Primary Care Workforce and Health Systems Needs Assessment 2020

Iowa Department of Public Health

Protecting and Improving the Health of Iowans

Contact Information

Susan Dixon, MPA, MSS
Bureau Chief, Policy and Workforce Services
Deputy Director's Office
Iowa Department of Public Health
321 E 12th St.
Des Moines, IA 50319
Phone: 515.725.2183
Email: Susan.Dixon@idph.iowa.gov

Cristie Duric, MPH, RRT
Primary Care Officer
Bureau of Policy and Workforce Services
Iowa Department of Public Health
321 E 12th St.
Des Moines, IA 50319
Phone: 515-229-3913
Email: cristie.duric@idph.iowa.gov

Samra Hiros, MPH
State Office of Rural Health Program Planner
Bureau of Policy and Workforce Services
Iowa Department of Public Health
321 E 12th St.
Des Moines, IA 50319
Phone: 515-423-7900
Email: Samra.Hiros@idph.iowa.gov

Cassie Kennedy, MPH
FLEX and SHIP Program Coordinator
Bureau of Policy and Workforce Services
Iowa Department of Public Health
321 E. 12th Street
Des Moines, IA 50319
Phone: (515) 330-5755
Email: cassie.kennedy@idph.iowa.gov

Table of Contents

Introduction

This needs assessment reflects the needs of the Iowa Department of Public Health (IDPH) Rural Health Programs, which focus on health systems and workforce initiatives, all of which are supported by state and/or federal funding from the Health Services and Resources Administration. The Rural Health Programs include: the Primary Care Office; the State Office of Rural Health; the Rural Hospital Medicare Flexibility Program (Flex Program); the Small Rural Hospital Improvement Grant Program (SHIP); J-1 Visa and National Interest Waiver Programs; Primary Care Provider State Loan Repayment Program; Medical Residency and Psychiatry Residency Support Programs; Physician Assistant and Nurse Practitioner Support Program; Psychologist Training Support Program; Volunteer Health Care Provider Program; and the SafeNetRx Program. All programs are housed in the Bureau of Policy and Workforce Services in the Deputy Director's Office at the IDPH.

Rural Health Programs Activities

- Implement initiatives to strengthen the rural health care infrastructure as it relates to **Critical Access Hospitals**.
- Support **Small Rural Hospitals** to participate in value-based purchasing programs, accountable care organizations, and payment bundling.
- Support the provision of **Specialty Care** to Iowans 200% below poverty level.
- Implement **Recruitment and Retention** programs focusing on medical, mental and dental health professionals.
- Coordinate **Health Professional Shortage Area** and Governor's Shortage Area designations, which qualify health care professionals for state and federal programs.
- Provide consultation and technical support to **Rural Health Care** programs.
- Support volunteerism by competent health care professionals by providing legal protection to Individual **Volunteer Health Care Providers** and **Protected Clinics** providing the free, uncompensated health care services.

The purpose of this needs assessment is to provide a comprehensive overview of the provision of primary care, mental health, and dental care services in Iowa as well as factors that may negatively affect an individual's access to care and healthcare needs, and which may result in poor health outcomes. More specifically, this assessment will address the following considerations as it relates to Iowa communities:

1. Indicators that help describe the health of the population and health system performance;
2. Healthcare provider access;
3. Health insurance and reimbursement; and
4. Health care Infrastructure.

Collaboration

The IDPH Rural Health Programs engaged various partners in the process of developing this needs assessment. The following partners informed the PEST/SWOT analysis or were given the opportunity to review the draft assessment and provide feedback. Additionally, partners will be afforded the opportunity to assist with annual (or as needed) review and updates of the needs assessment.

Abby Less, Program Coordinator
Iowa Department of Public Health

Angela Doyle Scar, Program Coordinator
Iowa Department of Public Health

Bill Menner, Executive Director
Iowa Rural Health Association

Brittni Hamdorf, Nurse Practitioner
Iowa State Univeristy of Science and Technology

Connie Joylani, Physician
Waverly Health Center

Gregory Nelson, Assistant Dean and Director. Business/Organization
University of Iowa

Jennifer Nutt, Vice President, Nursing & Clinical Services
Iowa Hospital Association

Joseph Greene, Program Planner
Iowa Department of Public Health

Katheryn Mcburney, Oral Health Consultant
Iowa Department of Public Health

Katie Kenny, Lead Human Resources Consultant
Iowa Primary Care Association

Kathy Stone, Pharmacist
CHI Health Missouri Valley

Linda Thiesen, Data Analyst
University of Iowa

Matthew Cooper, PsyD, Training Director
Iowa Psychological Association

Molly Gosselink, Nurse Clinician
Iowa Department of Public Health

Nicholas Eilertson, Dentist
People's Community Health Center

Rebecca Swift, Program Coordinator
Iowa Department of Public Health

Rima El-Herte, Physician
Chest, Infectious Diseases and Critical Care Associates

Sylvia Navin, Community Health Consultant
Iowa Department of Public Health

Data Collection

The IDPH Rural Health Programs conducted exhaustive research of current publications and pulled data from a variety of resources to inform this needs assessment. Sources included the Iowa Data Center, U.S. Census, and County Health Rankings and Roadmaps, among others. Original qualitative studies were not conducted as part of this assessment. Instead, qualitative data was gathered from county-level community health needs assessments and other data already published such as news articles, interviews, and survey results.

COVID 19

In late 2019, COVID 19 emerged as a disease with the potential for severe illness and death, particularly in older populations and for people who have pre-existing medical conditions. Like other states, Iowa

has experienced the deleterious effects of COVID 19. The pandemic effects are still being felt nationwide and both the federal and state government have instituted emergency measures to control the spread of COVID 19, as well as to minimize resulting illness and death. For these reasons, the authors did not include COVID 19 specific response-related programs in this needs assessment. Should the outcome of the pandemic result in significant changes to pertinant laws, policies, funding, or programs, this needs assessment will be updated to reflect the changes.

National Overview

In rural communities, home to 57 million people nationally (15 to 20 percent of the population), access to quality healthcare is a growing burden. There are numerous contributing factors that challenge the rural healthcare landscape. For instance, rural communities suffer greater health and socioeconomic disparities compared to urban areas. Rural residents are more likely to:

- Have higher rates of cigarette smoking, injuries, suicide, opioid misuse, high blood pressure, obesity, or oral disease.
- Have a decreased life expectancy.
- Have a disability.
- Be low-income.
- Be older, white, and have lower levels of education.
- Struggle with accessing care, especially when it comes to transportation to and from health care services.[1]
- Have decreased access to specialty care
- Wait nearly twice as long for ambulances.[2]
- Be uninsured or underinsured
- Be covered by Medicaid

Rural health system challenges create an adverse environment for workforce recruitment and retention. A poll of 2000 American voters revealed that a majority of rural residents who completed the survey (54%) indicated that access to medical specialists is a problem in their local communities, and more than a quarter (27%) indicated that it is difficult to access a behavioral health professional.[3] Rural Americans, when compared to urban Americans, reported that availability of appointments and distance to care are barriers to health care (56% vs. 50% and 50% vs. 37% respectively). In 2018, Medicare reported that rural residents, regardless of race or ethnicity, often received worse clinical care than urban residents.[4] These circumstances are, at least in part, a consequence of a strained U.S. healthcare workforce, which is lagging behind more than 26 other countries in the number of doctors per capita, with only 2.6 physicians per 1,000 people.[5]

Primary care providers ("PCPs") are scarcer in rural areas when compared to urban areas (5.4 PCPs per 100k compared to 7.9 PCPs per 100k, respectively). Pertaining to oral health practitioners, rural areas

[1] Foutz, J., Artiga, A., & Garfield, R. (2017, April). The role of Medicaid in rural America. http://files.kff.org/attachment/Issue-Brief-The-Role-of-Medicaid-in-Rural-America

