability to effectively fight off bacteria, viruses, and fungi that cause disease. This makes the person more susceptible to opportunistic infections that the body would normally be able to resist. (Nebraska DHHS, 2016).

HIV accounted for four new cases of STDs in TRPHD (1%).

The incidence of HIV increased from 1.1 new cases per 100,000 population in 2008, to 4.1 new cases per 100,000 in 2017 a 273 percent increase. **Figure 95**.

Figure 95: HIV Incidence Rate, per 100,000 population in the TRPHD and Nebraska, 2008-2017



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
TRPHD	1.1	3.2	1.1	2.1	1	1	0	2.1	1	4.1
Nebraska	5.6	6.3	6.2	4.4	4.5	4.4	4.7	4.3	4	4.6

Source: Division of Public Health, Nebraska Department of Health and Human Services, March 2020

Oral Health

Oral health is essential to overall health, yet unfortunately, millions of Americans experience dental cavities and periodontal disease, and many have lost all their teeth. Early tooth loss caused by dental decay in children can result in failure to thrive, impaired speech development, absence from or an inability to perform well in school, and reduced self-esteem.

Untreated dental decay in older persons can lead to pain, abscesses, and loss of teeth. Periodontal disease is the leading cause of bleeding, pain, infection, and tooth loss. It is also a chronic inflammatory disease linked to other serious health risks, such as diabetes, cardiovascular disease, and preterm/low-weight births.

Dental disease is one of the most preventable health problems. Proper dental hygiene and good eating habits, along with regular professional dental care, decrease the risk of developing cavities and periodontal disease. Water fluoridation has helped improve oral health over the past 50 years in America. (Nebraska DHHS, 2016).

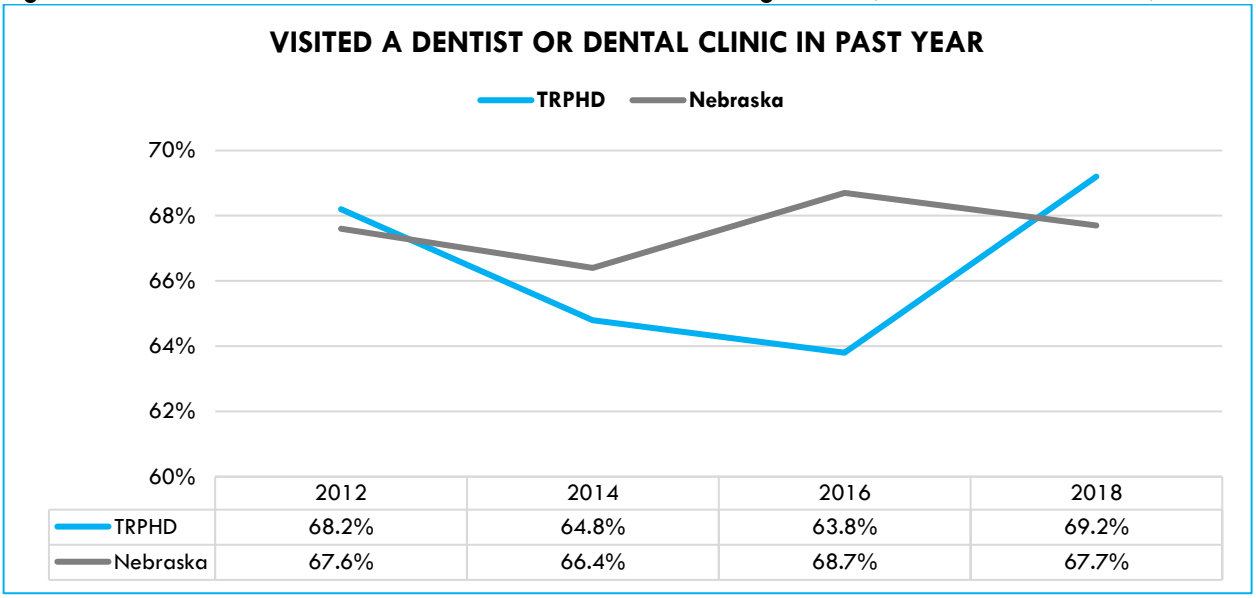
Dental Visits

Dental Visits among Adults

According to the 2018 BRFSS, over two-thirds of TRPHD adults (69.2%) reported that they visited a dentist or dental clinic for any reason during the past year; indicating that almost one-third did not receive any dental care services in the past year.

The percentage receiving dental care declined in 2014 and 2016 but increased in 2018 in TRPHD. (Figure 124). The TRPHD showed a higher percentage of adults who received past year dental services when compared to Nebraska adults (69.2% and 67.7%, respectively, in 2018).

Figure 96: Visited a Dentist or Dental Clinic in Past Year among Adults, TRPHD and Nebraska, 2012-2018*



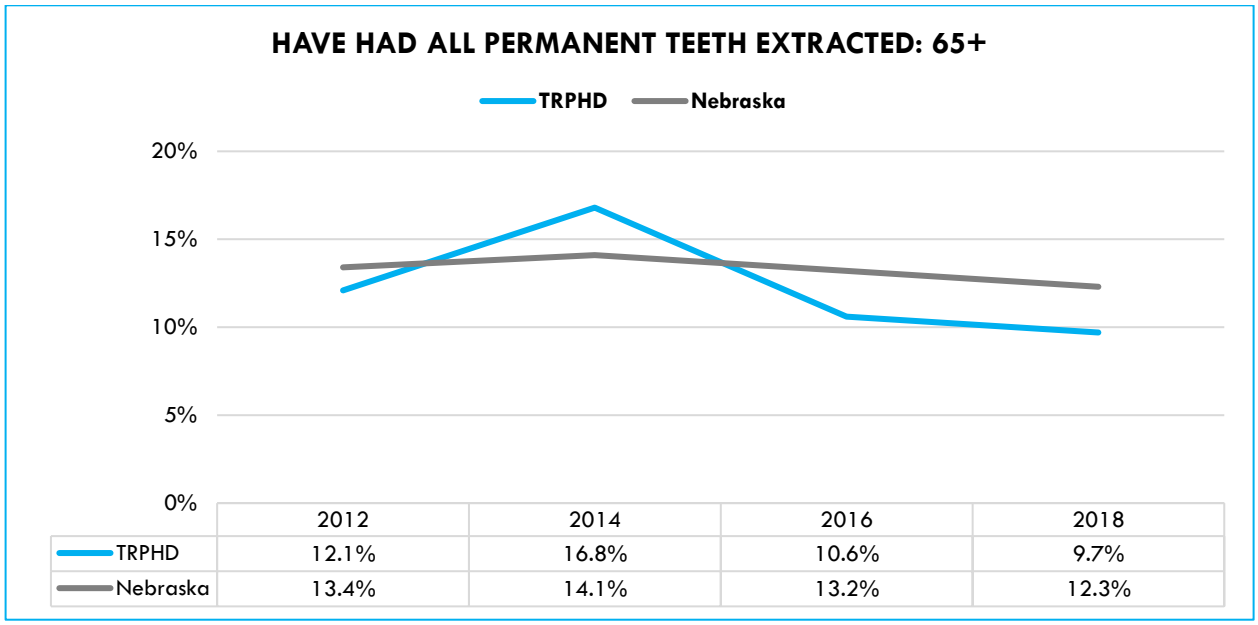
	2012	2014	2016	2018
TRPHD	68.2%	64.8%	63.8%	69.2%
Nebraska	67.6%	66.4%	68.7%	67.7%

*Percentage of adults 18 and older who report that they visited a dentist or dental clinic for any reason within the past year. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Loss of Permanent Teeth

In 2018, 1 in 10 TRPHD adults 65 and older (9.7%) had all their permanent teeth extracted due to tooth decay or gum disease. This percentage is the lowest when compared to 2012 (12.1%), 2014 (16.8%), and 2016 (10.6%). Statewide, adults reported a higher percentage in 2018 when compared to the TRPHD (12.3% and 9.7%, respectively). **Figure 97**.

Figure 97: Have had All Permanent Teeth Extracted among Adults 65 and Older*, TRPHD and Nebraska, 2012-2018

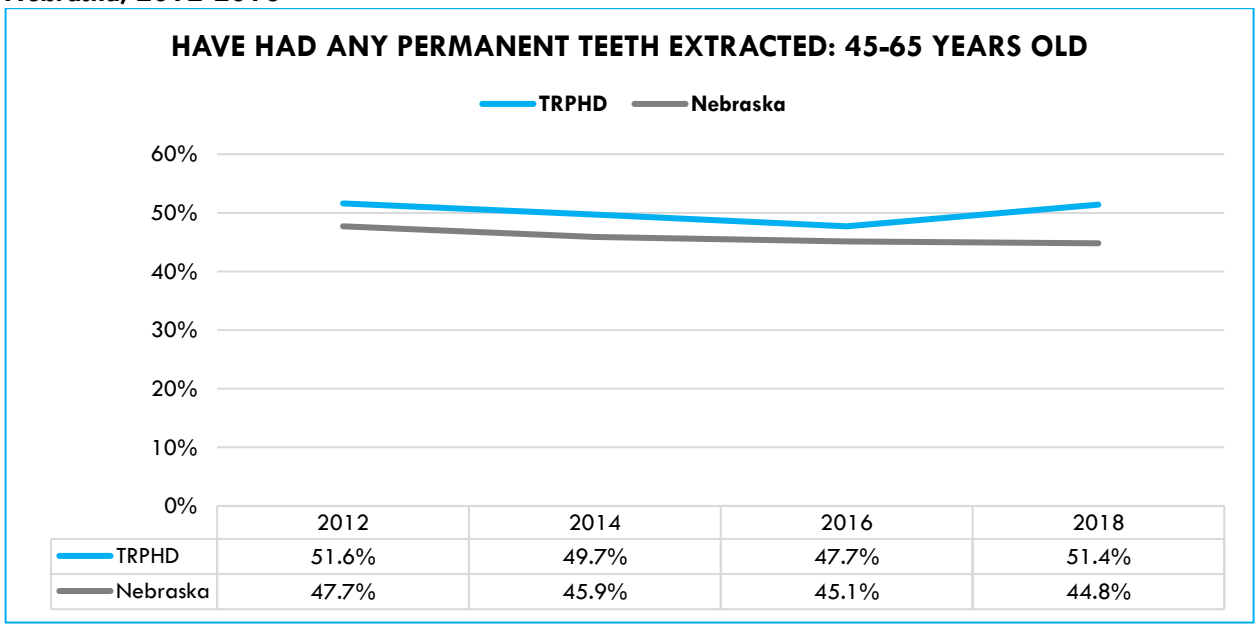


	2012	2014	2016	2018
TRPHD	12.1%	16.8%	10.6%	9.7%
Nebraska	13.4%	14.1%	13.2%	12.3%

*Percentage of adults 65 and older who report that they have had all their permanent teeth extracted because of tooth decay or gum disease, including teeth lost to infection, but not lost for other reasons, such an injury or orthodontics. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

The percentage of Nebraska adults 45-64 years of age reporting that they had any permanent teeth extracted due to tooth decay or gum disease increased between 2016 (47.7%) and 2018 (51.4%), and it has remained stable since 2012 (51.6%). **Figure 98.**

Figure 98: Have had any Permanent Teeth Extracted among Adults 45-64 Years Old*, TRPHD and Nebraska, 2012-2018



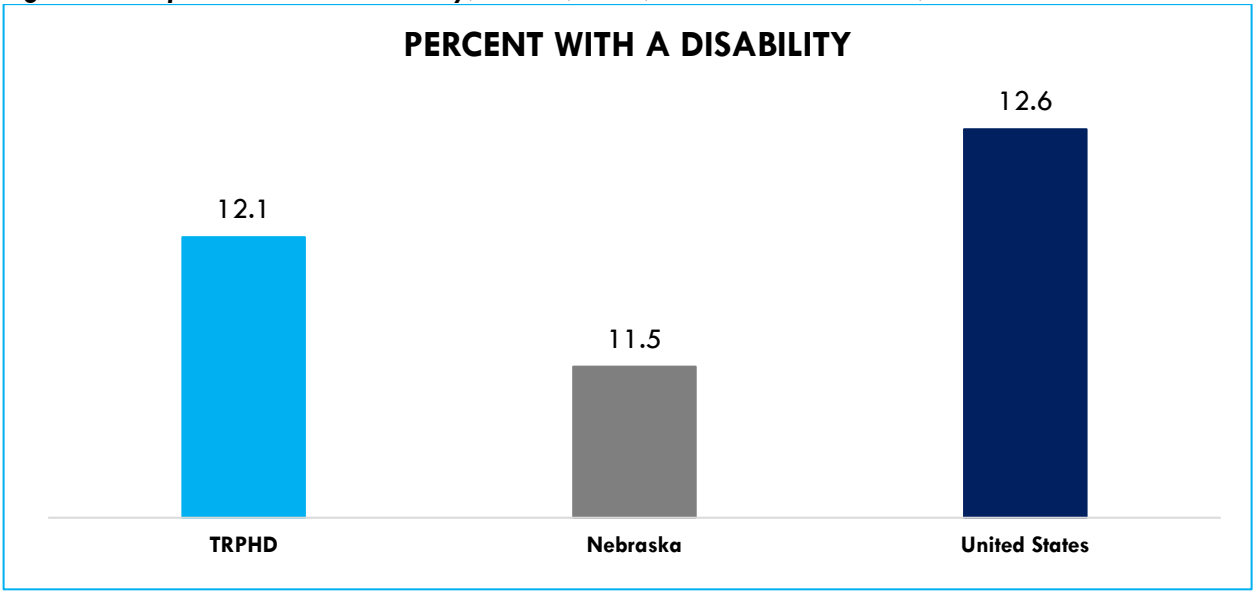
	2012	2014	2016	2018
TRPHD	51.6%	49.7%	47.7%	51.4%
Nebraska	47.7%	45.9%	45.1%	44.8%

*Percentage of adults 45-64 years who report that they have had any of their permanent teeth extracted because of tooth decay or gum disease, including teeth lost to infection, but not lost for other reasons, such an injury or orthodontics. Source: Nebraska Behavioral Risk Factor Surveillance System (BRFSS); November 2019

Disability

According to the American Community Survey (ACS, 5-year estimates, 2014-2018), 12.1 percent of the TRPHD population was affected by a disability (i.e., hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, or independent living difficulty). The prevalence of disabilities among the TRPHD population was 0.6 percentage points higher than the State (11.5%), and 0.5 percentage points lower when compared to the United States (12.6%). **Figure 99**.

