

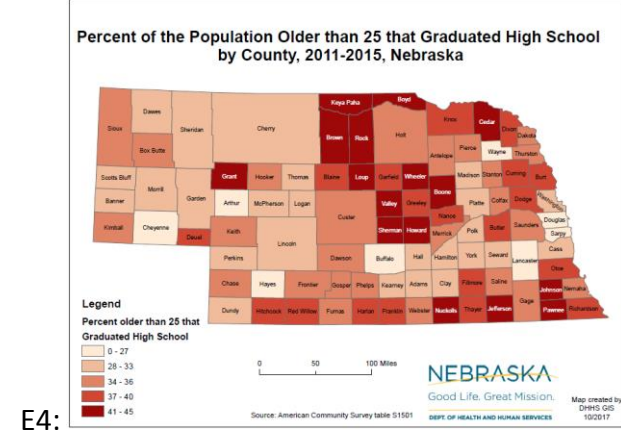
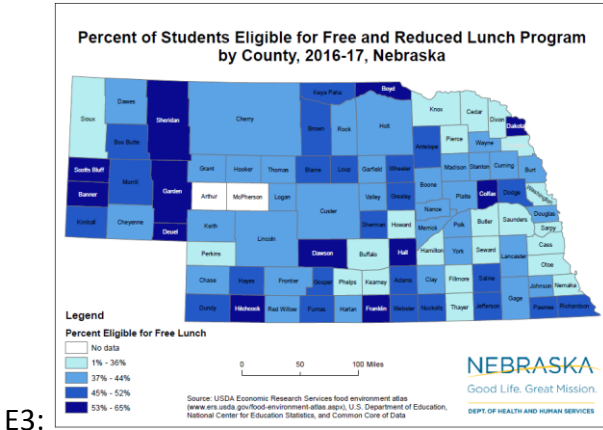
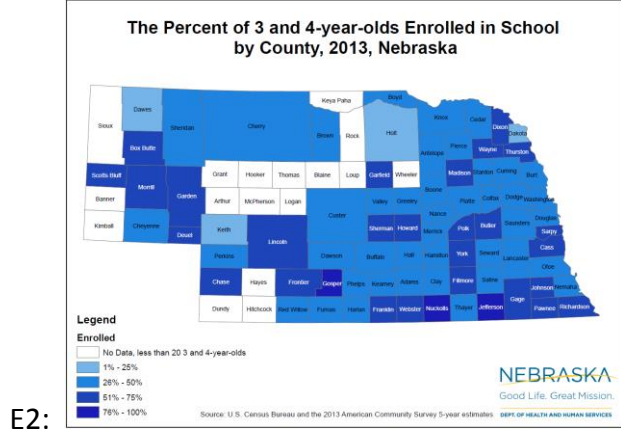
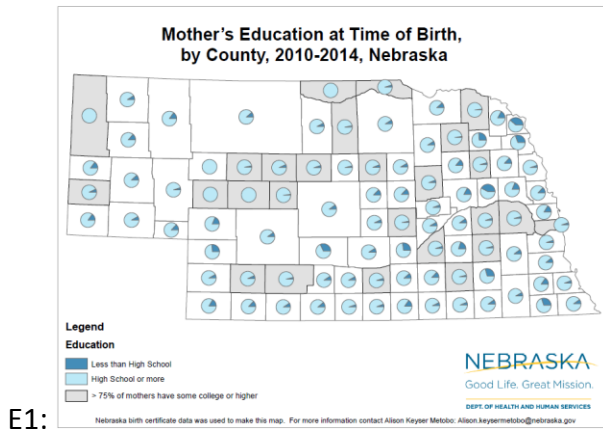
# EDUCATION Mapping

**Introduction:** Social determinants of health (SDOH) are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life risks and outcomes. In addition to the more material attributes of “place,” the patterns of social engagement and sense of security and well-being are also affected by where people live. Resources that enhance quality of life can have a significant influence on population health outcomes (Healthy People 2020). The Nebraska Collaborative Improvement & Innovation Network (COIIN) Social Determinants of Health (SDOH) Team has been working in the SDOH Learning Network of the nationwide Infant Mortality COIIN since 2015. The aim of the SDOH Learning Network is to build state and local capacity to influence SDOH.

The mapping of risk and protective factors is identified as a strategy for guiding policy, program, and community decisions. In Nebraska, mapping of risk and protective factors at the county level is a way to engage individuals and groups in conversations about population health not limited to individual behavior. In this way, conversations about equity can be guided by the variations in the conditions and circumstances in which we live.