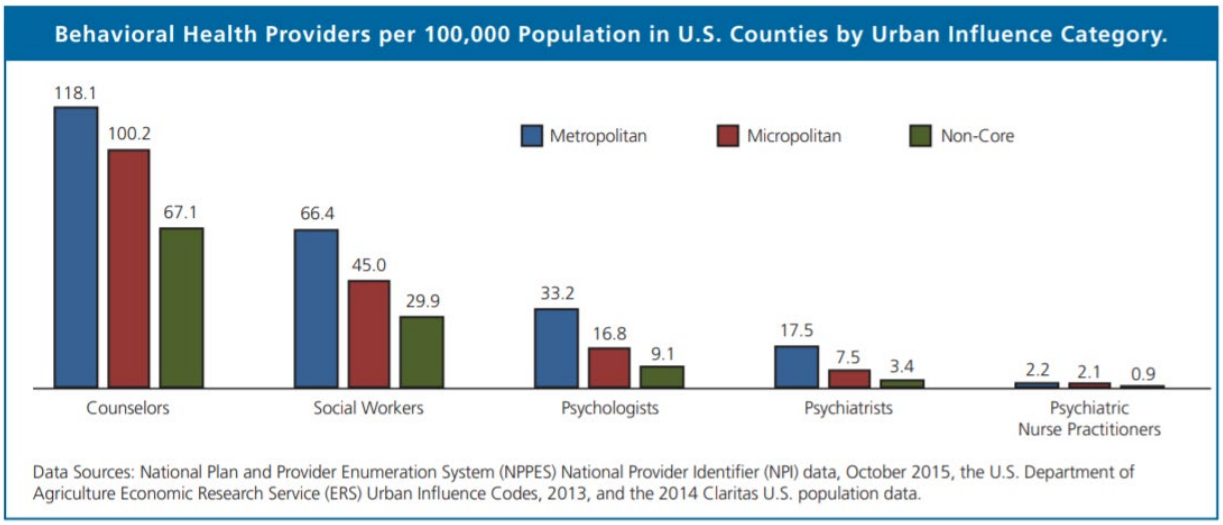
[2] Study: Longer ambulance drives as hospitals close in rural communities. (2020, February 14). Journal of Emergency Medical Services. https://www.jems.com/2020/02/14/longer-ambulance-drives-as-hospitals-close-in-rural-communities/

[3] Bailie, M., Barton, T., Donnellan, J., Hayes, K., Hoagland, G. W., McDonough, D., Parekh, A., & Serafini, M. W. (2020, April 21). Confronting rural America's health care crisis. Bipartisan Policy Center. https://bipartisanpolicy.org/report/confronting-rural-americas-health-care-crisis/

[4] Centers for Medicare & Medicaid Services (CMS). (2019, November). Rural-Urban Disparities in Health Care in Medicare. https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/Rural-Urban-Disparities-in-Health-Care-in-Medicare-Report.pdf

[5] Health at a Glance 2019. (2019). Health at a Glance, 33. https://doi.org/10.1787/4dd50c09-en

have 3.6 dentists per 10,000 compared to 5.9 in urban areas.[6] Mental health does not fare any better, with drastic declines in provider to population ratios in rural areas across the spectrum of behavioral health provider professions.



To compound workforce shortage issues, state and federal laws and regulations currently restrict physician assistants and nurse practitioners from practicing to the greatest extent of their education and training. Modernizing relevant regulations may increase the value of such practitioners and contribute to the overall success of an integrated approach to healthcare.[7]

There are some positive attributes and incentives to working in rural Iowa. For primary care providers, salaries tend to be 5 to 10% higher for rural opportunities when compared to the same job in an urban area. The Medicus Group collected data of primary care physician placement and compensation and found the following:

- The average placement salary for family practitioners and internal medicine practitioners was higher in rural areas than in urban areas (16% and 13% respectively).
- Signing bonuses trend higher for primary care rural and mid-sized communities.[8]

However, the growth of telemedicine, market developments and other community circumstances may narrow the salary differential in the future. Additionally, payer mix is a factor to consider in physician compensation as rural areas fair better because insurers have less leverage there than in urban areas,

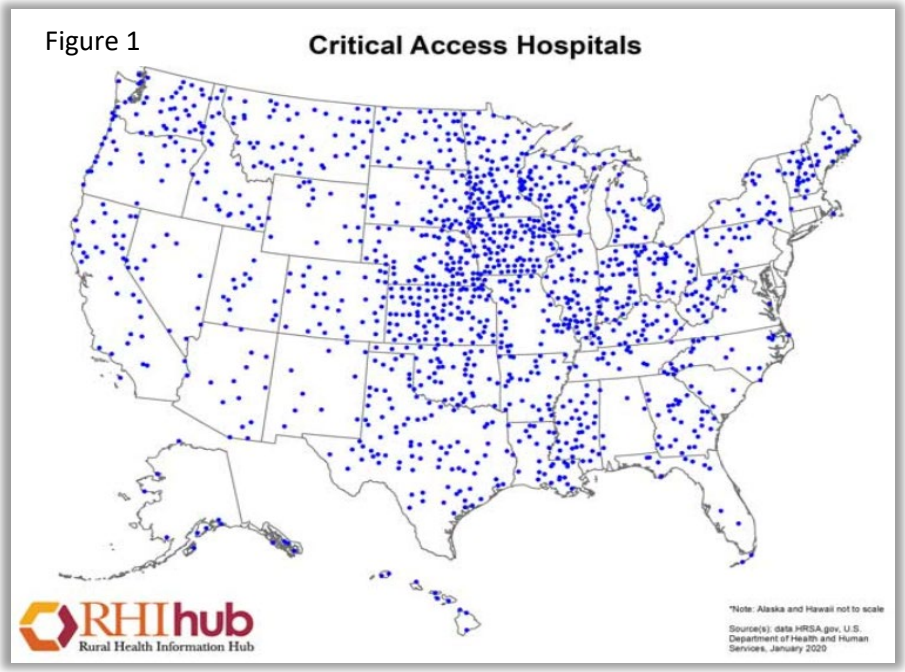
[6] Doescher, M., & Keppel, G. (2015). Dentist supply, dental care utilization, and oral health among rural and urban U.S. residents (Final Report #135). https://depts.washington.edu/uwrhrc/uploads/RHRC_FR135_Doescher.pdf
[7] Wells, R., Cody, M., Alpino, R., Van Dyne, M., Abbott, R., & King, N. (2017, July). Physician assistants: Modernize laws to improve rural access. National Rural Health Association. https://www.ruralhealthweb.org/NRHA/media/Emerge_NRHA/Advocacy/Policy%20documents/04-09-18-NRHA-Policy-Physician-Assistants-Modernize-Laws-to-Improve-Rural-Access.pdf
[8] Rappleye, E. (2016, April 13). Where do primary care physicians earn most — urban, rural or mid-sized communities? Becker's Healthcare. https://www.beckershospitalreview.com/compensation-issues/where-do-primary-care-physicians-earn-most-urban-rural-or-mid-sized-communities.html

which are typically well supplied with physicians. [9] Other factors that boost rural recruitment are educational loan repayment and a lower cost of living.

In addition to healthcare workforce capacity, the makeup of rural healthcare delivery systems can have a profound effect on an individual's quality of care. Health systems vary greatly across the nation but generally embody both inpatient and outpatient care resources, with the primary distinction being an overnight admission to a hospital. Organizations can be public or private, and many rural healthcare operations, such as Federally Qualified Health Centers, Rural Health Clinics, and Critical Access Hospitals are specially designated to receive enhanced Medicaid and Medicare reimbursement rates. These allowances provide support to offset costs associated with the financial and physical challenges of rural health facilities.

- Federally qualified health centers (FQHCs), or Community Health Centers, are nonprofit or public outpatient clinics that provide healthcare services and case management in underserved and rural areas to people, regardless of their ability to pay or health insurance status. There are currently 1,370 FQHCs nationally.
- Rural health clinics (RHCs) are similar to FQHCs with a distinction that they must be located in rural, underserved areas with less than 50,000 residents. RHCs tend to utilize Physician Assistants and Nurse Practitioners to provide medical care. Currently there are approximately 4,500 RHCs operating nationwide.
- Rural Community Hospitals constitute over 1,800 of 6,146 hospitals in the United States. 74% of the rural hospitals are designated as **Critical Access Hospitals (CAHs)**, which are facilities located more than 35 miles from the nearest hospital, have fewer than 25 acute care inpatient beds, maintain an average stay of 96 hours or less, and provide emergency care. CAHs are reimbursed at 101 percent of reasonable costs by Medicare. Figure 1 shows that the

Figure 1



[9] The New England Journal of Medicine. (2019, March). Demystifying urban versus rural physician compensation. The New England Journal of Medicine Career Center. https://www.nejmcareercenter.org/article/demystifying-urban-versus-rural-physician-compensation/

Midwest region has a greater proportion of Critical Access Hospitals and an overall greater proportion of rural hospitals compared to other US Census Regions.