Figure 99: Population with a Disability, TRPHD, State, and the United States, ACS 2014-2018



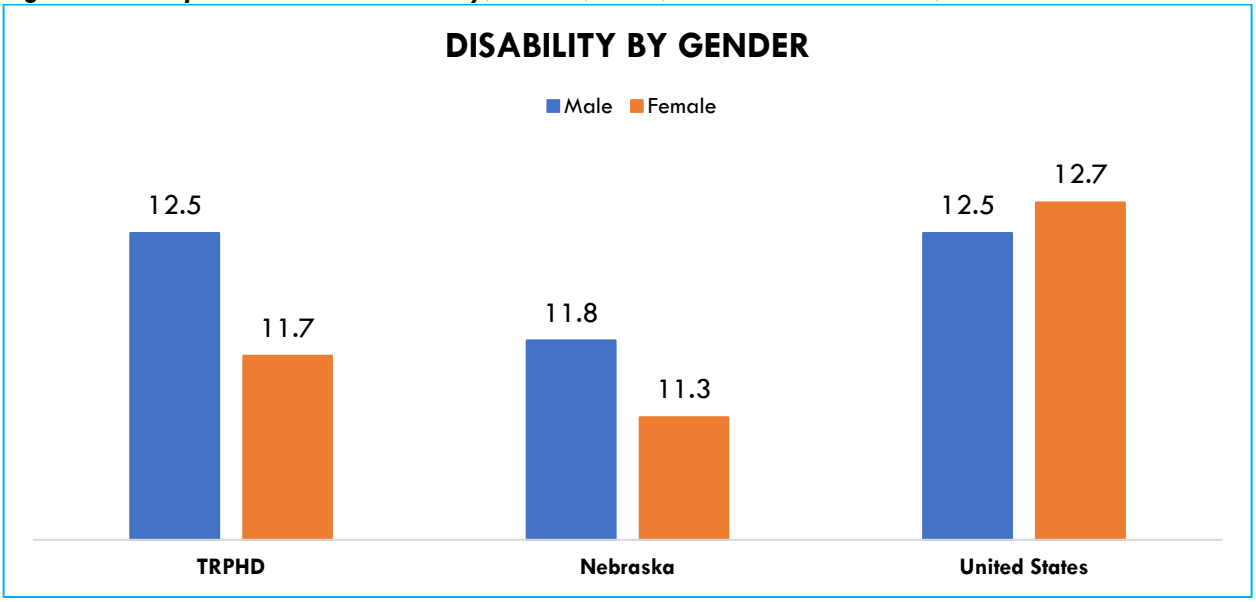
Source: American Community Survey (ACS, 2014-2018. Table S1810).

Disabilities by gender, age, and race/ethnicity

GENDER - Disability

Males were 1.1 times more likely than females to have a disability in the TRPHD (12.5% vs. 11.7%, respectively). **Figure 100**.

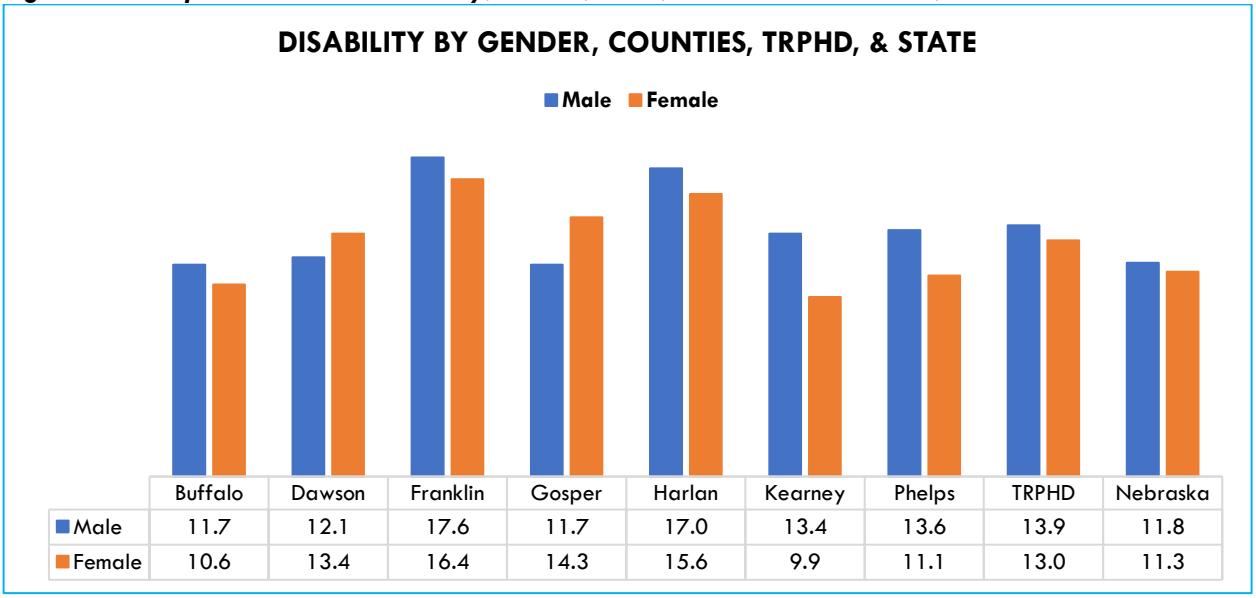
Figure 100: Population with a Disability, TRPHD, State, and the United States, ACS 2014-2018



Source: American Community Survey (ACS, 2014-2018. Table S1810).

Franklin County had the highest prevalence of disabilities within the male TRPHD population (17.6%), followed by Harlan County (17.0%). Franklin County showed the highest prevalence of disabilities among women in the TRPHD (16.4%), followed by Harlan County (15.6%). **Figure 101.**

Figure 101: Population with a Disability, TRPHD, State, and the United States, ACS 2014-2018



	Buffalo	Dawson	Franklin	Gosper	Harlan	Kearney	Phelps	TRPHD	Nebraska
Male	11.7	12.1	17.6	11.7	17.0	13.4	13.6	13.9	11.8
Female	10.6	13.4	16.4	14.3	15.6	9.9	11.1	13.0	11.3

Source: American Community Survey (ACS, 2014-2018. Table S1810).

AGE – Disability

Disability prevalence rates in the TRPHD were higher among the 5 to 17 years of age group, 35 to 64 years of age group, 65 to 74 years of age group, and 75 years of

age and over group when compared to the State. **Figure 102. Table 36** shows the prevalence rate in detail by age group, and by geographic location (county, TRPHD, and the United States).

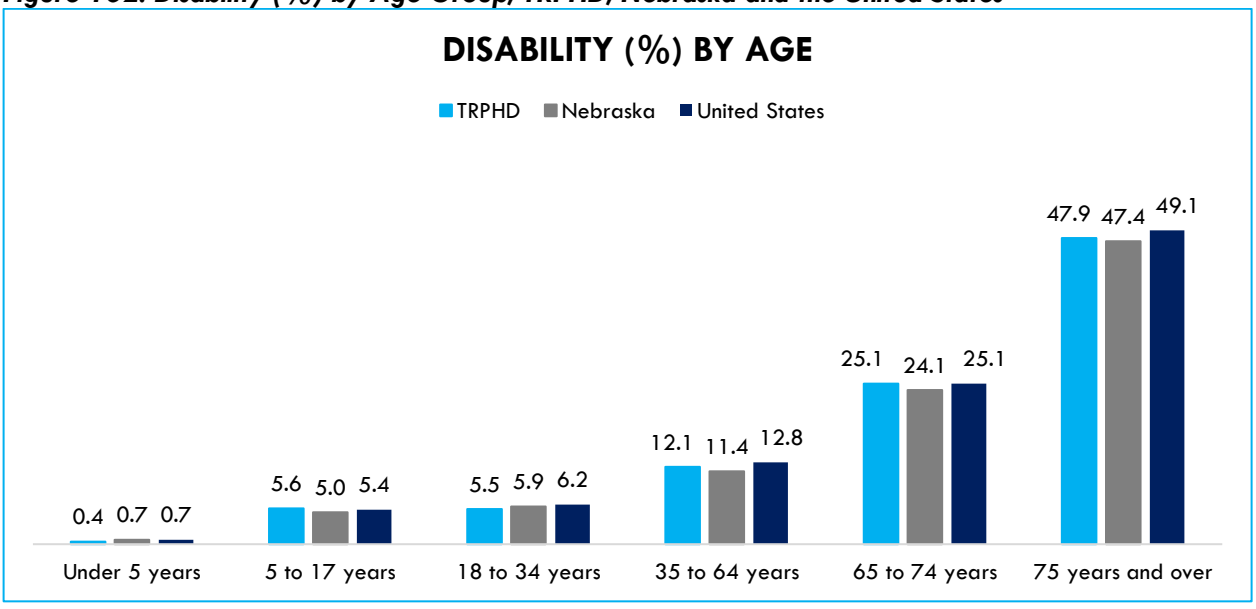
Phelps County showed the highest percentage of people with disabilities in the 65 to 74 years of age group (34.0%), followed by Harlan County (27.9%). Dawson County showed the highest percentage of people with disabilities in the 75 years of and over group (51.9%), followed by Franklin County (49.6%). **Table 36.**

Table 36: Disability (%) by Age Group, County, TRPHD, and the United States.

	Under 5 years	5 to 17 years	18 to 34 years	35 to 64 years	65 to 74 years	75 years and over
Buffalo	0.2	7.2	5.4	11.8	23.2	46.3
Dawson	0.9	3.9	5.7	13.8	27.8	51.9
Franklin	0	5.4	5.3	14.8	27.0	49.6
Gosper	0	1.8	7.1	9.8	23.3	42.9
Harlan	0	9.7	4.3	13.8	27.9	47.5
Kearney	0	3.8	8.1	9.4	16.1	49.2
Phelps	0.9	1.7	4.0	10.6	34.0	45.6
TRPHD	**0.4**	**5.6**	**5.5**	**12.1**	**25.1**	**47.9**
Nebraska	0.7	5.0	5.9	11.4	24.1	47.4
United States	0.7	5.4	6.2	12.8	25.1	49.1

Source: American Community Survey (ACS, 2014-2018. Table S1810).

Figure 102: Disability (%) by Age Group, TRPHD, Nebraska and the United States

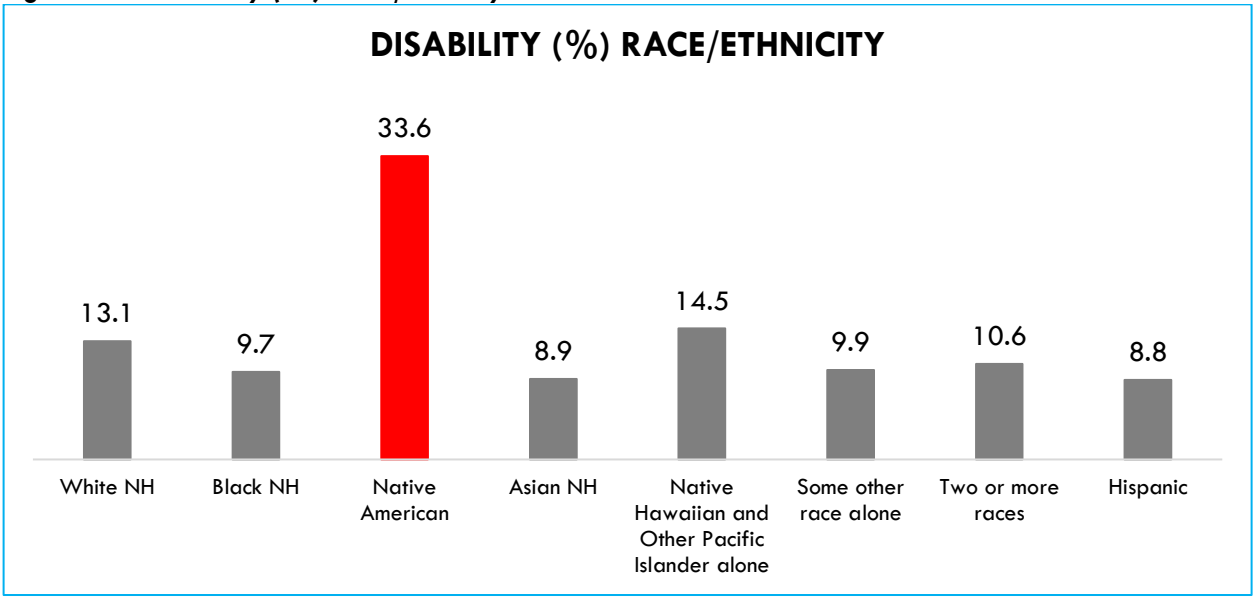


Source: American Community Survey (ACS, 2014-2018. Table S1810).