The NE SDOH COIIN Team seeks to use maps to tell a story about the relationship between education and life course outcomes in Nebraska. Four maps are included: E1 Mother’s education at time of birth; E2 Percent of 3 and 4-year-olds enrolled in early childhood education; E3 Students eligible for free and reduced lunch program; and E4 Percent of the population older than 25 that graduated from high school.

**Maps:** (Full-sized maps are available in the Appendix section)



## **The Significance We See:**

**E1:** Teen pregnancy is recognized as a risk factor for not completing high school, or not going on for higher or professional education. A protective factor perspective could be to portray mothers' education at the time of giving birth. The map shows the percent of women giving birth in a county during a period who had not graduated from high school (pie chart) versus those who had graduated or equivalent, and gone on to higher education (shading). The conversation grew from mothers' education level to literacy. Women may face barriers due to language and literacy that might be hidden when we look at education alone. What other social determinants might be operating in these locations?

**E2:** Enrollment in quality early childhood care and education programs has been shown to have a powerful effect on readiness for elementary school, and school success. Early childhood education may also impact life course outcomes by laying the groundwork for better health through acquisition of both cognitive and social-emotional skills. However, the availability and affordability of high quality early childhood education may vary geographically and economically. Some issues may include: the business models and costs of private for-profit early education programs may favor those with (supplemented) income; local school funding; low population density of rural areas may be a factor in driving and transportation demands.

**E3:** The team made the association between school success and food security for children and families. Adequate food for children in school has an impact on concentration, anxiety, distraction, isolation, stigma, illness, stress, and more. In addition to free and reduced lunch programs, many Nebraska schools also offer breakfast, summer, and backpack programs. Schools are established as an important link for children and food resources in community – especially but not limited to children who qualify for Free and Reduced Lunch.

**E4:** The percent of adult population older than 25 years old who has graduated from high school is considered as a social determinant because it is an indicator of employability and wage potential. This is significant on the levels of family, community, and state fiscal health.

## **Suggested Questions for Discussion:**

- How does your community answer the need for early childhood care and education? Are there adequate and affordable facilities? Is 24-hour child care for working parents a need?
- Do you know someone using a preschool for the care of a young child? What are your thoughts about these experiences? How many options for a working parent to manage safe and nurturing care of a young child can you name?
- How far do parents in your community need to travel both to find child care and to work?
- What community supports are in your community helping parents of young children? (may include parenting education, after school programs, community services for young children?)
- Education is an important social determinant of health and equity. Education is key to employment. In what ways are schools in your community preparing graduates for employment?

### **Limitations of the Maps:**

Smaller populations and different age distributions in rural areas may influence E1. The data table is attached to this brief in order to inform readers about the counties where the protective factor is strong.

### **Unexpected Insights from the Maps:**

Education is not only a specific lifecourse asset to an individual, but also a factor in the environment a child is exposed to throughout childhood. Education outcomes are also tied to level of poverty in a population, on a household level. Education may exert an influence on aspirations of parents as well as a child, indicating that educational achievement may have a multi-generational impact. In the relationship between educational opportunity and income, economic advantage becomes both an enabler and an outcome. Opportunities for families to access early childhood education, and its protective aspects as a social determinant, are not equally or equitably available statewide and for all groups. Access to education may be also be influenced by urban/rural differences, and the overall economic health of small population versus large population areas.