Figure 2

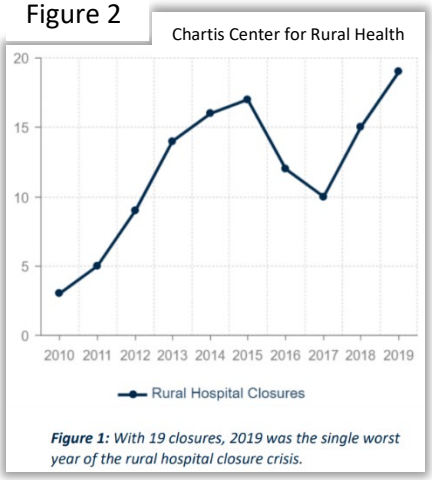
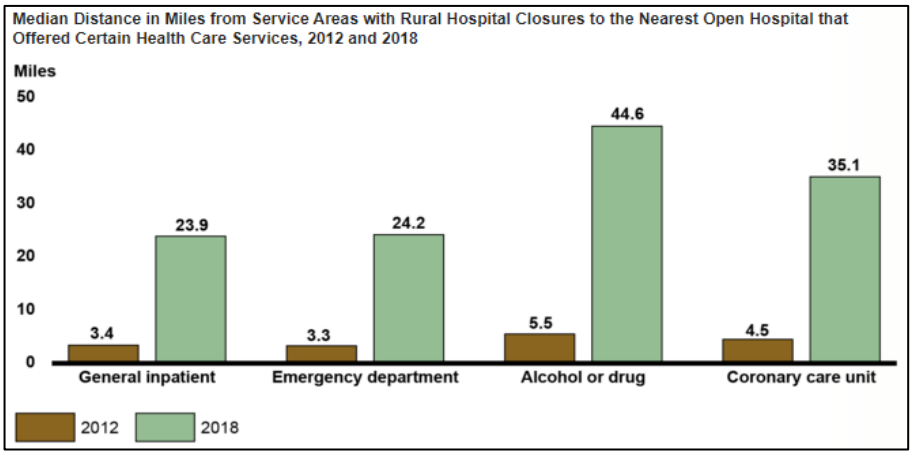


Figure 1: *With 19 closures, 2019 was the single worst year of the rural hospital closure crisis.*

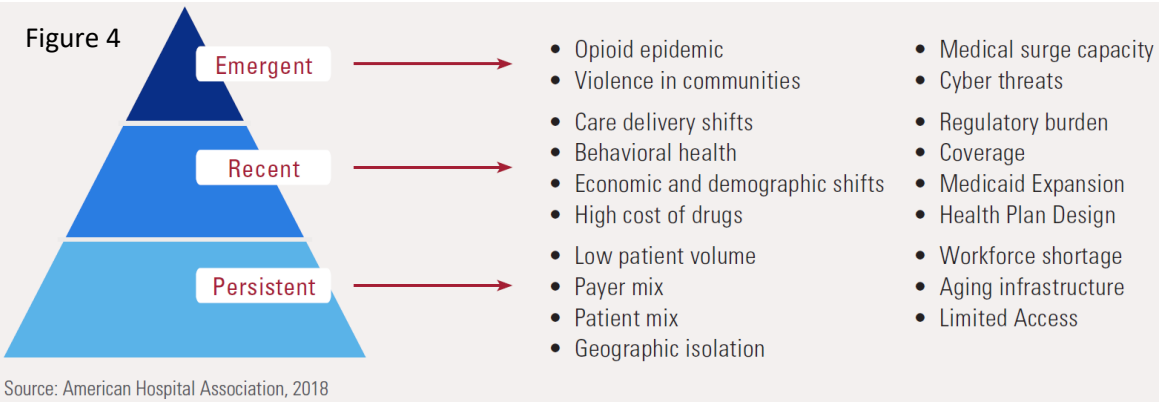
An alarming trend of the healthcare sector is rural hospital closures. As of 2020, 120 rural hospitals have shuttered nationwide with many more at risk of closure.[10] Figure 2 shows that hospital closures starkly increased from 2010 to 2015, followed by a short, 2 year dip and then increased again to 2019, which was the single worst year of closures.
Studies demonstrate that when rural hospitals close, EMS travel times increase on average by 76%, mortality rates increase on average by 6%, and medical deserts form.[11] [12] Furthermore, the distance from service areas with rural hospital closures to the nearest open hospital is significantly greater, as illustrated in Figure 3.[13] Reasons for hospital closures vary. Figure 4 lists emerging challenges facing hospitals in rural communities.

Figure 3



[10] The Chartis Group & Chartis Center for Rural Health. (2020, February). The rural health safety net under pressure: Rural hospital vulnerability. https://www.chartis.com/forum/wp-content/uploads/2020/02/CCRH_Vulnerability-Research_FiNAL-02.14.20.pdf
[11] Troske S, Davis AF. Do Hospitals Closures Affect Patient Time in an Ambulance? Lexington, KY: Rural and Underserved Health Research Center;
2019.
[12] Basu, Anirban. Gujral, Kritee. Impact of Rural and Urban Hospital Closures on Inpatient Mortality. Cambrige, MA: National Bureau of Economic Research; 2019.
[13] U.S. Government Accountability Office. (2021, January). Rural hospital closures: Affected residents had reduced access to health care services (GAO-21-93). https://www.gao.gov/products/GAO-21-93#summary

Figure 4



Source: American Hospital Association, 2018

A study conducted by Erin Mobley et al on healthcare workforce composition before and after rural hospital closure, key findings were:

- Following a hospital closure, many rural communities (38.8 percent) saw a decrease in the number of primary care physicians ("PCPs").
- A majority of communities with a hospital closure (61.2 percent) saw an increase in the number of advanced practice providers ("APPs", includes physician assistants and advanced nurse practitioners). In over half (54.5 percent) of the communities where the number of PCPs declined, the number of APPs increased.
- Over one-third (37.8 percent) of the communities where the closed hospital was converted to some other type of health care facility saw an increase in the number of PCPs, whereas only 14.6 percent of communities where the hospital building was completely closed saw an increase in the number of PCPs.
- In the majority of communities where the number of post-closure PCPs either stayed the same or increased, the number of APPs also increased (58.1 percent and 76.2 percent, respectively).[14]

Hospital closures exacerbate existing challenges, resulting in a further decrease in patient access to vital health services while also contributing to a lack of economic activity. This, in turn, leads to diminished capacity to attract potential workers and families to live in rural areas.

Healthcare spending is another factor that has a significant impact on the stability of the rural healthcare industry. According to The Department of Health and Human Services (HHS), health care spending has steadily increased from 2008 to 2017, with a spike in spending in 2014 and 2015 due to insurance coverage expansion and increased prescription drug spending. This trend is expected to continue at an average of 5.5% per year. Compared with other Organization for Economic Co-operation and Development member countries, the United States ranks the highest in healthcare spending per

[14] Mobley, E., Ullrich, F., Bin Abdul Baten, R., Shrestha, M., & Mueller, K. (2020, April). Health care professional workforce composition before and after rural hospital closure. https://rupri.public-health.uiowa.edu/publications/policybriefs/2020/hospital%20closure%20workforce.pdf

capita, measured as a share of Gross Domestic Product (GDP). However, patient health outcomes do not always reflect the costs.[15]

In addition to spending, health care reimbursement is also a consideration. Traditional health care reimbursement has been volume-based, which is described as payment for health care services that the patient might need, without necessarily considering the value provided. In recent years, there has been a movement to transition to value-based care, a payment model that is based on patient health outcomes. This model has opened opportunities for improved health care delivery, but there have also been challenges, especially for rural providers and hospitals. Rural healthcare systems face considerable expense before the benefit ratio can balance, as a population health investment is necessary to offset the cost of transitions. This, combined with low negotiated payment rates and slow reimbursement times pose unique challenges for already vulnerable, rural entities. To reduce the burden of this transition, some rural hospitals consider affiliations with larger, regional health systems. This allows the benefit of shared resources and improved performance while protecting autonomy.[16]

Of particular significance in light of the current COVID-19 pandemic is the increased flexibility and sophistication of telehealth services. Although this flexibility may not continue past the current health emergency, analysis of data gathered during the pandemic may influence the continued use of telehealth services beyond the pandemic. Some primary considerations are telehealth parity law, telehealth equity, and interstate practice policies.[17]

National Initiatives

Reform to policies and strategies are required to transform rural healthcare. Some initiatives that have been implemented to effect change at the national level are:

Centers for Medicare and Medicaid Services (CMS) Rural Health Strategy (released *2018)* aims to improve: access to services; service delivery and quality of care; reimbursement; workforce presence and preparation; and patient options and experiences.[18]

HHS Strategic Plan (2018-2022) was put in place to improve access to affordable, high-quality healthcare as well as expand the healthcare workforce.[19]

Rural Action Plan (2020) includes a set of strategies to address current challenges in the rural healthcare system. The strategies are: (1) Build a Sustainable Health and Human Services Model for Rural

---

[15] U.S. Department of Health & Human Services. (2019, January 30). Strategic plan FY 2018 - 2022. HHS.Gov. https://www.hhs.gov/about/strategic-plan/index.html

[16] Oyeka, O., Ullrich, F., Clinton MacKinney, A. C., Lupica, J., & Mueller, K. J. (2018, November). The rural hospital and health system affiliation landscape – a brief review. RUPRI Center for Rural Health Policy Analysis. https://rupri.public-health.uiowa.edu/publications/policypapers/Rural%20Hospital%20and%20Health%20System%20Affiliation.pdf