RACE/ETHNICITY – Disability

Native Americans showed the highest percentage of people with disabilities among all race/ethnicities in the TRPHD (33.6%), followed by Native Hawaiian and Other Pacific Islander alone (14.5%). **Figure 103.**

Figure 103: Disability (%) Race/Ethnicity in the TRPHD

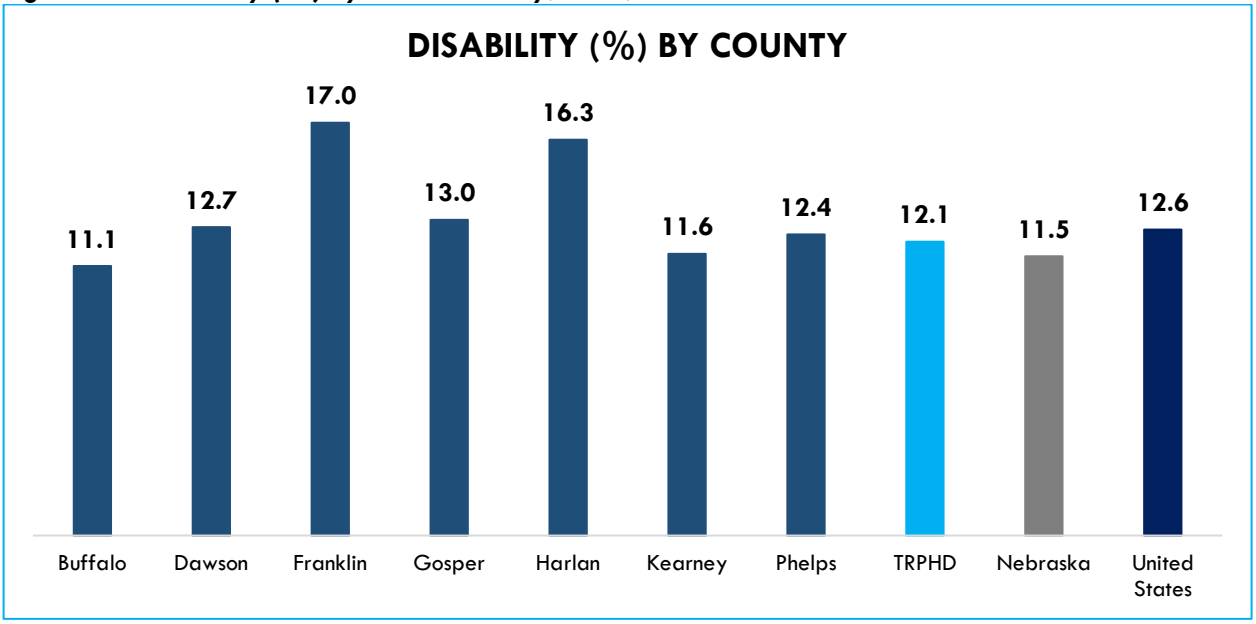


Source: American Community Survey (ACS, 2014-2018. Table S1810).

Disability by TRPHD counties

Overall, Franklin County showed the highest disability prevalence among all counties in the TRPHD (17.0%), followed by Harlan County (16.3%). **Figure 104.**

Figure 104: Disability (%) by TRPHD County, State, and the United States



Source: American Community Survey (ACS, 2014-2018. Table S1810).

Key Findings by County

The following tables (Tables 37-) present indicators of community health needs for TRPHD Counties: Buffalo County, Dawson County, Franklin County, Gosper County, Harlan County, Kearney County, and Phelps County. The indicators included are from the text of the full report. The indicators listed as "key findings" were selected based comparison to TRPHD-level data. The indicators are presented in the order they appear in the full report by county.

Buffalo County

Table 37: Buffalo County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Poverty**	• In 2018, 14.1% of the Buffalo County population had an income below the poverty level (TRPHD comparison: 12.8%; State comparison: 11.6%). • The poverty percentage increased 0.6% from 2012 to 2018 (TRPHD comparison: 0.5%; State comparison: -0.8%).
➢ **Severe Housing Problems**	• In 2016, Buffalo County was the TRPHD county with the highest percentage (24.7%) of households with severe housing problems (TRPHD comparison: 17.7%; State comparison: 12.8%).
➢ **Unemployment**	• In December 2019, Buffalo County had a lower unemployment rate (2.1%) than the TRPHD rate (2.3%) (State comparison: 2.7%).
➢ **Deaths**	• In 2016, Buffalo County had the lowest death rate (7.0 deaths per 1,000 population) of all TRPHD counties (TRPHD comparison: 8.6 deaths per 1,000 population; State comparison: 8.5 deaths per 1,000 population).
➢ **Life Expectancy**	• In 2014, Buffalo County had the highest life expectancy (80.3) of all TRPHD counties (TRPHD comparison: 79.7; Nebraska comparison: 79.6).
➢ **Shortages of Specialty Care**	• Buffalo County reported a shortage of specialty care professionals in the following specialty areas: ○ Family Practice ○ Psychiatry and Mental Health ○ General Internal Medicine ○ General Surgery ○ Primary Care • General Dentistry was the only specialty with no reported shortage in Buffalo County.
➢ **Heart Disease**	• In 2016, Buffalo County had the highest heart disease hospitalization rate (129.8 per 1,000 Medicare Beneficiaries, 65+) of all TRPHD counties (TRPHD comparison: 102.0 per 1,000 Medicare beneficiaries, 65+; State comparison: 102.8 per 1,000 Medicare beneficiaries, 65+).

Table 37 (Continued): Buffalo County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Stroke**	• In 2016, Buffalo County had the lowest stroke death rate (21.2 per 100,000 population) of all TRPHD counties (TRPHD comparison: 26.5 per 100,000 population; State comparison: 33.1 per 100,000 population). • Although the stroke death rate in Buffalo County was the lowest of all TRPHD counties, the stroke hospitalization rate (20.5 per 1,000 Medicare Beneficiaries, 65+) was the highest of all TRPHD counties (TRPHD comparison: 17.3 per 1,000 Medicare Beneficiaries, 65+; State comparison: 17.9 per 1,000 Medicare Beneficiaries, 65+).
➢ **High Blood Pressure**	• In 2016, Buffalo County had the highest high blood pressure hospitalization rate (134.2 per 1,000 Medicare Beneficiaries, 65+) of all TRPHD counties (TRPHD comparison: 105.2 per 1,000 Medicare Beneficiaries, 65+; State comparison: 113.1 per 1,000 Medicare Beneficiaries, 65+).
➢ **Unintentional Fall Death Rate**	• In 2016, the unintentional fall death rate in Buffalo County was 16.2 per 100,000 population (TRPHD comparison: 14.4 per 100,000 population; State comparison: 11.6 per 100,000 population).
➢ **Suicide**	• In 2016, the suicide death rate was 13.5 per 100,000 population in Buffalo County (TRPHD comparison: 13.7 per 100,000 population; State comparison: 11.9 per 100,000 population).

Dawson County

Table 38: Dawson County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Poverty**	• In 2018, 19.2% of the Dawson County population under 18 years old live in poverty (TRPHD comparison: 15.5%; State comparison: 14.8%). • The poverty percentage for individuals under 18 years old had no change from 2012 to 2018.
➢ **Severe Housing Problems**	• In 2016, 13.9% of Dawson County households had severe housing problems (TRPHD comparison: 17.7%; State comparisons: 12.8%).
➢ **Births**	• In 2016, Dawson County had the highest birth rate (16.3 per 1,000 population) of all TRPHD counties (TRPHD comparison: 14.5 births per 1,000 population; State comparison: 13.9 births per 1,000 population).
➢ **Life Expectancy**	• In 2014, Dawson County had the lowest life expectancy (79.0) of all TRPHD counties (TRPHD comparison: 79.7; State comparison: 79.6).

➢ **Shortages of Specialty Care**	• Dawson County reported a shortage of specialty care professionals in the following specialty areas:
	  ○ Psychiatry and Mental Health
	  ○ General Surgery
	• General Dentistry, Family Practice, General Internal Medicine, and Primary Care reported no shortages of specialty care professionals in Dawson County.

➢ **Heart Disease**	• In 2016, the heart disease death rate in Dawson County was 109.5 per 100,000 population (TRPHD comparison: 127.9 per 100,000 population; State comparison: 140.2 per 100,000 population).
➢ **High Blood Pressure**	• In 2016, the high blood pressure death rate in Dawson County was 8.7 per 100,000 population (TRPHD comparison: 7.7 per 100,000 population; State comparison: 11.1 per 100,000 population).
➢ **Diabetes**	• In 2016, Dawson County had the highest diabetes mortality rate (34.6 per 100,000 population) of all TRPHD counties (TRPHD comparison: 21.9 per 100,000 population; State comparison: 22.5 per 100,000).
➢ **Motor Vehicle Crashes**	• In 2015, the motor vehicle crash death rate was 12.7 per 100,000 population in Dawson County (TRPHD comparison: 22.6 per 100,000; State comparison: 11 per 100,000).
➢ **Unintentional Fall Death Rate**	• In 2016, Dawson County had the highest unintentional fall mortality rate (21.2 per 100,000 population) of all TRPHD Counties (TRPHD comparison: 14.4 per 100,000 population; State comparison (11.6 per 100,000 population).

Franklin County

Table 39: Franklin County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Socioeconomic Status**	• In 2018, the median household income in Franklin County was $49,235 (TRPHD comparison: $55,291; State comparison: $59,116).
➢ **Poverty**	• In 2018, 19.8% of the Franklin County population under 18 years old lived in poverty (TRPHD comparison: 15.5%; State comparison: 14.8%). • The poverty percentage for individuals under 18 years old increased 7.9% from 2012 to 2018 (TRPHD comparison: 1.2%; State comparison: -1.9%).
➢ **Births**	• In 2016, Franklin County had the lowest birth rate (10.6 per 1,000 population) of all TRPHD counties (TRPHD comparison:14.5 births per 1,000 population; State comparison: 13.9 births per 1,000 population).
➢ **Shortages of Specialty Care**	• Franklin County reported a shortage of specialty care professionals in the following specialty areas: ○ Family Practice ○ Psychiatry and Mental Health ○ General Surgery ○ Primary Care • General Dentistry and General Internal Medicine reported no shortages of specialty care professionals in Franklin County.
➢ **Heart Disease**	• In 2016, Franklin County had the highest heart disease death rate per 100,000 population (224.8) of all TRPHD counties (TRPHD comparison: 127.9; State comparison: 140.2).
➢ **Stroke**	• In 2016, the stroke death rate was 24.4 per 100,000 population in Franklin County (TRPHD comparison: 26.5 per 100,000 population; State comparison: 33.1 per 100,000 population).
➢ **High Blood Pressure**	• In 2016, no deaths (0 per 100,000 population) were attributed to high blood pressure in Franklin County (TRPHD comparison: 7.7 per 100,000 population; State comparison: 11.1 per 100,000 population).
➢ **Diabetes**	• In 2016, Franklin County had no diabetes deaths (0 per 100,000 population); the only county in TRPHD with no deaths due to diabetes (TRPHD comparison: 22.5 per 100,000 population; State comparison: 21.9 per 100,000 population).
➢ **Unintentional Injury Death Rate**	• In 2016, Franklin County had the highest unintentional injury death rate (117.8 per 100,000 population) of all TRPHD Counties (TRPHD comparison: 48.9 per 100,000 population; State comparison: 36.9 per 100,000 population).

Table 39 (Continued): Franklin County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Motor Vehicle Crashes**	• In 2016, Franklin County had no (0 per 100,000 population) motor vehicle crash deaths (TRPHD comparison: 22.6 per 100,000 population; State comparison: 11 per 100,000).
➢ **Unintentional Fall Death Rate**	• In 2016, Franklin County had no (0 per 100,000 population) unintentional fall deaths (TRPHD comparison: 14.4 per 100,000 population: State comparison: 11.6 per 100,000 population).
➢ **Suicide**	• In 2016, Franklin County had the highest rate of suicide deaths (20.4 per 100,000 population) of all TRPHD counties (TRPHD comparison: 13.7 per 100,000 population; State comparison: 11.9 per 100,000 population).

Gosper County

Table 40: Gosper County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Socioeconomic Status**	• In 2018, the median household income in Gosper County was $62,545 (TRPHD comparison: $55,291; State comparison: $59,116).
➢ **Poverty**	• In 2018, 5.1% of the Gosper County population lived in poverty; the lowest in TRPHD (TRPHD comparison: 12.8%; State comparison: 11.6%). • The poverty percentage for Gosper County decreased 5.7% from 10.8% in 2012 to 5.1% in 2018 (TRPHD comparison: 0.5%; Nebraska comparison: -0.8%). • In 2018, 4.9% of the Gosper County population under 18 years old lived in poverty (TRPHD comparison: 15.5%; State comparison: 14.8%). • The Gosper County population under 18 years old also had the largest decrease (-7.7%) in poverty percentage of all TRPHD counties from 2012 to 2018 (TRPHD comparison: 1.2%; State comparison: -1.9%).
➢ **Severe Housing Problems**	• In 2016, Gosper County had the lowest percentage (3.6%) of households with severe housing problems in TRPHD (TRPHD comparison: 17.7%; State comparison: 12.8%).
➢ **Health Care Professionals**	• In 2016, Gosper County had the least primary care physicians (0) of all TRPHD counties (TRPHD comparison: 72). • In 2017, Gosper County had the least dentists (0) of all TRPHD counties (TRPHD comparison: 60). • In 2018, Gosper County had the least mental health providers (1) of all reported TRPHD counties (TRPHD comparison: 208).