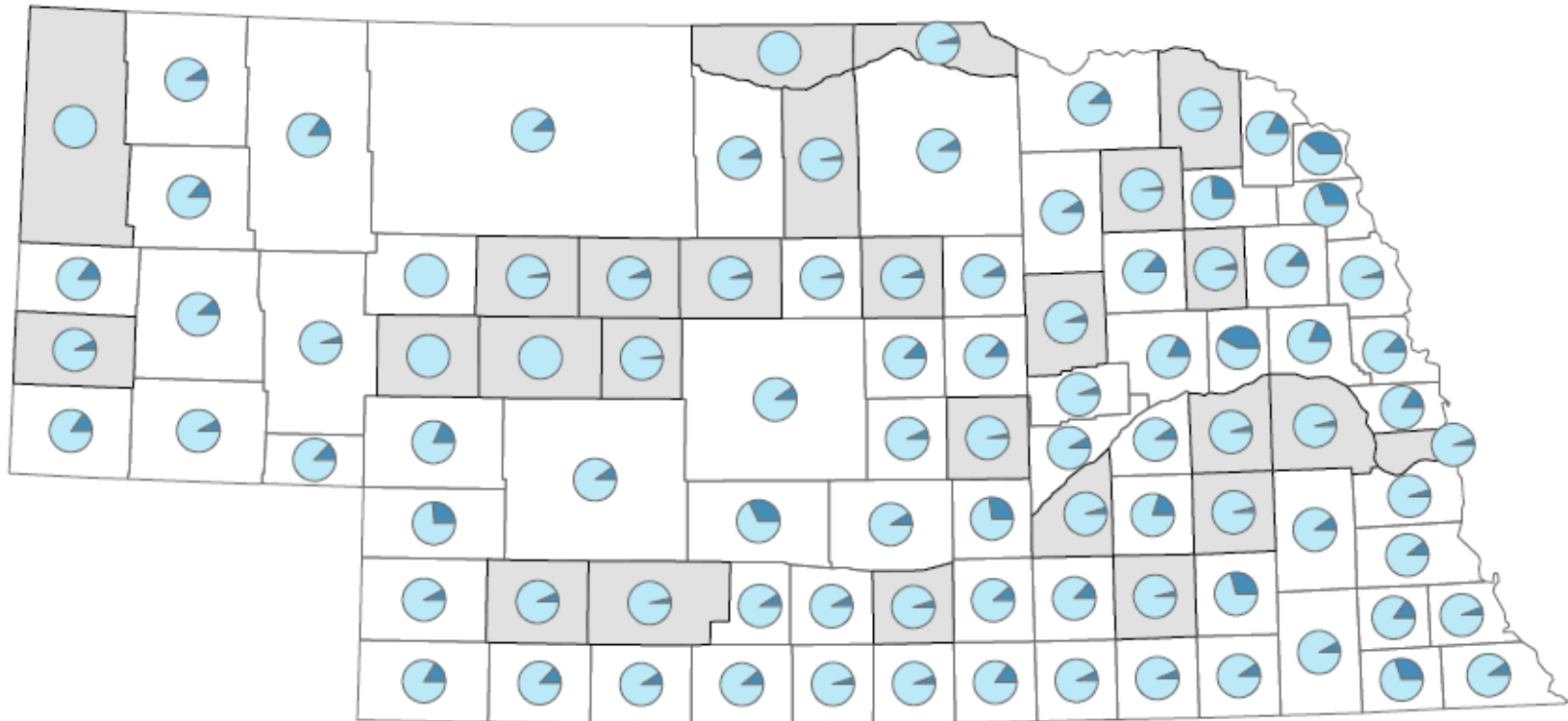
The age distribution of the Nebraska population, geographically, may also be a factor in understanding education as a social determinant of health, as numbers in certain age groups are too small in some rural counties to meet reporting levels.

### **Recommendations – Using this Information:**

- How are students doing in your community? Are there sufficient community and family supports to help all students succeed? What groups might be particularly struggling, and what are their circumstances?
- How do high schools in your area support teen parents?
- What other information might you want to know how young children are faring in your community?

**APPENDIX 1-A: E1 Mother's Education at Time of Birth**

## Mother's Education at Time of Birth, by County, 2010-2014, Nebraska



**Legend**

**Education**

- Less than High School
- High School or more
- > 75% of mothers have some college or higher



Nebraska birth certificate data was used to make this map. For more information contact Alison Keyser Metobo: [Alison.keysermetobo@nebraska.gov](mailto:Alison.keysermetobo@nebraska.gov)