[17] Block, L., & Ruane, K. (2020, November). The Future of State Telehealth Policy. National Governor's Association Center for Best Practices. https://www.nga.org/center/publications/the-future-of-state-telehealth-policy/

[18] Centers for Medicare & Medicaid Services (CMS) & Rural Health Council. (2018). CMS rural health strategy. https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/Rural-Strategy-2018.pdf

[19] U.S. Department of Health & Human Services. (2019, January 30). Strategic plan FY 2018 - 2022. HHS.Gov. https://www.hhs.gov/about/strategic-plan/index.html

Communities; (2) Leverage Technology and Innovation; (3) Focus on Preventing Disease and Mortality; and (4) Increase Rural Access to Care.[20]

Affordable Care Act (launched 2010) works to lower healthcare costs, provide more healthcare options and increase the quality of care by increasing the number of Americans who have affordable health insurance.[21]

Medicare Access and CHIP Reauthorization Act of 2015 promotes cost-effective, high-quality care to Medicare beneficiaries and provide incentives for physicians to participate in value-based over volume-based care. Other strategies are to:

- Promote lower-cost healthcare by transitioning patients to community health workers and community organizations, when appropriate.
- Expand access to generic medication and continue to utilize the 340B Drug Pricing Program.
- Expand healthcare coverage options, educate consumers about health insurance options, and streamline enrollment processes.
- Promote and provide chronic disease management and increase access to preventative services.
- Promote and incentivize value-based programs.
- Promote quality of care research, measures development, and implementation of best practices.
- Assess person-centered models of care.
- Research, analyze data, and share results on the healthcare workforce.
- Expand workforce through recruitment, incentives, training, and education.[22]

State of Iowa Overview

Like the federal government, the State of Iowa recognizes access to healthcare as one of the biggest challenges affecting rural communities. If resources are limited, community members may have unmet health needs, potentially leading to a decrease in quality of life and life expectancy. Forty percent of Iowans reside in rural communities, and like the national trend, many people are experiencing social, economic, and health-related disparities. With rural hospitals providing services to over one million individuals in Iowa, it is critical to ensure sustainability.

To facilitate action, the State of Iowa engages in numerous initiatives to enhance access to healthcare and mitigate unmet healthcare needs. For example, the *Iowa Department of Public Health (IDPH) Strategic Plan 2017- 2021* and the *Healthy Iowans 2017-2021 Iowa's Health Improvement Plan ("HIP")* identified several related focal areas, one of which is assuring access to quality health services by

[20] Health and Human Services. (2020, September). Rural action plan. https://www.hhs.gov/sites/default/files/hhs-rural-action-plan.pdf
[21] Assistant Secretary for Public Affairs (ASPA). (2019, October 23). About the ACA. HHS.Gov. https://www.hhs.gov/healthcare/about-the-aca/index.html
[22] U.S. Centers for Medicare & Medicaid Services. (2019). MACRA: MIPS & APMs | CMS. CMS.Gov. https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs

supporting health care system development. Some health issues included within this focal area are affordability and access to health care; as well as access to primary, mental health, and dental care providers.[23] [24]

The State of Iowa provides a progress report on the HIP. Counties reported several 2019 highlights involving access to health care:

- Numerous county reports that telemedicine has permitted wider access to health services, particularly in rural areas
- Humboldt County hospital purchased a bus to take patients to the hospital and clinic, and a volunteer program to drive patients to appointments and grocery store.
- Lyon County now has a Resource Advocate Program that links county residents who have high blood pressure to medical insurance and access to medical care, a key step in helping those at risk.
- Poweshiek County transportation service provides rides for community and out-of-county medical appointments for a modest fee.
- Scott County stood up a behavioral health coalition to determine how to impact mental health needs in the community.[25]

The following actions/measures noted in the HIP are addressed, at least in part, by the IDPH Rural Health Programs:

- Address health access and barriers in rural and agricultural communities.
- Continue to provide specialty care to Iowans 200% below poverty level through the Polk County Medical Society Volunteer Physician Network Program
- Improve care provided by critical access hospitals and emergency medical service providers to patients presenting with sudden cardiac arrest.
- Increase access to behavioral health services across the continuum
- Ensure a stable health and long-term care direct care workforce prepared to provide quality care and support to Iowans
- Increase the number of mental health providers per 100,000 population
- Increase the number of dentists per 100,000 population
- Increase the number of primary care physicians per 100,000 population

In addition to the work identified in the HIP, Iowa stakeholders convened a Rural Health Forum (2018) to capture rural healthcare experiences; concerns and challenges; as well as assets and attributes of Iowa rural health care delivery systems. “A Rural Health Forum: A Summary Report to Promote Action”

[23] Iowa Department of Public Health. (2020, January). Iowa Department of Public Health Strategic Plan 2017-2021. https://idph.iowa.gov/php/strategic-planning

[24] Healthy Iowans 2017-2021 Iowa’s health improvement plan. (2019, August). Iowa Department of Public Health. https://idph.iowa.gov/Portals/1/userfiles/91/Healthy%20Iowans/2019%20Revisions/Healthy%20Iowans%202017-2021%20SHIP%202019-8.pdf

[25] CHNA & HIP strategies for implementing health improvement plans: Highlights from the county HIP 2019 progress reports. (2019). Iowa Department of Public Health. https://idph.iowa.gov/Portals/1/userfiles/91/Strategic%20Plan/IDPH%202017-2021%20Strategic%20Plan%207_31_20.pdf

document was developed from this stakeholder meeting to guide work plans and strategies of rural health programs.

Highlighted issues include:

- Access limitations present in terms of availability, distance, and awareness of existing resources.
- Most changes to payment and reimbursement rates and structures have not been created with rural communities in mind.
- Rural communities experience greater contraction of revenue and investment overall, which among other challenges, may result in diminished social services.
- Shifts in population affects economic development as well as cultural consideration more so for rural communities.
- Workforce shortages are felt acutely in rural communities resulting in the risk of going without services altogether.

Priorities include:

- Greater awareness of existing resources
- Payment redesign that is applicable to rural health
- Improved transparency and information sharing
- Intentional and widespread integration of healthcare systems
- Technological advancement of electronic health records and telemedicine
- Workforce expansion opportunities [26]

Furthermore, in a study conducted by the University of Iowa in 2016, community health needs assessments were analyzed to determine health needs priorities. Improving mental health services and increasing access to affordable care were among the highest priorities.

The strategies and priorities noted above are consistent with the findings of Sean G Young et al, who identified three primary considerations that affect an individual's access to health care and unmet health care need, which may result in poor health outcomes:

1. **Health care provider access to establish a relationship and receive needed services;**
2. **Gaining access to the system through health insurance; and**
3. **Physical access to a location where medical care is provided.**[27]

This needs assessment will attempt to address these factors as it relates to Iowa communities.

Healthcare Provider Access

Like many other states, Iowa has experienced a deficit of primary care providers, which underscores the need for healthcare workforce development initiatives. Although the physician workforce has outpaced

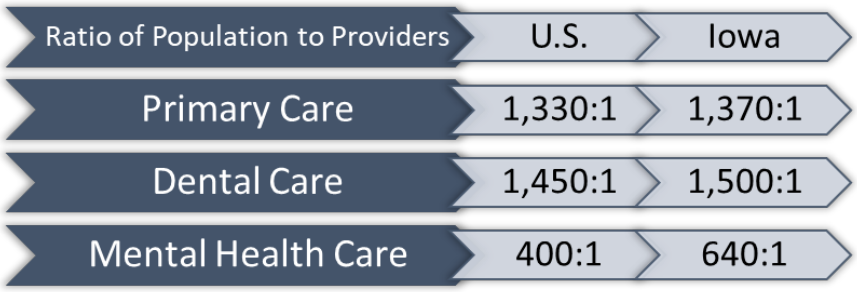
[26] Reese, K., Hartwig, M., & Vermie, G. (2018, December). *Rural health forum: A summary report to promote action*. https://www.idph.iowa.gov/Portals/1/userfiles/34/sorh/RuralHealthForumFormalSummary_Final%202019.pdf

[27] Young, S. G., Gruca, T. S., & Nelson, G. C. (2020). Impact of nonphysician providers on spatial accessibility to primary care in Iowa. *Health Services Research*, *55*(3), 476–485. https://doi.org/10.1111/1475-6773.13280

population growth for the last forty years, it has declined within the last five years to a rate comparable to population growth. The attrition rate of physicians is stable at 6%, with relocation and retirement as the primary reasons.[28] In a study conducted by the Health Resources and Services Administration on state-level projections of supply and demand for primary care physicians from 2013 to 2025, the study found that Iowa would be undersupplied by 200 physicians. However, figures look better for Nurse Practitioners and Physician Assistants, with a projected surplus of 430 and 380 respectively.[29]

As seen in Figure 5, as of 2020, the ratio of population to primary care physicians and dentists is higher than national ratio. More concerning is the stark difference in the ratio of mental health providers in Iowa when compared to the national ratio (640:1, 400:1 respectively).[30]

Figure 5



An analysis was conducted by the University of Iowa on physician workforce and reported, among other factors, that:

Dental Care

1. The total number of dentists in Iowa increased 7% from 1,446 in 1997 to 1,530 in 2016;
2. Seventy-five percent of Iowa dentists are University of Iowa graduates, and over 6 in 10 Iowa dentists were born in Iowa;
3. A decline in rural dentist supply mirrors population shifts in rural areas of the state (Figure 6); and
4. Twenty-five counties (Figure 7) in Iowa have experienced persistent dentist shortages over the past half century.[31]

[28] University of Iowa Carver College of Medicine & Office of Statewide Clinical Education Programs. (2020, January). *Report to the Governor of Iowa and the General Assembly on "Physician workforce study."* University of Iowa Carver College of Medicine.