➢ **Shortages of Specialty Care**	• Gosper County reported a shortage of specialty care professionals in the following specialty areas:
	  ○ Family Practice
	  ○ Psychiatry and Mental Health
	  ○ General Internal Medicine
	  ○ Primary Care
	• General Dentistry and General Surgery reported no shortages of specialty care professionals in Gosper County.

➢ **Stroke**	• In 2016, Gosper County had the highest stroke death rate (69.5 per 100,000 population) of all TRPHD counties (TRPHD comparison: 26.5 per 100,000 population; State comparison: 33.1 per 100,000 population). • In 2016, despite having the highest stroke death rate, Gosper County had the lowest stroke hospitalization rate (12.8 per 1,000 Medicare Beneficiaries, 65+) of all TRPHD counties (TRPHD comparison: 17.3 per 1,000 Medicare Beneficiaries, 65+; State comparison: 17.9 per 1,000 Medicare Beneficiaries, 65+).

Table 40 (Continued): Gosper County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **High Blood Pressure**	• In 2016, no deaths (0 per 100,000 population) were attributed to high blood pressure in Gosper County (TRPHD comparison: 7.7 per 100,000 population; State comparison: 11.1 per 100,000 population).
➢ **Cancer**	• In 2016, Gosper County had the lowest cancer death rate (116.1 per 100,000 population) of all TRPHD Counties (TRPHD comparison: 152.5 per 100,000 population; State comparison: 153.4 per 100,000).
➢ **Obesity**	• In 2016, Gosper County had -4.9% of change in obesity rates from 28.6% in 2009 to 23.7% in 2016.
➢ **Motor Vehicle Crashes**	• In 2016, Gosper County had no deaths (0 per 100,000 population) caused by motor vehicle crashes (TRPHD comparison: 22.6 per 100,000 population; State comparison: 11 per 100,000 population).
➢ **Unintentional Fall Death Rate**	• In 2016, Gosper County had no deaths (0 per 100,000 population) caused by unintentional falls (TRPHD comparison: 14.4 per 100,000 population: State comparison: 11.6 per 100,000 population).
➢ **Suicide**	• In 2016, the suicide death rate was 16.5 per 100,000 population in Gosper County (TRPHD comparison: 13.7 per 100,000 population; State comparison: 11.9 per 100,000 population).

Harlan County

Table 41: Harlan County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Poverty**	• The percentage of Harlan County youth under 18 years old living in poverty decreased 5.3% from 2012 to 2018 (TRPHD comparison: 1.2%; State comparison: -1.9%).
➢ **Unemployment**	• In December 2019, Harlan County had the highest unemployment rate (3.1%) of all TRPHD counties (TRPHD comparison: 2.3%; State comparison: 2.7%).
➢ **Deaths**	• In 2016, Harlan County had the highest death rate (13.5 deaths per 1,000 population) of all TRPHD counties (TRPHD comparison: 8.6 deaths per 1,000 population; State comparison: 8.5 deaths per 1,000 population).
➢ **Shortages of Specialty Care**	• Harlan County reported a shortage of specialty care professionals in the following specialty areas: ○ Psychiatry and Mental Health ○ General Internal Medicine ○ General Surgery ○ Primary Care • General Dentistry and Family Practice reported no shortages of specialty care professionals in Harlan County.
➢ **Heart Disease**	• In 2016, Harlan County had the lowest heart disease death rate (98.9 per 100,000 population) of all TRPHD counties (TRPHD comparison: 127.9 per 100,000 population; State comparison: 140.2 per 100,000 population).
➢ **High Blood Pressure**	• In 2016, no deaths (0 per 100,000 population) were attributed to high blood pressure in Harlan County (TRPHD comparison: 7.7 per 100,000 population; State comparison: 11.1 per 100,000 population). • In 2016, the high blood pressure hospitalization rate in Harlan County was 87.6 per 1,000 Medicare Beneficiaries, 65+ (TRPHD comparison: 105.2 per 1,000 Medicare Beneficiaries, 65+).
➢ **Diabetes**	• In 2016, the diabetes death rate in Harlan County was 13.0 per 100,000 population (TRPHD comparison: 22.5 per 100,000 population; State comparison: 21.9 per 100,000).
➢ **Cancer**	• In 2016, Harlan County had the highest cancer death rate (174.5 per 100,000) of all TRPHD Counties (TRPHD comparison: 152.5 per 100,000; State comparison: 153.4 per 100,000).
➢ **Obesity**	• In 2016, Harlan County had an 8.2% increase change in obesity rate from 26.9% in 2009 to 35.1% in 2016.
➢ **Motor Vehicle Crashes**	• In 2016, the motor vehicle crash death rate in Harlan County was 57.6 per 100,000 population (TRPHD comparison: 22.6 per 100,000 population; State comparison: 11 per 100,000 population).

Table 41 (Continued): Harlan County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Unintentional Fall Death Rate**	• In 2016, Harlan County had no deaths (0 per 100,000 population) caused by unintentional falls (TRPHD comparison: 14.4 per 100,000 population: State comparison: 11.6 per 100,000 population).
➢ **Suicide**	• In 2016, Harlan County had the lowest suicide death rate (8.4 per 100,000 population) of all TRPHD Counties (TRPHD comparison: 13.7 per 100,000 population; State comparison: 11.9 per 100,000 population).

Kearney County

Table 42: Kearney County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Severe Housing Problems**	• In 2016; 9.8% of Kearney County households had severe housing problems (TRPHD comparison: 17.7%; State comparison: 12.8%).
➢ **Unemployment**	• In December 2019, Kearney County had the lowest unemployment rate (1.9%) of all TRPHD counties (TRPHD comparison: 2.3%; State comparison: 2.7%).
➢ **Shortages of Specialty Care**	• Kearney County reported a shortage of specialty care professionals in the following specialty areas: ○ Family Practice ○ Psychiatry and Mental Health ○ General Internal Medicine ○ General Surgery ○ Primary Care • General Dentistry was the only specialty with no reported shortage in Kearney County.
➢ **Heart Disease**	• In 2016, the heart disease death rate for Kearney County was 140.3 per 100,000 population (TRPHD comparison: 127.9 per 100,000 population; State comparison: 140.2 per 100,000 population).
➢ **High Blood Pressure**	• In 2016, no deaths (0 per 100,000 population) were attributed to high blood pressure in Kearney County (TRPHD comparison: 7.7 per 100,000 population; State comparison: 11.1 per 100,000 population).
➢ **Cancer**	• In 2016, the cancer death rate in Kearney County was 136.0 per 100,000 population (TRPHD comparison: 152.5 per 100,000; State comparison: 153.4 per 100,000).
➢ **Tobacco Use**	• In 2018, Kearney County had the highest percentage of 12th graders that reported they had used an e-cigarette in the last 30 days (40.7%) of all TRPHD Counties with reported data (TRPHD comparison: 39%; State comparison: 37.3%).
➢ **Obesity**	• In 2016, Kearney County had the highest percentage increase of change in obesity rates (10.6%) of all TRPHD counties from 26.9% in 2009 to 37.5% in 2016.
➢ **Motor Vehicle Crashes**	• In 2016, Kearney County had the highest motor vehicle crash death rate (61.1 per 100,000 population) of all TRPHD counties (TRPHD comparison: 22.6 per 100,000 population; State comparison: 11 per 100,000 population).
➢ **Suicide**	• In 2016, the suicide death rate was 16.4 per 100,000 population in Kearney County (TRPHD comparison: 13.7 per 100,000 population; State comparison: 11.9 per 100,000 population).

Phelps County

Table 43: Phelps County Key Findings

Indicator/Area of Community Health Need	Rationale for Selection
➢ **Poverty**	• In 2018, Phelps County had a decrease (5.7%) in poverty from 2012 to 2018 (TRPHD comparison: 0.5%; State comparison: -0.8%).
➢ **Shortages of Specialty Care**	• Phelps County reported a shortage of specialty care professionals in the following specialty areas: ○ Family Practice ○ Psychiatry and Mental Health ○ General Internal Medicine General Dentistry, General Surgery, and Primary Care reported no shortages of specialty care professionals in Phelps County.
➢ **Heart Disease**	• In 2016, Phelps County had the lowest heart disease hospitalization rate (61.3 per 1,000 Medicare beneficiaries, 65+) of all TRPHD counties (TRPHD comparison: 102.0 Medicare beneficiaries, 65+; State comparison: 102.8 Medicare beneficiaries, 65+).
➢ **Stroke**	• In 2016, the stroke death rate for Phelps County was 34.9 per 100,000 population (TRPHD comparison: 26.5 per 100,000 population; State comparison: 33.1 per 100,000 population).
➢ **High Blood Pressure**	• In 2016, Phelps County had the highest blood pressure death rate (13.4 per 100,000 population) of all TRPHD counties (TRPHD comparison: 7.7 per 100,000 population; State comparison: 11.1 per 100,000 population).
➢ **Diabetes**	• In 2016, the diabetes death rate in Phelps County was 22.5 per 100,000 population (TRPHD comparison: 21.9 per 100,000; State county: 22.5 per 100,000).
➢ **Cancer**	• In 2016, the cancer death rate in Phelps County was 162.2 per 100,000 population (TRPHD comparison: 152.5 per 100,000 population; State comparison: 153.4 per 100,000).
➢ **Tobacco Use**	• Phelps County showed the highest percentage of 12th graders that use tobacco (24.5%) of all TRPHD counties with data (TRPHD comparison: 14.7%; State comparison: 15.3%). • In 2018, Phelps County had the lowest percentage of 12th graders that use e-cigarettes (18.6%) of all TRPHD Counties with reported data (TRPHD comparison: 39%; State comparison: 37.3%).
➢ **Unintentional Fall Death Rate**	• In 2016, Phelps County had no deaths (0 per 100,000 population) caused by unintentional falls (TRPHD comparison: 14.4 per 100,000 population: State comparison: 11.6 per 100,000 population).

Health Indicators (BRFSS)

Nebraska Behavioral Risk Factor Surveillance System (BRFSS)

The following tables show prevalence estimates (percentages) for 27 health indicators collected from **TRPHD** adults aged 18 and older between 2012 and 2018 through the Nebraska Behavioral Risk Factor Surveillance System (BRFSS) reporting. The summary tables show the current prevalence rates (2018) of health indicators comparing TRPHD with Nebraska outputs. The tables show detailed changes over time of these health indicators, covering seven years of data (2012-2018). Statistically significant changes (cells colored in red or green) are estimated between Two Rivers Public Health Department and the State of Nebraska, along with significant gender differences, if any, within the local department (those are included in the narrative of this report). Linear trendlines were added to charts for the TRPHD health assessment report to graphically demonstrate whether changes were positive, negative, or neutral.

"The BRFSS is a telephone survey of adults 18 and older and includes landline telephone and cell phone data collection. To be more representative of all adults, data are weighted according to the CDC BRFSS weighting methodology (i.e. iterative proportional fitting, also known as raking). Responses of "Don't know/Not sure" and "Refused" were removed from the denominators when calculating prevalence estimates for these detailed tables." (Nebraska DHHS, BRFSS, 2019).