## APPENDIX 1-B: E1 Mother's Education at Time of Birth, by County

| Mother's education at time of birth, 2010-2014 |      |             |                      |
|------------------------------------------------|------|-------------|----------------------|
| Maternal county of residence                   | < HS | HS grad/GED | Some college or more |
| Adams                                          | 11   | 23          | 66                   |
| Antelope                                       | 9    | 17          | 75                   |
| Arthur                                         | 0    | 8           | 92                   |
| Banner                                         | 7    | 7           | 86                   |
| Blaine                                         | 5    | 0           | 95                   |
| Boone                                          | 6    | 18          | 76                   |
| Box Butte                                      | 14   | 26          | 60                   |
| Boyd                                           | 5    | 19          | 76                   |
| Brown                                          | 8    | 22          | 70                   |
| Buffalo                                        | 9    | 18          | 74                   |
| Burt                                           | 5    | 23          | 72                   |
| Butler                                         | 5    | 19          | 76                   |
| Cass                                           | 5    | 21          | 74                   |
| Cedar                                          | 2    | 16          | 82                   |
| Chase                                          | 8    | 24          | 68                   |
| Cherry                                         | 11   | 18          | 71                   |
| Cheyenne                                       | 8    | 19          | 73                   |
| Clay                                           | 13   | 23          | 65                   |
| Colfax                                         | 42   | 24          | 34                   |
| Cuming                                         | 13   | 19          | 68                   |
| Custer                                         | 10   | 25          | 65                   |
| Dakota                                         | 39   | 26          | 35                   |
| Dawes                                          | 9    | 20          | 71                   |
| Dawson                                         | 32   | 30          | 38                   |
| Deuel                                          | 13   | 25          | 63                   |
| Dixon                                          | 17   | 19          | 64                   |
| Dodge                                          | 19   | 24          | 58                   |
| Douglas                                        | 16   | 17          | 66                   |
| Dundy                                          | 16   | 23          | 60                   |
| Fillmore                                       | 4    | 19          | 77                   |
| Franklin                                       | 6    | 21          | 73                   |

| Mother's education at time of birth, 2010-2014 |      |             |                      |
|------------------------------------------------|------|-------------|----------------------|
| Maternal county of residence                   | < HS | HS grad/GED | Some college or more |
| Frontier                                       | 4    | 17          | 79                   |
| Furnas                                         | 11   | 29          | 60                   |
| Gage                                           | 8    | 23          | 69                   |
| Garden                                         | 5    | 26          | 68                   |
| Garfield                                       | 6    | 17          | 77                   |
| Gosper                                         | 9    | 23          | 68                   |
| Grant                                          | 0    | 30          | 70                   |
| Greeley                                        | 13   | 13          | 74                   |
| Hall                                           | 27   | 25          | 48                   |
| Hamilton                                       | 5    | 19          | 76                   |
| Harlan                                         | 5    | 26          | 69                   |
| Hayes                                          | 7    | 9           | 84                   |
| Hitchcock                                      | 13   | 23          | 64                   |
| Holt                                           | 9    | 17          | 74                   |
| Hooker                                         | 3    | 17          | 81                   |
| Howard                                         | 3    | 21          | 76                   |
| Jefferson                                      | 10   | 29          | 61                   |
| Johnson                                        | 15   | 26          | 58                   |
| Kearney                                        | 5    | 17          | 78                   |
| Keith                                          | 18   | 24          | 58                   |
| Keya Paha                                      | 0    | 6           | 94                   |
| Kimball                                        | 15   | 24          | 61                   |
| Knox                                           | 12   | 24          | 64                   |
| Lancaster                                      | 10   | 15          | 75                   |
| Lincoln                                        | 10   | 24          | 66                   |
| Logan                                          | 2    | 11          | 87                   |
| Loup                                           | 4    | 29          | 68                   |
| Madison                                        | 14   | 20          | 66                   |
| McPherson                                      | 0    | 8           | 92                   |
| Merrick                                        | 8    | 21          | 71                   |
| Morrill                                        | 12   | 25          | 64                   |