[29] U.S. Department of Health and Human Services, Health Resources and Services Administration, & National Center for Health Workforce Analysis. (2016). *State-Level projections of supply and demand for primary care practitioners: 2013-2025.* https://bhw.hrsa.gov/sites/default/files/bhw/health-workforce-analysis/research/projections/primary-care-state-projections2013-2025.pdf

[30] Blomme, C., Roubal, A., Givens, M., Johnson, S., & Brown, L. (2020). *Iowa 2020 County Health Rankings Report*. https://www.countyhealthrankings.org/reports/state-reports/2020-iowa-report

[31] Kuthy, R. A., McKernan, S. C., & Reynolds, J. C. (2019, January). *Iowa dentist workforce atlas, 1997-2016: 20 years of the Iowa dentist tracking system*. https://ppc.uiowa.edu/publications/iowa-dentist-workforce-atlas-1997-2016

Figure 6

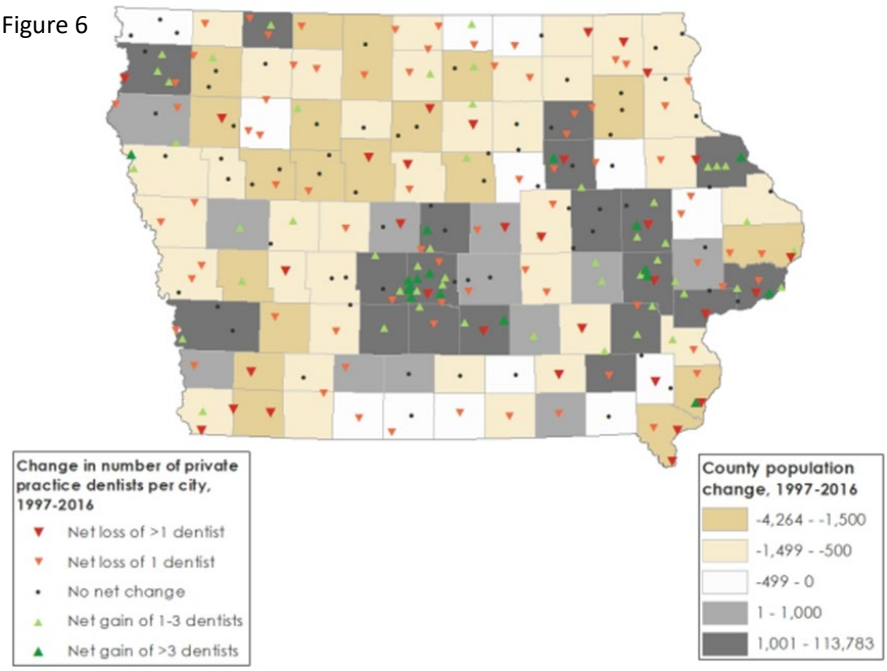
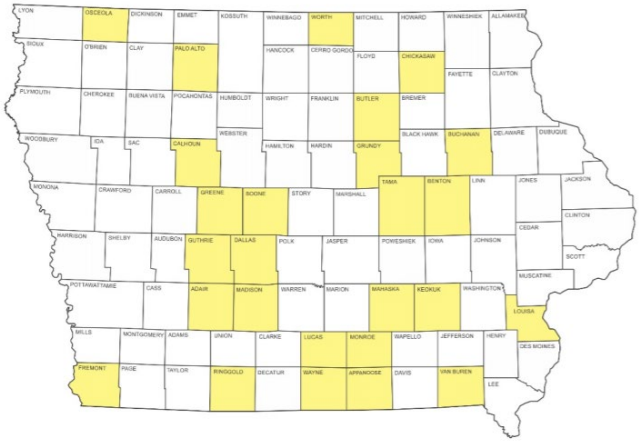


Figure 7



Primary & Specialty Care

1. The top specialty priorities (shortages) identified by the 11 major health systems and clinics in Iowa are gastroenterology, neurology and pulmonary/critical care physicians.
2. Psychiatry has the most intense immediate demand.
3. Obstetrical care is a major concern due to the lack of access in rural areas. [32]

[32] University of Iowa Carver College of Medicine & Office of Statewide Clinical Education Programs. (2020, January). *Report to the Governor of Iowa and the General Assembly on "Physician workforce study."* University of Iowa Carver College of Medicine.

There are many challenges identified by providers that contribute to healthcare shortages, such as training, experience, and scope of practice limitations, community acceptance, and other opportunities and conveniences that may not be available in rural communities.

In-state Residency and Internship Opportunities for Medical Doctors/Doctors of Osteopathy (MDs/DOs) & Psychologists

Iowa has two medical schools, The University of Iowa (MD) and Des Moines University (DO). Forty-two percent of the physician workforce in Iowa is comprised of graduates from the two medical schools. [33] In total, there are 238 residency positions currently available, but 370 medical student graduates. Iowa is ranked 25th in the nation for the number of positions and in the bottom 10 states for the ratio of medical students/positions. This deficit requires graduates to go outside the state to complete their residency, a potential loss for Iowa.[34] One program, the Iowa Family Medicine Training Network (IFMTN), which has eight residency programs across Iowa, participated in a 5-year retention study and found that educating family physicians in community-based programs contributes significantly to in-state retention.[35]

The University of Iowa and Iowa State University have Psychologist (PhD) programs in the state, of which there are currently 6 post-doctoral residency opportunities available. Iowa is one of many states that require a 1-year internship prior to conducting a post-doctoral residency. However, residency spots outnumber internship opportunities, forcing students to go outside of the state to complete this requirement. As a result, some students do not return to Iowa.

> It's clear that we need to grow our own future doctors rather than try to recruit them from Florida, New York, or California. If you have somebody from Iowa who knows they want to stay, then invest in that, because your investment pays off when they do stay in Iowa."
>
> *Michael Maharry, UI Health Care-Muscatine*[36]

The status of residency and internship opportunities in Iowa underscore the need to expand programs, which may result in higher retention of physicians and psychologists who live and work in the state.

Scopes of Practice for NPs/PAs

According to the Iowa Scope of Practice Policy State Profile, Nurse practitioners (NP) have full independent practice authority. An NP means a nurse with current licensure as a registered nurse in

---

[33] University of Iowa Carver College of Medicine & Office of Statewide Clinical Education Programs. (2020, January). *Report to the Governor of Iowa and the General Assembly on "Physician workforce study."* University of Iowa Carver College of Medicine.

[34] Heaton, D. (2019, February 24). Opportunities for rural Iowa: A premium on health care providers. *The Gazette*. https://www.thegazette.com/iowaideas/stories/health-care/iowans-ideas-a-guest-column-featuring-the-views-of-different-iowans-each-edition-20190224

[35] Nelson, G. C., & Gruca, T. S. (2017). Determinants of the 5-Year retention and rural location of family physicians: Results from the Iowa Family Medicine Training Network. *Family Medicine*, *49*(6), 473–476. https://pubmed.ncbi.nlm.nih.gov/28633176/

[36] University of Iowa Carver College of Medicine. (2017, February). Greener pastures: Needing rural doctors, Iowa grows its own (and pays for the training). University of Iowa Healthcare. https://medicine.uiowa.edu/content/greener-pastures-needing-rural-doctors-iowa-grows-its-own-and-pays-training

Iowa or who is licensed in another state and recognized for licensure in this state pursuant to the nurse licensure compact, and is also registered in Iowa to practice in an advanced role. NPs may prescribe drugs, devices and medical gases and are authorized to prescribe controlled substances after they register with the U.S. Drug Enforcement Administration and the Iowa Board of Pharmacy. NPs are recognized in state policy as primary care providers.

Physician Assistants (PA) do not require direct supervision, but the supervising physician must be easily available in person or via telecommunication for consultation. A PA may prescribe drugs, medical devices and Schedules III-V controlled substances if delegated by the supervising physician. A PA may not prescribe Schedule II controlled substances that are listed as depressants in law. The delegated medical services must be within the scope of practice of the supervising physician and the PA.