Main Findings from the Behavioral Risk Factor Surveillance System (BRFSS)

The following behavioral health indicators have been significantly <u>better</u> in the TRPHD for one year or more when compared to Nebraska since 2012:

Alcohol

- Any alcohol consumption in the past 30 days (2015)

Immunization and Infectious Disease

- Ever had a pneumonia vaccination, aged 65 years and older^ (2016)
- Ever had a shingles vaccination, aged 50 years and older (2014)

The following behavioral health indicators have been significantly <u>worse</u> in the TRPHD for one year or more when compared to Nebraska since 2012:

Health Care Access and Utilization

- Had a routine checkup in the past year (2012)

Cardiovascular

- Ever told they had a heart attack or coronary heart disease (2015)
- Had cholesterol checked in the past 5 years (2017)

Cancer

- Up to date on colon cancer screening, 50-75-year-olds (2017)

Tobacco

- Current smokeless tobacco use (2013, 2016)

Immunization and Infectious Disease

- Ever been tested for HIV, 18-64-year-olds (excluding blood donation) (2012, 2015)

Injury

- Always wear a seatbelt when driving or riding in a car (2012-2018)

Significant Gender Differences in the Local Department

The following behavioral health indicators have significant gender differences for two or more years:

Health Care Access and Utilization

- No personal doctor or health care provider (2012, 2014-2017)
- Had a routine checkup in the past year (2014, 2017)

Cancer

- Ever told they have cancer other than skin cancer (2012, 2013, 2016)
- Ever told they have cancer (in any form) (2012, 2016)

Tobacco

- Current smokeless tobacco use^ (2012-2018)

Nutrition/Physical Activity

- Overweight or Obese (2012-2014, 2016)
- Consumed sugar-sweetened beverages 1 or more times per day in the past 30 days (2013)

Alcohol

- Any alcohol consumption in the past 30 days (2012-2014, 2016-2017)
- Binge drank in the past 30 days (2012-2014, 2016-2017)
- Heavy drinking in the past 30 days (2014, 2017)

Injury

- Always wear a seat belt when driving or riding in a car (2012 - 2017)

BRFSS: Selected Health Data, TRPHD, and State, 2012 - 2017 (%)

	2012		2013		2014		2015		2016		2017		2018	
INDICATORS	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**
General Health Status														
General health fair or poor	14.9	14.4	14.6	13.9	11.7	13.2	14.2	13.9	13.6	14.7	16.4	14.9	16.2	14.5
Physical health was not good on 14 or more of the past 30 days	10.3	9.8	8.3	9.2	7.5	9.0	10.9	9.6	9.5	9.8	11.8	10.3	9.2	10.2
Health Care Access and Utilization														
No health care, coverage, 18-64 year olds	19.5	18.0	17.2	17.6	16.4	15.3	14.5	14.4	11.9	14.7	13.0	14.4	16.1	14.3
doctor but cold not due to cost in in the past year	13.9	12.8	13.8	13.0	11.6	11.8	12.1	11.5	11.4	12.1	11.9	11.7	12.5	11.8
Had a routine checkup in past year	55.1	60.4	59.0	61.6	60.5	63.3	63.6	63.9	61.7	65.4	64.1	66.7	69.9	72.4
Cardiovascular														
Ever told they had a heart attack or coronary heart disease	7.3	6.0	6.2	5.9	7.4	5.8	8.1	5.6	6.2	5.8	7.9	6.1	7.3	5.6
Ever told they had a stroke	2.0	2.4	2.0	2.5	2.0	2.6	2.8	2.5	3.0	2.8	2.8	2.9	2.9	2.8
Had blood pressure checked in past year	-	-	80.4	84.6	-	-	91.6	88.0	-	-	82.1	86.3	-	-
Ever told they have high blood pressure (excluding pregnancy)	-	-	29.5	30.3	-	-	28.0	29.9	-	-	27.6	30.6	-	-
Had cholesterol checked in past 5 years	-	-	-	-	-	-	-	-	-	-	78.3	84.4	-	-
Ever told they have high cholestrerol, among those who have ever had it checked	-	-	-	-	-	-	-	-	-	-	29.2	31.9	-	-
Cancer														
Ever told they have cancer (in any form)	10.3	10.8	10.2	11.4	11.7	10.7	11.4	11.6	12.8	11.2	10.0	11.0	13.6	11.3
Up-to-date on colon cancer screening, 50-75 year olds	56.4	61.1	63.0	62.8	59.6	64.1	62.6	65.2	67.0	66.0	58.4	68.3	63.3	68.7
cancer screening, female 50-74 year olds	72.9	74.9	-	-	72.0	76.1	-	-	75.0	73.4	-	-	76.0	75.4
Ever told they have skin cancer	5.3	5.6	6.1	5.9	6.6	5.7	5.9	6.0	5.9	5.5	6.0	5.6	7.7	5.6
Tobacco														
Current cigarette smoking	19.2	19.7	16.4	18.5	16.4	17.3	18.1	17.1	15.8	17.0	14.4	15.4	14.4	16.0
Attempted to quit smoking past year, among current cigarette smokers	56.9	57.1	59.6	57.1	54.1	58.2	65.5	59.1	46.5	54.6	64.7	55.6	70.4	58.3
Current smokeless tobacco use	7.6	5.1	8.9	5.3	6.6	4.7	7.9	5.5	10.4	5.7	7.4	5.3	6.1	5.2

	2012		2013		2014		2015		2016		2017		2018	
INDICATORS	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**
Nutrition/Physical Activity														
Obese (BMI=30+)	31.3	28.6	33.2	29.6	29.9	30.2	29.3	31.4	32.3	32.0	34.1	32.8	33.0	34.1
Overweight or Obese (BMI=25+)	65.9	65.0	67.7	65.5	67.0	66.7	65.5	67.0	68.9	68.5	68.5	69.0	68.1	68.9
Consumed fruits less than 1 time per day	-	-	-	-	-	-	-	-	-	-	39.3	36.9	-	-
less than 1 time per day	-	-	-	-	-	-	-	-	-	-	19.0	20.0	-	11.8
physical activity in past 30 days	21.7	21.0	25.5	25.3	21.2	21.3	26.3	25.3	22.8	22.4	26.1	25.4	25.8	23.8
Mental Health														
Ever told they have depression	15.5	16.7	15.4	18.2	15.9	17.7	18.0	17.5	16.0	17.8	16.6	19.4	18.7	17.3
Frequent Mental Distress in past 30	7.3	9.0	8.0	8.9	6.9	8.2	7.9	8.9	8.1	9.5	9.5	10.5	10.7	11.2
Alcohol														
Any alcohol consumption in past 30 days	61.7	61	57.7	57.5	59.0	59	51.1	57.6	56.7	60	58.9	60.2	59.5	59
Binge drank in past 30 days	24.7	22	21.7	20.0	20.4	20	19.2	19.5	20.2	20	20.6	20.6	23.2	21
Heavy drinking in past 30 days	6.2	7.2	7.9	6.8	6.0	6.4	5.8	5.7	7.8	6.6	7.1	7.0	7.6	7.1
Immunization and Infectious Disease														
Had a flu vaccination in past year, aged 18 years and older	40.0	42.2	44.6	45.2	41.8	43.9	46.4	47.2	45.3	44.4	45.3	46.7	38.7	39.4
Had a flu vaccination in past year, aged 65 years and older	58.8	62.9	69.5	66.2	69.4	64.7	71.2	65.2	64.1	62.7	69.1	65.5	62.5	57.9
Ever had a pneumonia vaccination, aged 65 years and older^	77.3	70.0	76.5	71.7	73.5	72.3	80.0	73.8	83.6	75.9	79.7	78.9	81.6	76.6
Ever had a shingles vaccination, aged 50 years and older	-	-	-	-	33.0	27.9	-	-	-	-	36.0	35.2	-	-
Ever been tested for HIV, 18-64 year olds (excluding blood donation)	22.7	30.9	29.1	31.8	25.9	30.9	30.3	32.0	23.2	31.9	28.9	31.9	26.0	30.0
Oral Health														
Visited a dentist or dental clinic for any reason in past year^	68.2	67.6	-	-	64.8	66.4	-	-	63.8	68.7	-	-	69.2	67.7
Had any permanent teeth extracted due to tooth decay or gum disease	43.2	39.8	-	-	42.2	39.1	-	-	37.7	38.2	-	-	40.3	37.8

	2012		2013		2014		2015		2016		2017		2018	
INDICATORS	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**	**TRPHD**	**NE**
Injury														
Always wear a seatbelt when driving or riding in a car	**59.3**	**69.7**	**62.1**	**74.1**	**62.9**	**72.4**	**64.9**	**75.4**	**60.0**	**73.8**	**64.9**	**76.3**	**65.3**	**75.2**
Texted while driving or riding in a car	**30.3**	**26.8**	-	-	-	-	**26.0**	**24.9**	-	-	**24.9**	**26.6**	-	-
Talked on a cell phone while driving in past 30 days	**71.8**	**69.1**	-	-	-	-	**63.1**	**67.0**	-	-	**64.9**	**66.5**	-	-
Injured due to a fall in past year, aged 45 years and older	**10.7**	**9.9**	-	-	**8.1**	**8.8**	-	-	**11.1**	**10.1**	-	-	-	-

Red shaded boxes: TRPHD statistical significance of **worse** rate than State of Nebraska
Green shaded boxes: TRPHD statistical significance of **better** rate than State of Nebraska

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Appendix A

TRPHD Collaborative Partners

Phelps County Community Foundation
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Becton Dickinson
Sam Auld
Tri-Basin Natural Resource District
Sasha Hahn
Community Action Partnership of Mid-Nebraska
Kristin Holl
Catholic Health Initiatives Good Samaritan
Tracy Dethlefs
Renae Jacobson
Diane Reinke
Ben Rehtus

University of Nebraska Medical Center
Denise Waibel-Rycek

Cozad Community Health System
Alison Feik
Kearney County Health System
Connie Linder
Kearney Public Schools
Morgan Bird

Region 2 Behavioral Health
Robin Schultheiss

Choice Family Health Care
Ryan King
Misty Schaecher

Kearney Parks and Recreation
Scott Hayden

Chrisoma Villa- Christian Homes
Cherylyn Hunt
Tyson
Heidi Revelo
Buffalo County Emergency Management
Darrin Lewis

Central Community College
Ashley Weets

Gothenburg Health
Trudy Chestnutt
Wanda Cooper
Garrett Vetter

University of Nebraska Kearney
Cindy Ferrence
Peggy Abels
Harlan County Health System
Leanne Bewley
Early Learning Connection
Alexandra Dillion
City of Holdrege
Doug Young
Kearney Regional Medical Center
Trish Olson
Amanda Polacek

HelpCare Clinic
Becky Kraenow

Buffalo County Community Health Partners
Denise Zweiner

Appendix B

Opportunities in Community

Table B-1: Characteristics Identified by Community Partners in Phase 2 to Address

Characteristics Identified	
Healthy communities:	• Show well-rounded mental, physical, spiritual, social wellness, absence of disease, and safety • Encourage access and empowerment of access to resources such as care, exercise, and wellness resources • Health literacy is evident in all populations, and easy communication about health and wellness is universal • Community leadership supports prevention, the use of resources available, celebrate culture and diversity • Community resources meet the community where they are • There is health equity for all with zero health disparities
Opportunities to address:	• Due to the rural nature of our district access to transportation and travel can limit access to healthcare • Improve access to behavioral health through encouraging practitioners to travel to communities, and through telehealth • Increased health literacy can help individuals understand preventative measures, and literature in all languages will reinforce prior education • Advocate for more billable services in long term care facilities, education for home care, and increased staff numbers • Address underinsured populations • Enrich access to wellness and fitness centers, and access to health screenings • Increase access to basic needs including internet • Engage families
Our ideal future community:	• Focuses on teaching youth healthy behaviors to have a healthier future • Shares a vision that all communities in our seven counties can point to, and celebrate in the work completed • Our community knows our shared vision, understands what we are working toward, we promote healthy lifestyles, and our community is empowered to seek help and receive resources • Our community members feel their voices are heard and respected • Organizations value community health workers • The stigma of mental healthcare has been addressed and our community is empowered to seek help and receive resources

Source: Two Rivers Public Health Department Community Health Improvement Plan 2020: https://www.trphd.org/

Appendix C

Community Themes and Strengths: Strengths Weaknesses Opportunities and Threats SWOT Analysis

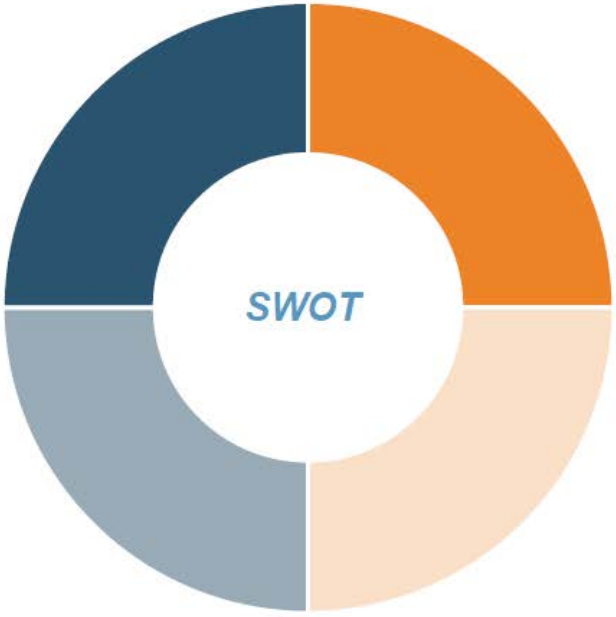
Figure C-1105: Two Rivers Public Health Department Strengths Weaknesses Opportunities and Threats (SWOT) Analysis

STRENGTHS

Rural
Diversity of District Population
Independent spirit
Able to create grassroots efforts
Several large employers draw in employees from large distances, especially in Buffalo, Phelps, and Dawson Counties

OPPORTUNITIES

Rural Setting
Low population density, funding and resources often delegated to denser populations
Competition between localities, beginning to shift toward less competition
Awareness or access or knowledge of resources
Lack of buy-in to resources or provision of certain resources



WEAKNESSES

Low population density
Rural nature of district can create a disconnect
Small-town clinics not in-network with common insurance companies
Lack of understanding of navigating insurance
Understanding of cultures and languages
Connectedness of community (especially influenced by built environment, social media, and lack of trust)

THREATS

Low Level Health Literacy
Lack of cell and internet service, especially in rural areas
Lack of funding and funding sources
Stigma-not willing to share personal experiences
Lack of insurance companies keeping smaller locations in network
Acts of God that pull focus to more pressing issues.