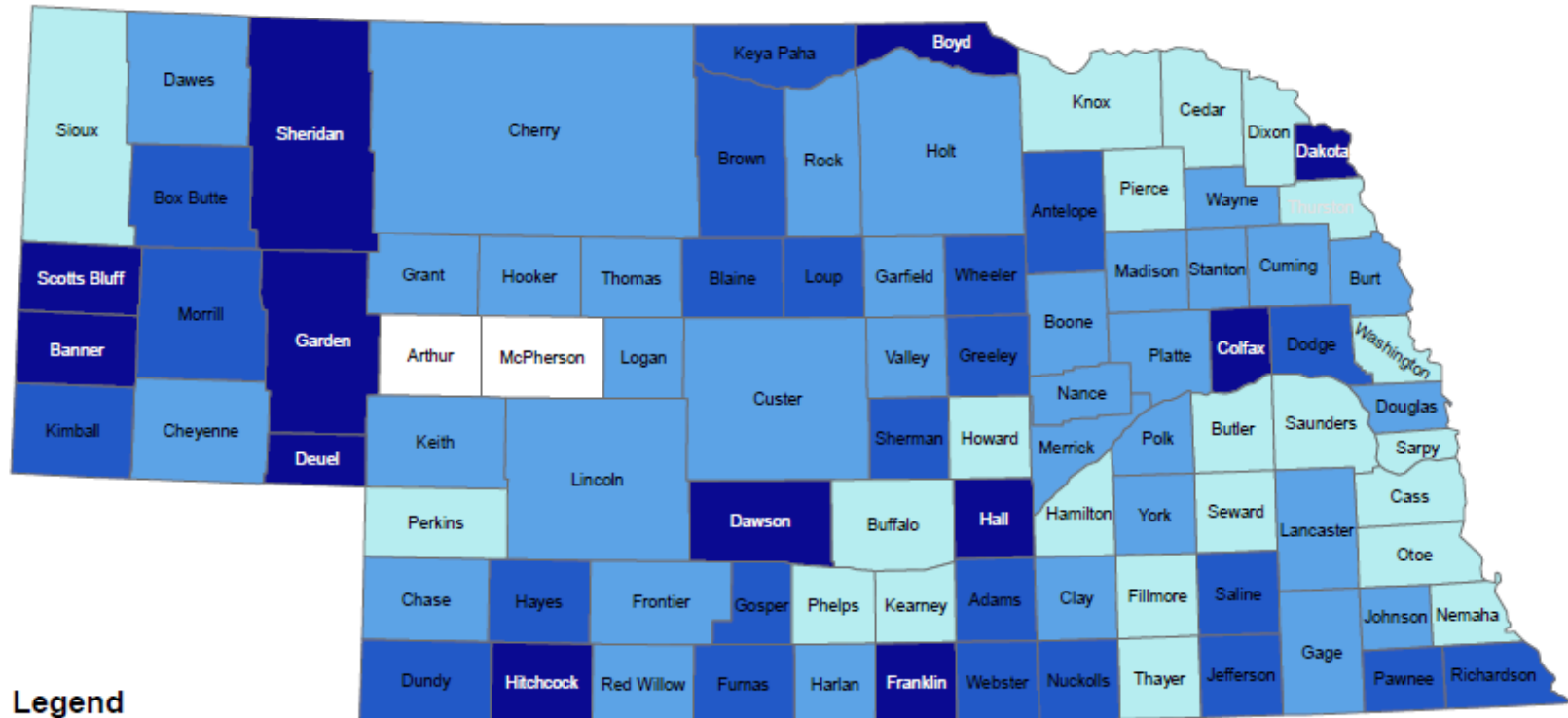
| Mother's education at time of birth, 2010-2014 |      |             |                      |
|------------------------------------------------|------|-------------|----------------------|
| Maternal county of residence                   | < HS | HS grad/GED | Some college or more |
| Nance                                          | 6    | 18          | 75                   |
| Nemaha                                         | 6    | 23          | 71                   |
| Nuckolls                                       | 7    | 21          | 72                   |
| Otoe                                           | 11   | 23          | 66                   |
| Pawnee                                         | 30   | 13          | 57                   |
| Perkins                                        | 26   | 18          | 56                   |
| Phelps                                         | 8    | 22          | 69                   |
| Pierce                                         | 2    | 16          | 81                   |
| Platte                                         | 17   | 25          | 57                   |
| Polk                                           | 10   | 25          | 65                   |
| Red Willow                                     | 9    | 22          | 69                   |
| Richardson                                     | 10   | 32          | 58                   |
| Rock                                           | 3    | 9           | 88                   |
| Saline                                         | 29   | 20          | 50                   |
| Sarpy                                          | 5    | 16          | 79                   |
| Saunders                                       | 4    | 18          | 78                   |
| Scotts Bluff                                   | 15   | 26          | 59                   |
| Seward                                         | 4    | 15          | 81                   |
| Sheridan                                       | 15   | 22          | 63                   |
| Sherman                                        | 7    | 19          | 74                   |
| Sioux                                          | 0    | 20          | 80                   |
| Stanton                                        | 4    | 17          | 79                   |
| Thayer                                         | 6    | 20          | 74                   |
| Thomas                                         | 7    | 13          | 80                   |
| Thurston                                       | 27   | 30          | 30                   |
| Valley                                         | 5    | 17          | 17                   |
| Washington                                     | 5    | 17          | 17                   |
| Wayne                                          | 7    | 10          | 10                   |
| Webster                                        | 9    | 25          | 25                   |
| Wheeler                                        | 3    | 17          | 17                   |
| York                                           | 10   | 20          | 20                   |