Scope of Practice for Dental Hygienists

Dental Hygienists may perform educational, therapeutic and preventive services in schools, public health agencies, hospitals and the armed forces. All services except those deemed educational must be performed under the supervision of a dentist. Dental hygienists do not have prescriptive authority.[37]

Mid-level dental practitioners, called dental therapists, may be a way to improve access to care in Iowa. A relatively new profession, dental therapy has proved to be positive in other states, increasing dental utilization rates and reducing dental-related emergency room visits where a dental therapist practices.[38]

Workforce Compensation

The Medicus Group collected data of primary care physician placement and compensation and found that the average salary and average total compensation was highest in the Central U.S., including Iowa, and the South/Southwest.[39]

Gaining Access to the System through Health Insurance

Health Insurance Coverage

According to Kaiser Family Foundation, a majority of Iowans (88%) get health insurance from their employers or through a government program (i.e., Medicare or Medicaid). Five percent of Iowa's population is uninsured, and the remainder of the population buy health insurance on their own.[40] In recent years, health insurance coverage has stabilized somewhat and premiums are expected to be lower than previous years. Medica and Blue Cross and Blue Shield are currently the carriers that cover

[37] Iowa scope of practice policy: State profile. (2020). Scope of Practice Policy. http://scopeofpracticepolicy.org/states/ia/

[38] Racheter, D. P., & Minjarez, J. (2018, November). Iowa needs dental therapists. http://www.taxeducationfoundation.org/wp-content/uploads/2018/11/Iowa-Needs-Dental-Therapists.pdf

[39] Rappleye, E. (2016, April 13). Where do primary care physicians earn most — urban, rural or mid-sized communities? Becker's Healthcare. https://www.beckershospitalreview.com/compensation-issues/where-do-primary-care-physicians-earn-most-urban-rural-or-mid-sized-communities.html

[40] Health Coverage & Uninsured –. (2020). KFF. https://www.kff.org/state-category/health-coverage-uninsured/?state=IA

most Iowans. There are other types of plans available but they may not have to follow Affordable Care Act (ACA) rules or may be unregulated.[41]

The ACA resulted in the following positive changes in coverage for children and adults living in small towns and rural areas. Changes are reflected as a percent change from 2008-2009 to 2014-2015.

- Medicaid coverage for children increased from 29% to 36%
- Children who were uninsured decreased from 5% to 3%
- Medicaid coverage for adults increased from 9% to 15%
- Adults who were uninsured decreased from 14% to 7%
- Overall, the uninsured rate has fallen from 11% to 6%[42]

Medicaid Expansion

On December 12, 2013, then-Gov. Terry Branstad (R) announced that his administration and the White House had agreed on the final details of his plan to expand Medicaid. The state implemented Medicaid expansion on January 1, 2014. Under the agreement, Iowa levied an additional premium on individuals with incomes exceeding 50% of the federal poverty level. The state committed to maintaining individuals' coverage if they fail to make payments. The agreement also allowed the state to use federal funding under the ACA to help more than 100,000 low-income residents purchase private health coverage through the new Iowa Health and Wellness Plan.[43]

Volume- to Value-based Reimbursement

Iowa health care service reimbursement is experiencing a transformation from volume-based to value-based. Iowa was one of 11 states that was awarded a four-year federal State Innovation Model (SIM) grant which focused on shifting to value-based care. During the SIM grant, Iowa's vision was to test statewide transformation efforts that would ensure "Iowans experience better health and have access to accountable and affordable healthcare in every community". Through the SIM program, Iowa focused on two primary drivers, (1) aligning payers in value-based purchasing to effectively move the healthcare system from volume to value, and (2) equipping providers to engage in population health needs and focus on value outcomes. Together, these approaches ensured robust, statewide healthcare transformation to set the guiding principles for an environment where providers will transition to being paid on value outcomes over the volume of services provided. This approach opened the door for communities and health systems to begin working together to produce healthier people in a system that

> "Reimbursement issues were especially daunting to rural "tweener" hospitals, that is, hospitals that are too large to qualify for critical access hospital status and too small to absorb the financial risk associated with prospective payment system programs."
>
> *Todd Reding, past board chair of Grinnell Regional Medical Center*

[41] Rodriguez, B. (2019, October 31). It's time to sign up for the Affordable Care Act. Here's what you need to know. The Des Moines Register. https://eu.desmoinesregister.com/story/news/health/2019/10/31/affordable-care-act-iowa-options-alternative-coverage-individual-insurance-market-obamacare-aca/4109573002/

[42] Hoadley, J., Wagnerman, K., Alker, J., & Holmes, M. (2017, June). Medicaid in small towns and rural America: A lifeline for children, families, and communities. https://philanthropynewsdigest.org/connections/medicaid-in-small-towns-and-rural-america-a-lifeline-for-children-families-and-communities

[43] The Advisory Board Company. (2014, December). Where the states stand on Medicaid expansion. http://www.advisory.com/daily-briefing/resources/primers/medicaidmap[12/19/2014

is affordable and sustainable. However, this change may stress rural systems when compared to urban systems due to low negotiated payment rates and slower reimbursement times.[44]

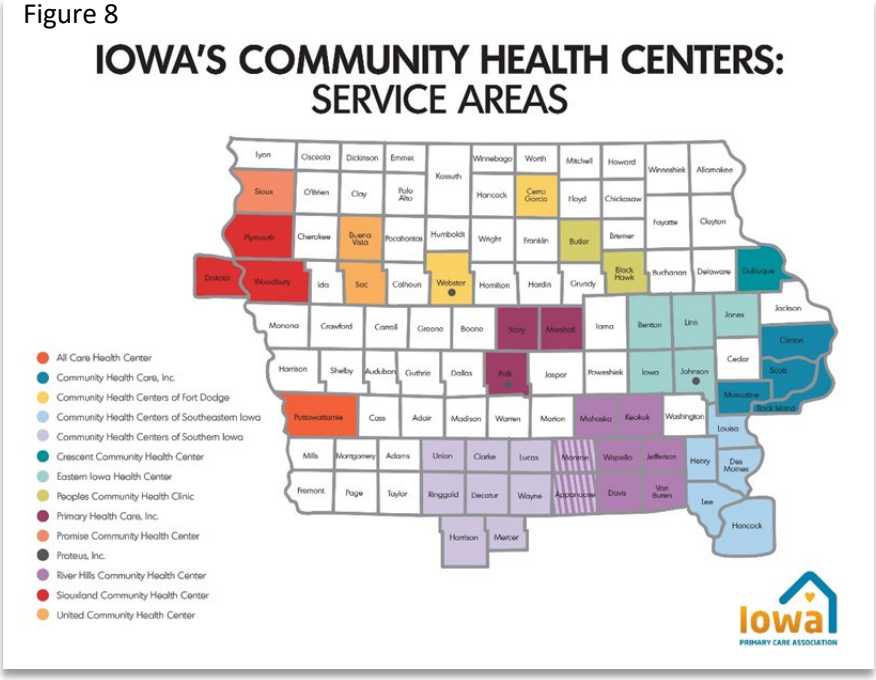
Physical Access to a Location where Medical Care is provided

There are multiple factors that contribute to the stability of physical access to medical care, including the number, type, and location of health care facilities; rural versus urban population characteristics; as well as transportation and telehealth capability, to name a few. Table 1 lists the types and descriptions of health facilities and shortage designations in Iowa.

Table 1	Healthcare Facilities in Iowa
Critical Access Hospitals	There are 82 critical access hospitals, which are facilities with 25 or fewer beds that receive a special reimbursement rate from the Centers for Medicare and Medicaid Services to help compensate for lower patient volumes.
Rural Hospitals	There are eight rural hospitals, which are facilities that are too large for a critical access designation but do not have enough patient numbers to meet urban distinctions.
Urban Hospitals	There are 26 short term hospitals and 2 long term hospitals.
Birthing Hospitals	There are 72 birthing hospitals, 50 of which are located in rural areas. Level II and Level III hospitals are located in metropolitan areas.
Rural Health Clinics	There are 190 rural health clinics.
Community Health Centers (FQHCs)	There are 48 Federally Qualified Health Centers outside of urbanized areas. There are an additional 38 sites that include schools, nursing homes, homeless shelters, and other locations where special populations are served. FQHCs served over 225,000 individuals in Iowa. Figure 8 shows the county service area for FQHCs. Figure 9 shows location of Critical Access Hospitals, Rural Health Clinics, and FQHCs.