Appendix D

Forces of Change Assessment

Two Rivers CHNA Focus Group Meeting
February 19, 2020

Table D-1: Locally Identified Forces of Change

Type	Events- One-time occurrences	Factors- Set elements	Trends-Patterns over time
Economic	-Allman's recent layoff -2020 election -2020 Medicaid Expansion -Bank shut-down in Erickson	-Limited access to public transportation for rural localities -Consolidations of clinics -Difficulty finding funding sources -Lack of affordable quality housing -UNMC offers scholarships for nursing programs but strenuous student schedules do not allow for work as well -CCC is now offering Project Help scholarships and financial education	-Most uninsured people are employed -Food Scarcity -Mom and Pop stores closing increasingly - Rural to urban shift -Taxes are continuing to increase although profit margins are low -Not likely to have a bumper crop this year
Environmental	-Increased flu activity during 2019-2020 season -2019 Flooding	-Poor infrastructure, partially due to flooding	-Current weather patterns could create the potential for future flooding
Legal/ Political	-2020 Election	-Continuing school cutbacks, and consolidations -Vaping/Marijuana usage (state law is 19, national law is 21)	-Safety concerns for immigrants

Table D-2: Locally Identified Forces of Change (Continued)

Type	Events- One-time occurrences	Factors- Set elements	Trends-Patterns over time
Social	-COVID-19 and recent concerns with patients transported to Nebraska -Recent YRTC escapes	-Lack of quality childcare -Lack of youth initiatives -South Central Area Recovery (SCAR) will begin addressing rural drug rehabilitation/mental health -Decreasing the healthcare workforce (nursing, nurse aides, physician assistants, and APRNs) -Lack of understanding the dangers of vaping/marijuana	-Fear of accessing care/services due to fear of deportation or targeting -Poor mental health for farmers following flooding, trading tariffs, and bank issues -Continued social polarization -Creation of new schools in urban settings while schools in rural settings are decreasing -Healthcare experiencing a shortage of all types of personnel including dietary, housekeeping, laundry, and maintenance -General lack of awareness of surroundings could create danger -Increased advocacy for rural health (esp. LRHC)
Technological/ Scientific	-Shortage of personal protective equipment due to COVID-19	-Nationwide closures of critical access hospitals, skilled nursing facilities -Consistently full assisted living/skilled nursing facilities -Limited rural access for emergency care, the burden of work is high for volunteer squads	-Increasing use of social media -Low health literacy -High need for higher-level psychiatric care in hospitals, and schools -Increased human trafficking causing a need for better education to individuals showing appropriateness of interactions

Source: Two Rivers Public Health Department Community Health Improvement Plan 2020: https://www.trphd.org/

A discussion of the forces of change in our district is incomplete without mentioning the Midwest flooding during 2019. In an interview with the New York Times, Edward Clark, director of NOAA's National Water Center said, "This is a year that will remain in our cultural memory, in our history."

Due to above-average snowfall, an unusually cold February, and a bomb cyclone, the Midwest experienced flooding in Mid-March. Governor Pete Ricketts issued a disaster declaration on March 13th, one day before the storm and the flooding event. Several TRPHD communities were affected by the March flooding.

By July, the combination of heavy rain and high-water levels caused many areas in the district to flood, including the southern portion of the city of Kearney, Elm Creek, and Gibbon. Harlan County Reservoir set a new water level record of 1958.17 feet, over two and a half feet higher than the record set in 1960.

Flooding caused damage to crops, the built environment, the economy, and community members mental health. Long Term Recovery Groups in the communities most affected have worked since the flooding began, raising to raise funds to help survivors and create dedicated positions to guide survivors through the recovery process, including housing improvements and recovering from the loss of wages. Infrastructure repair of roads and bridges is ongoing and will continue for the foreseeable future. Agriculture producers had low to no yields and face an uncertain future. Employers such as the Younes Family in Kearney and Outcast Bar & Grill at Harlan Reservoir were unable to open and needed to repair their hospitality facilities.

Table D-3: Two Rivers Public Health Department Identified Internal and External Strengths Weaknesses Opportunities Threats

	Helpful	***Harmful***
Internal	**Strengths** • Rural • Diversity of the district population • Independent spirit • Able to create grassroots efforts • Several large employers draw in employees from large distances, especially in Buffalo, Phelps, and Dawson counties	**Weaknesses** • Low population density • Rural nature of district can create a disconnect • Small-town clinics not in-network with common insurance companies • Lack of understanding of navigating insurance • Understanding of cultures and languages • The connectedness of community (especially influenced by the built environment, social media, and lack of trust)
External	**Opportunities** • Rural Setting • Low population density, funding and resources often delegated to denser populations • Competition between localities, beginning to shift toward less competition • Awareness of access or knowledge of resources • Lack of buy-in to resources or provision of certain resources	**Threats** • Low-Level Health Literacy • Lack of cell and internet service especially in rural areas • Lack of funding and funding sources • Stigma-not willing to share personal experiences • Lack of insurance companies keeping smaller locations in-network • Acts of God that pull focus to more pressing issues

Source: Two Rivers Public Health Department Community Health Improvement Plan 2020: https://www.trphd.org/

APPENDIX E

2020 County Health Rankings Report

Two Rivers Public Health Department (TRPHD)

Health Outcomes

Health outcomes are equally determined by the length and quality of life. The table below presents the five underlying measures of health outcomes for TRPHD, NE, and the U.S. The number of premature deaths and percentage of adults who reported poor or fair health in TRPHD (5,025; 15.2%) is higher than Nebraska (6,100; 14%) but lower than the U.S (6,900; 17%). But the average number of physically and mentally unhealthy days reported in TRPHD (3.2, 3.3) is the same or lower than both Nebraska (3.2, 3.5) and the U.S. (3.8, 4). The percentage of low birthweight in TRPHD (7%) is the same as Nebraska (7%) but then lower than the U.S. (8%).

Health Outcomes					
Measure		Description	TRPHD	NE	U.S.
Length of Life	Premature Death	Years of potential life lost before age 75 per 100,000 population	5,025	6,100	6,900
Quality of Life	Poor or Fair Health	% of adults reporting fair or poor health	15.2%	14%	17%
	Poor Physical Health Days	Average # of physically unhealthy days reported in the past 30 days	3.2	3.2	3.8
	Poor Mental Health Days	Average # of mentally unhealthy days reported in the past 30 days	3.3	3.5	4
	Low Birthweight	% of live births with low birthweight (< 2500 grams)	7%	7%	8%

Health Factors

Health factors represent the key areas that determine how long and how well people live. Health factors include health behaviors (tobacco use, diet and exercise, alcohol and drug use, sexual activity), clinical care (access to and quality of care), social and economic factors (education, employment, income, family and social support, community safety), and the physical environment (air and water quality, housing and transit).

1. Health Behaviors

The adult smoking rate in TRPHD (15%) is the same as the Nebraska adult smoking rate (15%) and both are lower than the U.S rate (17%). The adult obesity rate in TRPHD (33%) is slightly higher than Nebraska's rate (32%) and even higher than the U.S. rate (29%). The food environment index in TRPHD (7.9) is lower than Nebraska (8.0) but higher than the U.S. index (7.6), with Gosper (6.9) and Franklin (7.2) being the two counties with the lowest rates. The percentage of physical inactivity in TRPHD (23%) is the same as Nebraska (23%) and the U.S. (23%), with the lowest percentage of 20% in Buffalo County. The percentage of the population with adequate access to physical activity locations in TRPHD (80%) is lower than Nebraska (84%) and the U.S. (84%). Gosper (34%) has a relatively low level of access to exercise opportunities.

The percentage of excessive drinking in TRPHD (22%) is the same as Nebraska (22%) but higher than in the U.S. (19%). The percentage of driving deaths involving alcohol in TRPHD (38%) is higher when compared with the U.S. (28%), and Nebraska (35%). The incidence rate of sexually transmitted diseases in TRPHD (376.8 per 100,000 population) is far less than Nebraska (447.6 per 100,000 population) and the U.S. (524.6 per 100,000 population). The teen birth rate in TRPHD (22 per 1,000 female population ages 15-19) is slightly higher than in Nebraska (21 per 1,000 female population ages 15-19) but lower than the U.S. (23 per 1,000 female population ages 15-19).

Health Factors					
Measure		Description	TRPHD	NE	U.S.
Health Behaviors	Adult Smoking	% of adults who are current smokers	15%	15%	17%
	Adult Obesity	% of adults that report a BMI ≥ 30	33%	32%	29%
	Food Environment Index	Index of factors that contribute to a healthy food environment, (0-10)	7.9	8.0	7.6
	Physical Inactivity	% of adults aged 20 and over reporting no leisure-time physical activity	23%	23%	23%
	Access to Exercise Opportunities	% of the population with adequate access to locations for physical activity	80%	84%	84%
	Excessive Drinking	% of adults reporting binge or heavy drinking	22%	22%	19%
	Alcohol-Impaired Driving Deaths	% of driving deaths with alcohol involvement	38%	34%	28%
	Sexually Transmitted Diseases	# of newly diagnosed chlamydia cases per 100,000 population	376.8	447.6	524.6
	Teen Births	# of births per 1,000 female population ages 15-19	22	21	23

2. Clinical Care

The uninsured rate in TRPHD (11%) is higher than Nebraska (10%) and the U.S. (10%). The population/practitioner ratios of primary care physicians, dentists, and mental health providers in TRPHD (1,332:1, 1,738:1, 670:1, respectively) are higher than Nebraska (1,330:1, 1,300:1, 380:1, respectively) and the U.S. (1,330:1, 1,450:1, 400:1, respectively), especially for the mental health providers. Preventable hospital stays in TRPHD (3,792) is slightly higher than Nebraska (3,590), but lower than the U.S. (4,535). The mammography screening rates in TRPHD (47%) are lower than Nebraska (48%) but higher than the U.S. (42%). The flu vaccination rates in TRPHD (49%) were lower than in Nebraska (50%) but higher than the U.S. (46%).

Health Factors					
Measure		Description	TRPHD	NE	U.S.
Clinical Care	Uninsured	% of population under age 65 without health insurance	11%	10%	10%
	Primary Care Physicians	Ratio of population to primary care physicians	1,332:1	1330:1	1,330:1
	Dentists	Ratio of population to dentists	1,738:1	1300:1	1,450:1
	Mental Health Providers	Ratio of population to mental health providers	670:1	380:1	400:1
	Preventable Hospital Stays	# of hospital stays for ambulatory-care sensitive conditions per 100,000 Medicare enrollees	3,792	3,590	4,535
	Mammography Screening	% of female Medicare enrollees ages 67-69 that receive mammography screening	47%	48%	42%
	Flu Vaccinations	% of fee-for-service (FFS) Medicare enrollees that had an annual flu vaccination	49%	50%	46%

3. Social & Economic Factors

The percentage of high school graduation for the TRPHD (91%) is higher than Nebraska (89%) and the U.S. (85%). The percentage of some college degree in TRPHD (67%) is lower than Nebraska (72%) but slightly higher than the U.S. (66%). The unemployment rate in TRPHD (2.4%) is lower than both Nebraska (2.8%) and the U.S. (3.8%). The percentage of children in poverty in TRPHD (13%) is the same as Nebraska (13%) but lower than the U.S. (18%). The ratio of income inequality in TRPHD (4.1) is lower than in both Nebraska (4.2) and the U.S. (4.9). The percentage of children in single-parent households in TRPHD (25%) is lower than Nebraska (28%) and the U.S. (33%). Numbers of social associations and injury death in TRPHD (16.9; 63) are higher than Nebraska for both (14.1; 59) and social associations are higher than the U.S. while injury deaths are lower than the U.S. (9.3; 70, respectively). The number of violent crimes in TRPHD (154) is far lower than Nebraska (286) and the U.S. (386).

Health Factors					
Measure		Description	TRPHD	NE	U.S.
Social & Economic Factors	High School Graduation	% of ninth-grade cohort that graduates in four years	91%	89%	85%
	Some College	% of adults ages 25-44 with some post-secondary education	67%	72%	66%
	Unemployment	% of the population aged 16 and older unemployed but seeking work	2.4%	2.8%	3.9%
	Children in Poverty	% of children under age 18 in poverty	13%	13%	18%
	Income Inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	4.1	4.2	4.9
	Children in Single-parent household	% of children that live in a household headed by a single parent	25%	28%	33%
	Social Associations	# of membership associations per 10,000 population	16.9	14.1	9.3
	Violent Crime	# of reported violent crime offenses per 100,000 population	154	286	386
	Injury death	# of deaths due to injury per 100,000 population	63	59	70

5. Physical Environment

The average density of particulate matter in TRPHD (7.5) is lower than the U.S. (8.6) but the same as Nebraska (7.5). Phelps County was the only county that had drinking water violations. The percentage of households with severe housing problems in TRPHD (11%) is lower than Nebraska (13%) and the U.S. (18%). The percentage of the workforce that drives alone to work in TRPHD (81%) is slightly lower than Nebraska (82%) but higher

than the U.S. (76%). The percentage of long-commute driving-alone workforce in TRPHD (15%) is slightly lower than Nebraska (18%) and the U.S. (36%).