Source: Birth certificates 2010-2014



**APPENDIX 3: E3 Free and Reduced Lunch Program**

**Percent of Students Eligible for Free and Reduced Lunch Program by County, 2016-17, Nebraska**



**Legend**

**Percent Eligible for Free Lunch**

- No data
- 1% - 36%
- 37% - 44%
- 45% - 52%
- 53% - 65%

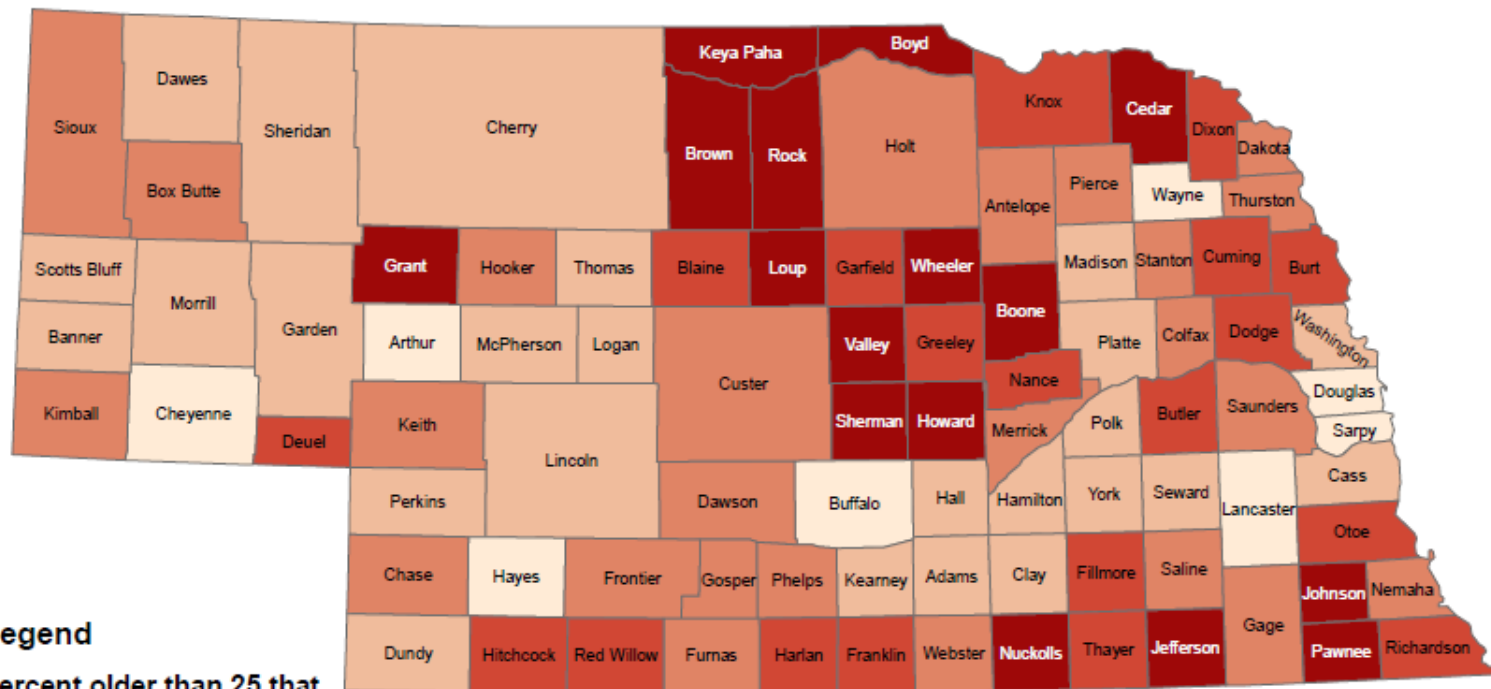
0 50 100 Miles

Source: USDA Economic Research Services food environment atlas ([www.ers.usda.gov/food-environment-atlas.aspx](http://www.ers.usda.gov/food-environment-atlas.aspx)), U.S. Department of Education, National Center for Education Statistics, and Common Core of Data



**APPENDIX 4: E4 Population Older than 25 Graduated High School**

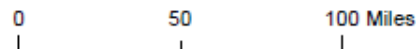
**Percent of the Population Older than 25 that Graduated High School by County, 2011-2015, Nebraska**



**Legend**

**Percent older than 25 that Graduated High School**

- 0 - 27
- 28 - 33
- 34 - 36
- 37 - 40
- 41 - 45



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10/2017

Source: American Community Survey table S1501