[44] Reese, K., Hartwig, M., & Vermie, G. (2018, December). Rural health forum: A summary report to promote action.
https://www.idph.iowa.gov/Portals/1/userfiles/34/sorh/RuralHealthForumFormalSummary_Final%202019.pdf

Figure 8



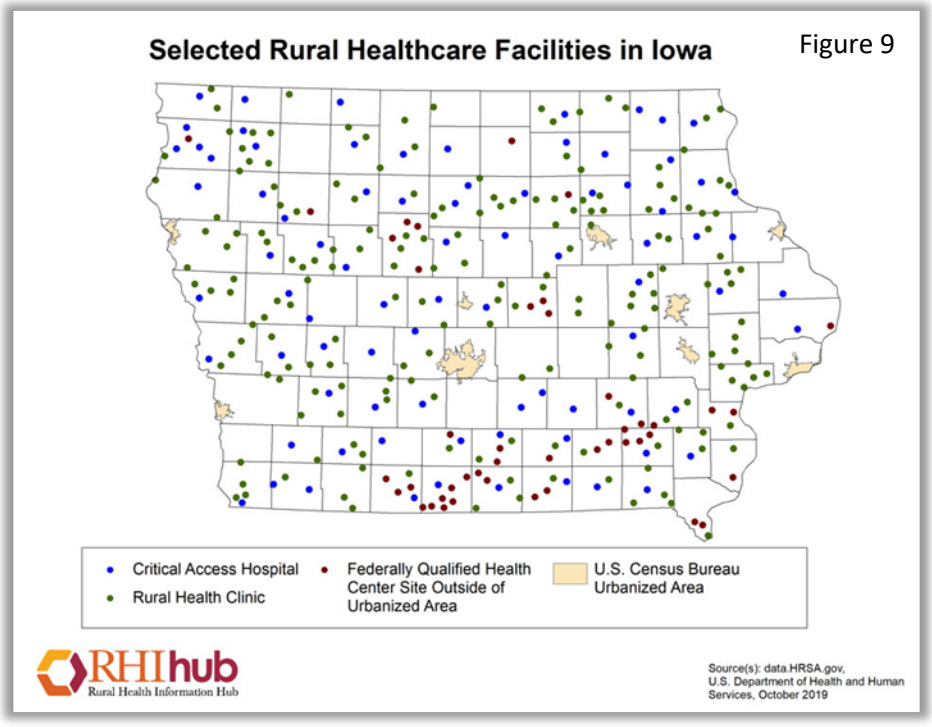
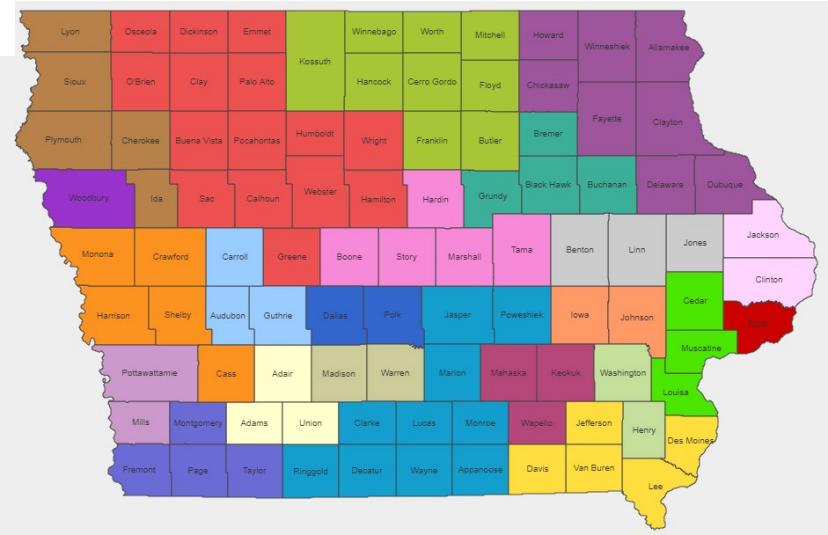


Figure 9

Free Clinics	There are 29 community-based free clinics located in 21 different counties in Iowa. To support these clinics, the State of Iowa offers indemnification to free clinics and its volunteer health care providers via the Volunteer Health Care Provider Program.

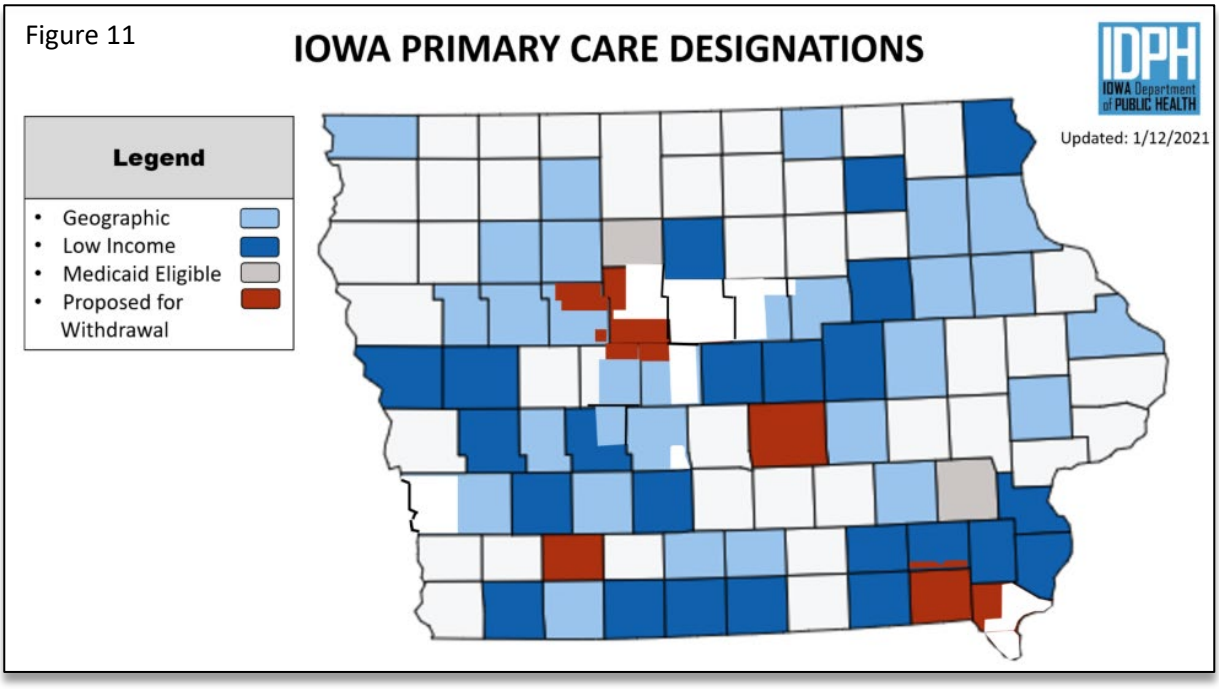
Emergency Medical Services	Emergency medical services (EMS) are struggling in rural Iowa. EMS is not considered an "essential service" so there is no state, or federal support. Also, there is no law that requires EMS to respond to a call, only police and fire. Most rural operations run off billing patients, money from local townships, donations, or through support from the local fire department. Many agencies rely on volunteerism, with 49% of providers being uncompensated. Transport times can be up to 30 minutes – this is especially true for rural farm communities, which could be the difference between life and death.
Oral Health Services	Iowa established a dental home initiative in 2006 called I-Smile, in which dental hygienists work in communities to build referral networks. Currently there are 23 dental hygienists (see services area map below) providing services to all 99 counties in Iowa. Figure 10 shows a map of the dental health service areas. Figure 10  Furthermore, Head Start and Early Health Start programs worked to ensure children have dental homes. The programs work to provide children with needed oral health services.
Community Mental Health Services	Iowa's public mental health system shifted from county-level to regional model starting in 2014. As of 2020, there were twenty-three community mental health centers (CMHCs) and their catchment areas include 88 counties. Fifteen of the twenty three CMHCs are also licensed outpatient substance use disorder providers. One CMHC is also a FQHC. Nine counties are served by waiver providers. Two counties are not affiliated with a CMHC or waiver provider. Iowa's mental health system is designed to be locally delivered, regionally administered, and meet statewide standards of care.
Substance Use Services	Iowa has twenty-four substance use treatment centers and seven opioid treatment programs.
Health Professional Shortage Areas	Health Professional Shortage Areas (HPSA) are designated by the Health Resources and Services Administration to identify areas of provider shortages in primary care, dental health, or mental health. These designations are critical to Iowa as workforce shortages are prevalent throughout the state's healthcare systems, especially in rural areas. HPSA designations are used as eligibility criteria for state and federal programs,

	including those that support recruitment and retention of rural primary care providers. Additionally, HPSAs are used to guide decisions for facilities and provider placement as well as identify areas of greatest need for medical services. Shortages may be geographic-, population-, or facility-based.

Primary Care HPSAs

Currently, there are 61 geographic or population HPSAs in Iowa and an additional 77 designated primary care facilities. Figure 11 shows the primary care HPSAs by county designation.