Health Factors					
Measure		Description	TRPHD	NE	U.S.
Physical Environment	Air Pollution – Particulate Matter	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	7.5	7.5	8.6
	Drinking-Water Violations	Indicator of the presence of health-related drinking water violations. Yes - indicates the presence of a violation, No - indicates no violation.	1 Yes	.	.
	Severe Housing Problems	% of households with overcrowding, high housing costs, or lack of kitchen or plumbing facilities	11%	13%	18%
	Driving Alone to Work	% of the workforce that drives alone to work	81%	82%	76%
	Long Commute – Driving Alone	Among workers who commute in their car alone, % commuting > 30 minutes	15%	18%	36%

HEALTH RANKINGS AND HEALTH INDICATORS BY COUNTY (2020)								
	Nebraska	**Gosper**	**Phelps**	**Dawson**	**Franklin**	**Harlan**	**Buffalo**	**Kearney**
Health Outcomes		57	7	46	44	50	17	43
Length of Life		29	6	18	29	29	11	62
Premature death	6,100		4,800	5,800			5,300	6,900
Quality of Life		66	11	69	43	57	41	31
Poor or fair health	14%	11%	12%	18%	14%	14%	15%	13%
Poor physical health days	3.2	2.8	2.8	3.4	3.3	3.3	3.2	2.9
Poor mental health days	3.5	3.1	3.2	3.4	3.5	3.5	3.2	3.4
Low birthweight	7%	13%	6%	7%	6%	7%	7%	7%
Health Factors		7	11	67	46	27	18	13
Health Behaviors		3	34	41	32	49	31	38
Adult smoking	15%	12%	13%	14%	15%	15%	15%	15%
Adult obesity	32%	25%	37%	36%	30%	35%	30%	37%
Food environment index	8	6.9	8.4	7.9	7.2	8.3	7.7	8.5
Physical inactivity	23%	21%	25%	26%	29%	28%	20%	24%

Access to exercise opportunities	84%	34%	71%	82%	51%	56%	89%	56%
Excessive drinking	22%	21%	21%	18%	19%	19%	24%	20%
Alcohol-impaired driving deaths	34%	50%	69%	33%	33%	60%	33%	33%
Sexually transmitted infections	447.6		187.6	388			504.7	122.5
Teen births	21		17	42		22	18	13
Clinical Care		20	17	73	41	22	7	21
Uninsured	10%	9%	8%	15%	11%	10%	10%	8%
Primary care physicians	1,330:1		1,290:1	1,690:1	1,500:1	1,150:1	1,110:1	2,180:1
Dentists	1,300:1	2,000:0	1,800:1	1,690:1	3,020:1	3,400:1	1,340:1	3,270:1
Mental health providers	380:1	2,000:1	690:1	910:1	1,510:1		290:1	2,180:1
Preventable hospital stays	3,590	3,030	3,435	5,078	2,868	2,529	3,588	2,459
Mammography screening	48%	53%	47%	40%	44%	47%	50%	48%
Flu vaccinations	50%	44%	50%	35%	21%	28%	61%	33%
Social & Economic Factors		41	6	57	60	22	29	9
High school graduation	89%	86%	94%	95%	93%	100%	88%	98%
Some college	72%	64%	75%	50%	71%	69%	73%	68%
Unemployment	2.80%	2.50%	2.20%	2.80%	3.00%	2.30%	2.30%	2.10%
Children in poverty	13%	16%	12%	16%	18%	16%	12%	13%
Income inequality	4.2	3.5	4.1	3.9	3.8	3.9	4.3	3.8
Children in single-parent households	28%	17%	13%	30%	26%	15%	27%	22%
Social associations	14.1	14.8	21	20.7	16.7	11.6	14.5	18.4
Violent crime	286	77	97	152	33		193	99
Injury deaths	59		70	67	106	87	54	94
Physical Environment		12	65	38	31	19	45	37
Air pollution - particulate matter	7.5	6.9	7.5	7.2	7.3	7.1	7.8	7.5
Drinking water violations		No	Yes	No	No	No	No	No

Severe housing problems	13%	4%	8%	14%	8%	7%	11%	10%
Driving alone to work	82%	83%	83%	77%	81%	79%	82%	80%
Long commute - driving alone	18%	20%	17%	14%	32%	21%	13%	23%

Ranked Measure Sources and Years of Data

	Measure	Source	Years of Data
Health Outcomes			
Length of Life	Premature Death	National Center for Health Statistics – Mortality files	2016-2018
Quality of Life	Poor or Fair Health	Behavioral Risk Factor Surveillance System	2017
	Poor Physical Health Days	Behavioral Risk Factor Surveillance System	2017
	Poor Mental Health Days	Behavioral Risk Factor Surveillance System	2017
	Low Birthweight	National Center for Health Statistics – Natality files	2012-2018
Health Factors			
Health Behaviors			
Tobacco Use	Adult Smoking	Behavioral Risk Factor Surveillance System	2017
Diet and Exercise	Adult Obesity	United States Diabetes Surveillance System	2016
	Food Environment Index	USDA Food Environment Atlas, Map the Meal Gap from Feeding America	2015 & 2017
	Physical Inactivity	United States Diabetes Surveillance System	2016
	Access to Exercise Opportunities	Business Analyst, Delorme map data, ESRI, & U.S. Census Tigerline Files	2010 & 2019
Alcohol and Drug Use	Excessive Drinking	Behavioral Risk Factor Surveillance System	2017
	Alcohol-Impaired Driving Deaths	Fatality Analysis Reporting System	2014-2018
Sexual Activity	Sexually Transmitted Infections	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention	2017
	Teen births	National Center for Health Statistics – Natality files	2012-2018
Clinical Care			
Access to Care	Uninsured	Small Area Health Insurance Estimates	2017
	Primary Care Physicians	Area Health Resource File/American Medical Association	2017
	Dentists	Area Health Resource File/National Provider Identification file	2018
	Mental Health Providers	CMS, National Provider Identification	2019
Quality of Care	Preventable Hospital Stays	Mapping Medicare Disparities Tool	2017
	Mammography Screening	Mapping Medicare Disparities Tool	2017

	Measure	Source	Years of Data
Social and Economic Factors			
Education	High School Graduation	Nebraska Department of Education	2017-2018
	Some College	American Community Survey, 5-year estimates	2014-2018
Employment	Unemployment	Bureau of Labor Statistics	2018
Income	Children in Poverty	Small Area Income and Poverty Estimates	2018
	Income Inequality	American Community Survey, 5-year estimates	2014-2018
Family and Social Support	Children in Single-Parent Households	American Community Survey, 5-year estimates	2014-2018
	Social Associations	County Business Patterns	2017
Community Safety	Violent Crime	Uniform Crime Reporting – FBI	2014 & 2016
	Injury Deaths	National Center for Health Statistics – Mortality Files	2014-2018
Physical Environment			
Air and Water Quality	Air Pollution – Particulate Matter	Environmental Public Health Tracking Network	2014
	Drinking-Water Violations	Safe Drinking Water Information System	2018
Housing and Transit	Severe Housing Problems	Comprehensive Housing Affordability Strategy (CHAS) data	2012-2016
	Driving Alone to Work	American Community Survey, 5-year estimates	2014-2018
	Long Commute – Driving Alone	American Community Survey, 5-year estimates	2014-2018

Steps of finding the data and conducting this report

Go to County Health Rankings website at http://www.countyhealthrankings.org/explore-health-rankings, then type Nebraska under the Find County Rankings and click on search, choose rankings from the bars under Nebraska. From there we can see the ranking of counties and get detailed information for each county by clicking on the name of the county from the left column.

The health data for TRPHD were calculated by averaging data of the seven counties (excluding missing data) within the serving area of TRPHD. The health data for Nebraska and the U.S. were obtained directly from the County Health Rankings website (can be seen within each county). The summary in the text for each table was then developed accordingly. The last table (Ranked Measure Sources and Years of Data) was obtained from the 2020 County Health Rankings Report – Nebraska at http://www.countyhealthrankings.org/app/nebraska/2020/downloads.

APPENDIX F
COVID-19

Cases

Table F-1: COVID-19 Daily Total of Cases for Nebraska, TRPHD, and TRPHD Counties

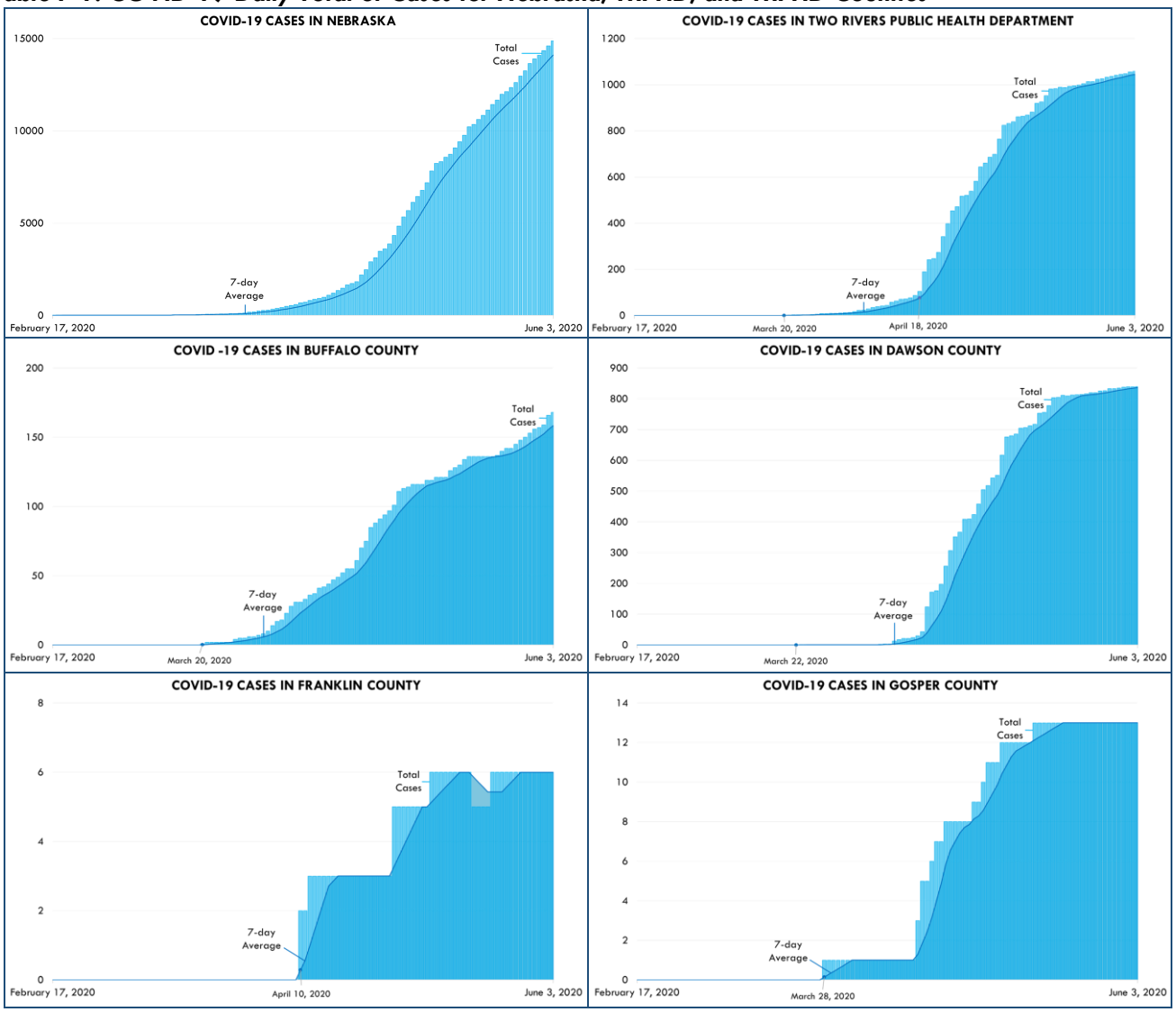
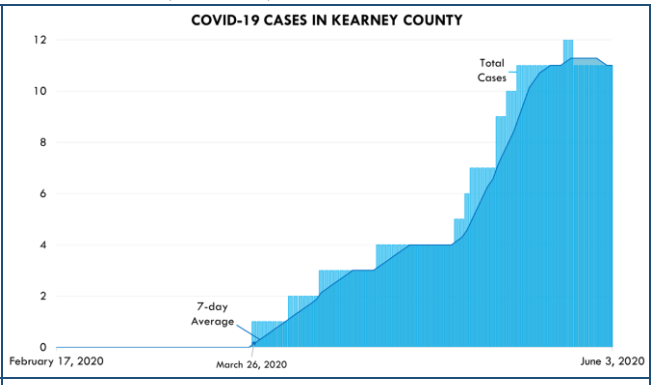
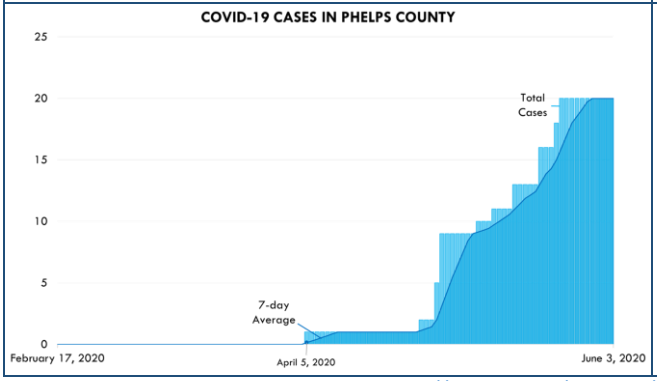


Table F-1 (Continued): COVID-19 Daily Total of Cases for Nebraska, TRPHD, and TRPHD Counties

HARLAN COUNTY **NO COVID-19 CASES AS OF JUNE 3, 2020**	
	Space Intentionally Left Blank

Source: New York Times (June 4, 2020), https://github.com/nytimes/covid-19-data

New Cases by Day

Table F-2: New COVID-19 Cases by Day for Nebraska, TRPHD, and TRPHD Counties

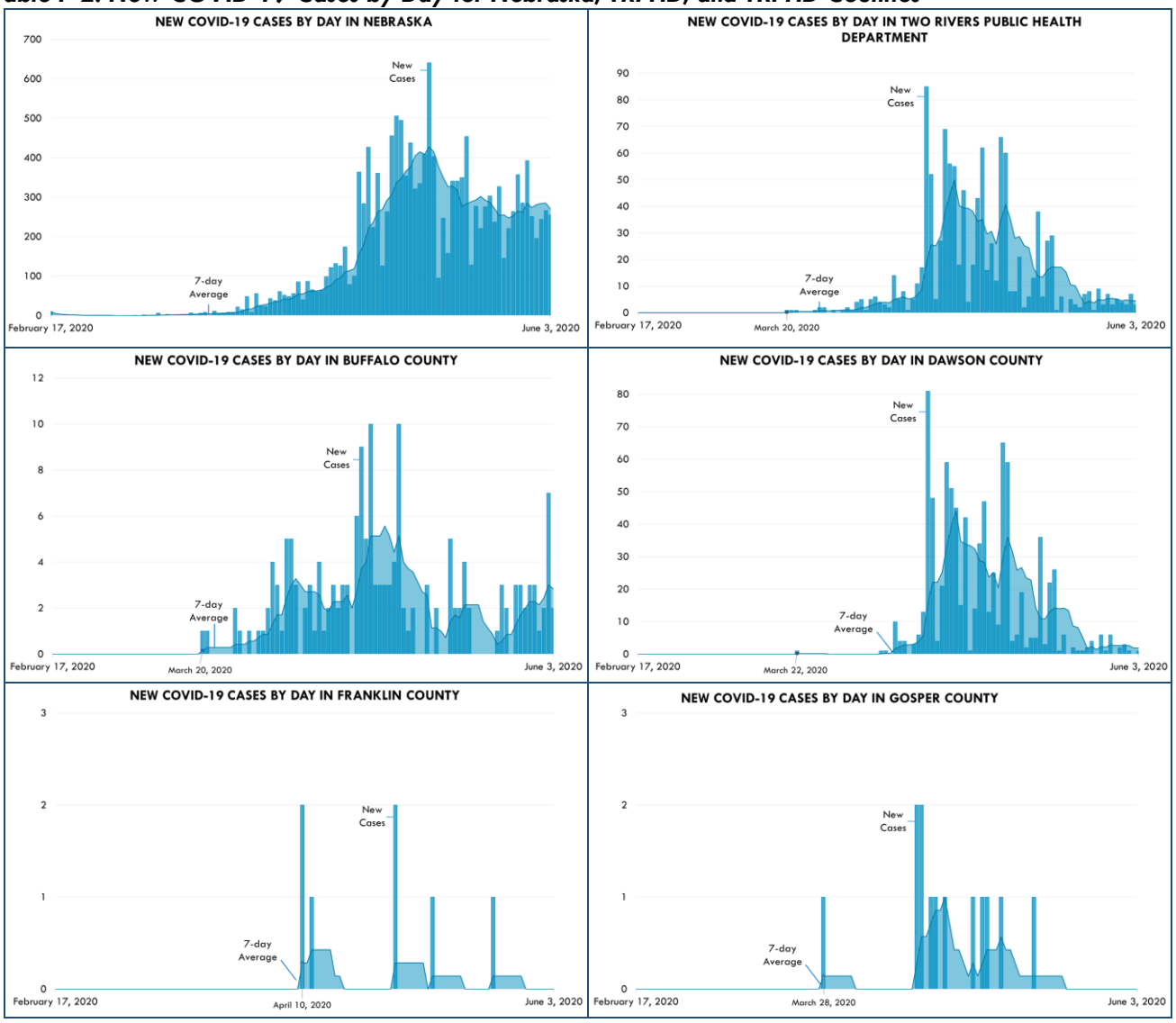
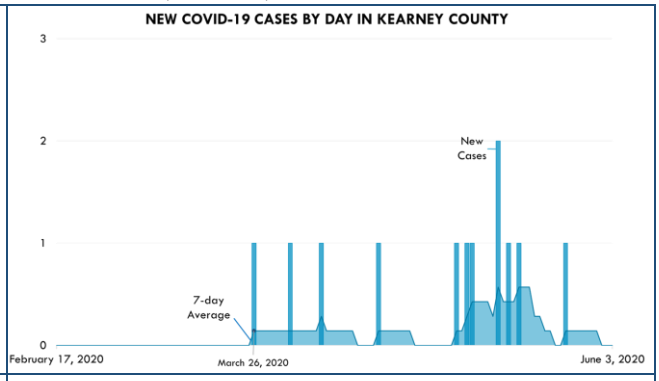
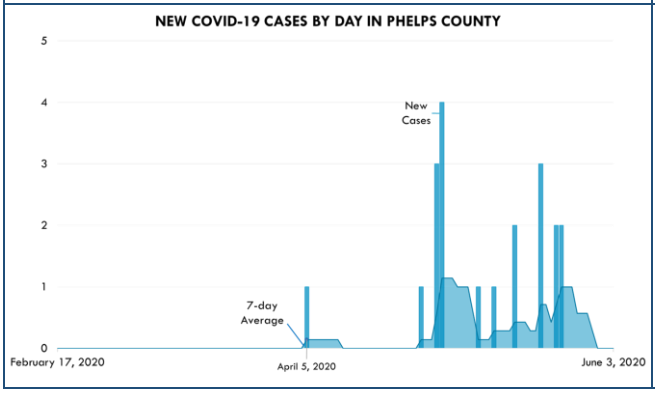


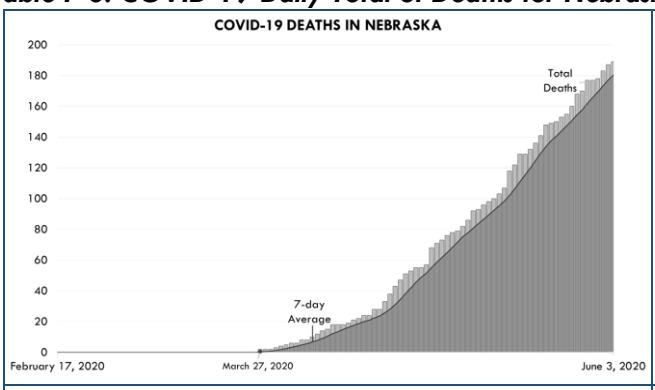
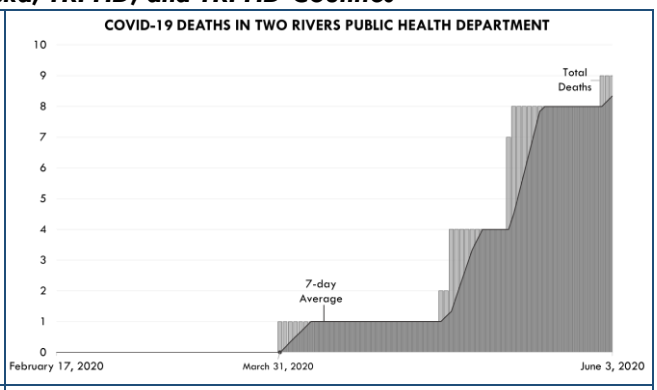
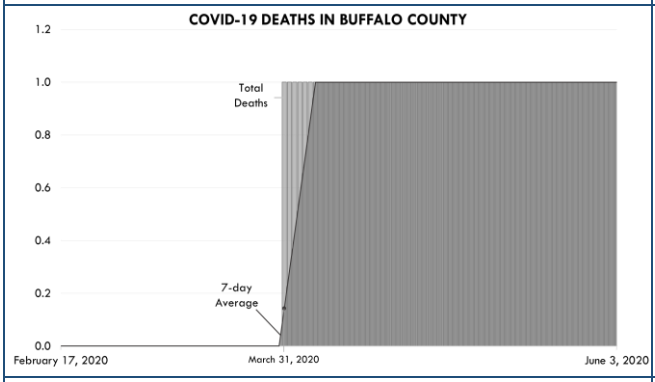
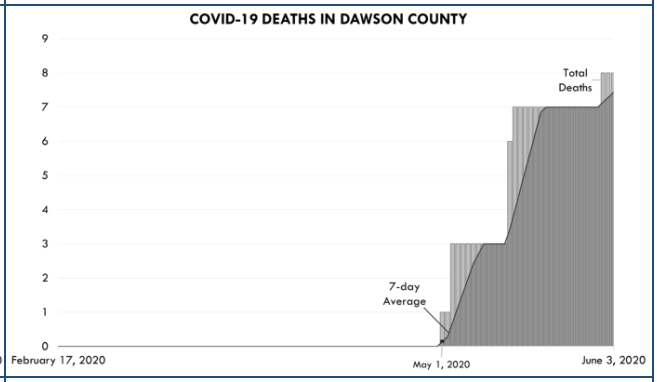
Table F-2 (Continued): New COVID-19 Cases by Day for Nebraska, TRPHD, and TRPHD Counties

HARLAN COUNTY **NO COVID-19 CASES AS OF JUNE 3, 2020**	
	Space Intentionally Left Blank

Source: New York Times (June 4, 2020), https://github.com/nytimes/covid-19-data

Deaths

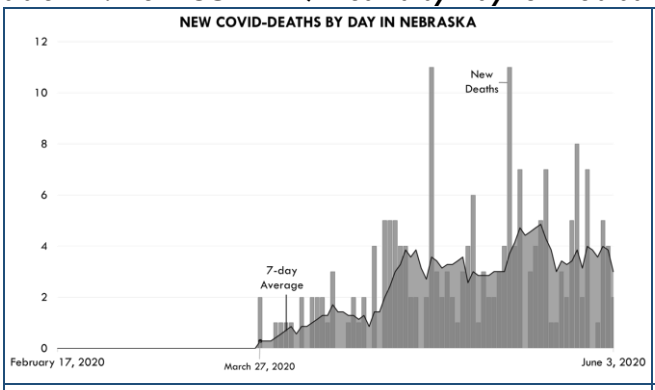
Table F-3: COVID-19 Daily Total of Deaths for Nebraska, TRPHD, and TRPHD Counties

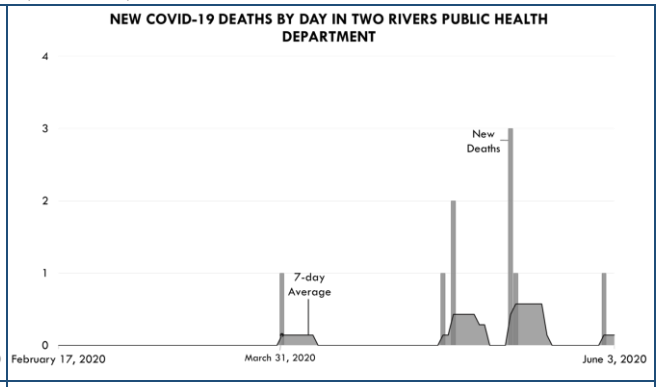
	
	
FRANKLIN COUNTY **NO COVID-19 DEATHS AS OF JUNE 3, 2020**	**GOSPER COUNTY** **NO COVID-19 DEATHS AS OF JUNE 3, 2020**
HARLAN COUNTY **NO COVID-19 DEATHS AS OF JUNE 3, 2020**	**KEARNY COUNTY** **NO COVID-19 DEATHS AS OF JUNE 3, 2020**
PHELPS COUNTY **NO COVID-19 DEATHS AS OF JUNE 3, 2020**	Space Intentionally Left Blank

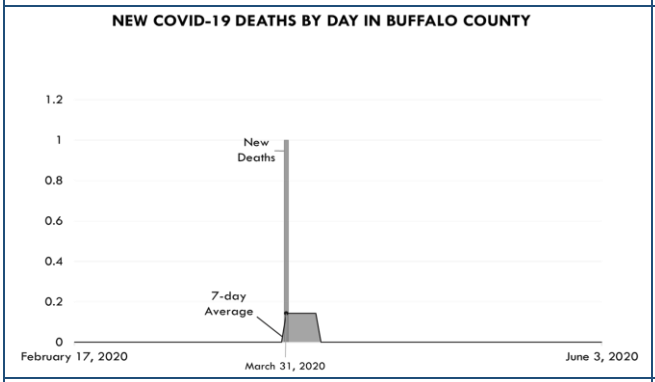
Source: New York Times (June 4, 2020), https://github.com/nytimes/covid-19-data

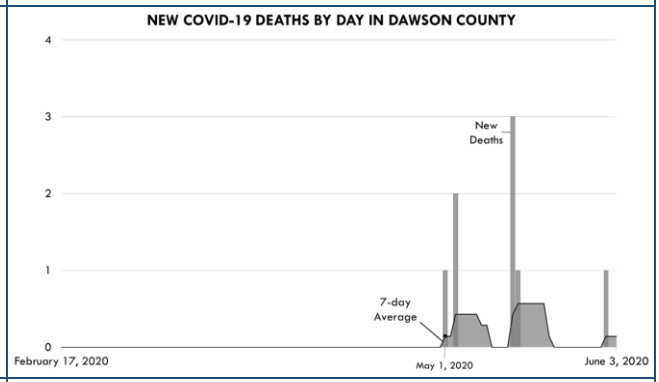
Deaths by Day

Table F-4: New COVID-19 Deaths by Day for Nebraska, TRPHD, and TRPHD Counties









FRANKLIN COUNTY **NO COVID-19 DEATHS AS OF JUNE 3, 2020**	**GOSPER COUNTY** **NO COVID-19 DEATHS AS OF JUNE 3, 2020**
HARLAN COUNTY **NO COVID-19 DEATHS AS OF JUNE 3, 2020**	**KEARNY COUNTY** **NO COVID-19 DEATHS AS OF JUNE 3, 2020**
PHELPS COUNTY **NO COVID-19 DEATHS AS OF JUNE 3, 2020**	Space Intentionally Left Blank

Source: New York Times (June 4, 2020), https://github.com/nytimes/covid-19-data