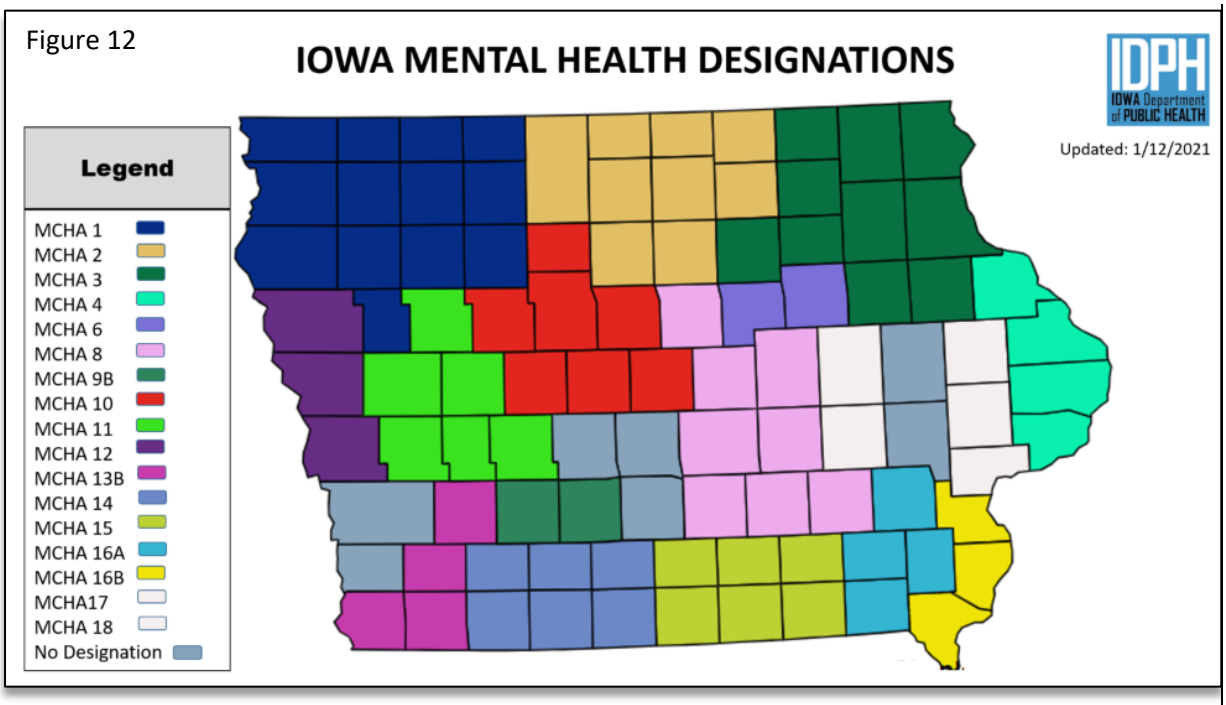
Figure 11



Mental Health Care HPSAs

Mental health care is designated via catchment areas, of which there are 17 across the state. There are 7 counties (Dallas, Johnson, Linn, Mills, Polk, Pottawattamie, and Warren) that are not part of a catchment area. Figure 12 shows the mental health HPSAs by county designation.

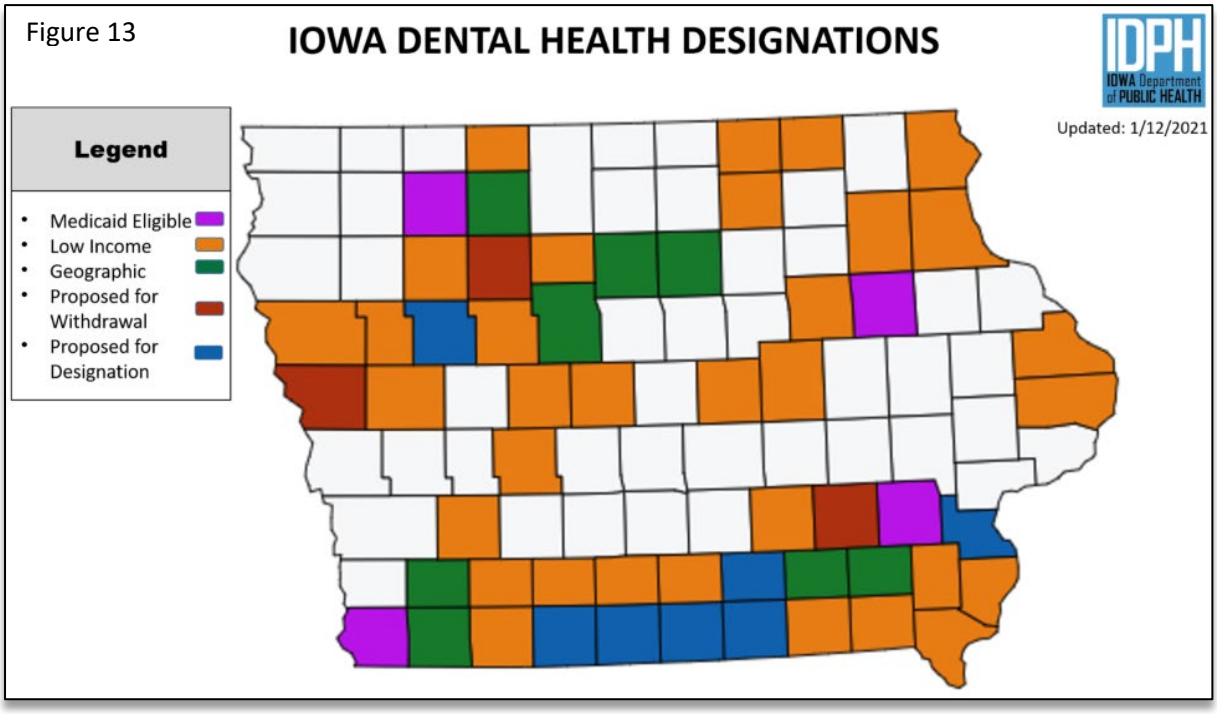
Figure 12



Dental Health Care HPSAs

There are currently 57 dental health care designations in Iowa and an additional 79 designated dental health facilities. Figure 13 shows the dental health HPSAs by county designation.

Figure 13



Governor's Rural Health Clinic (RHC) Designations

There are 66 counties eligible for the Governor's RHC designation. This designation is an eligibility criteria for rural health clinic certification and analyzes county-level primary care capacity, concentration of people aged 65 years or older, and poverty. Figure 14 shows the Governor's designations by county.

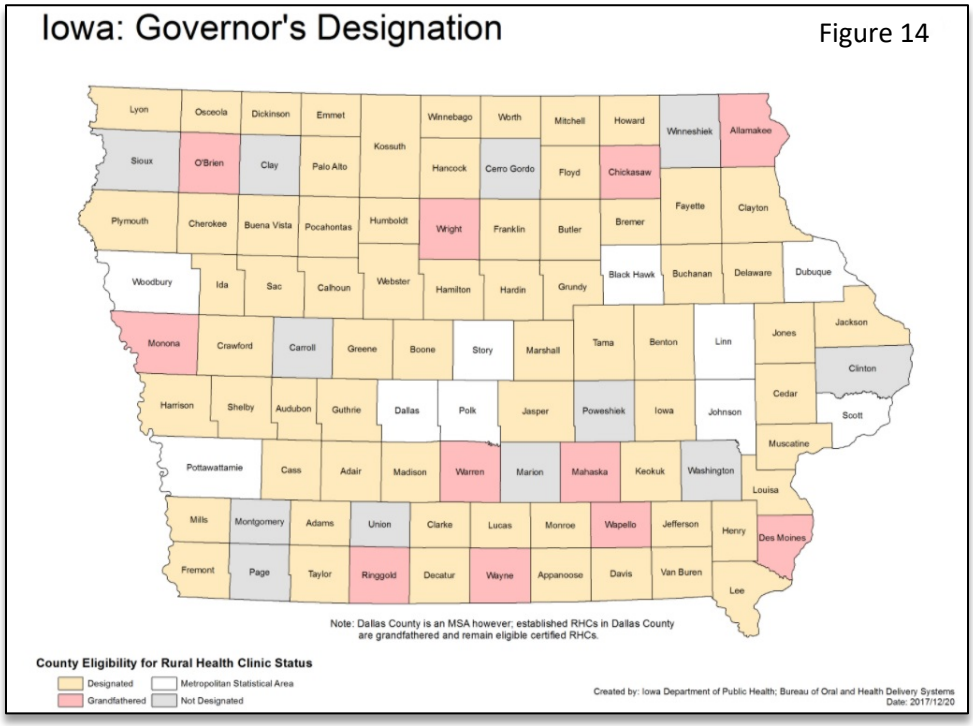


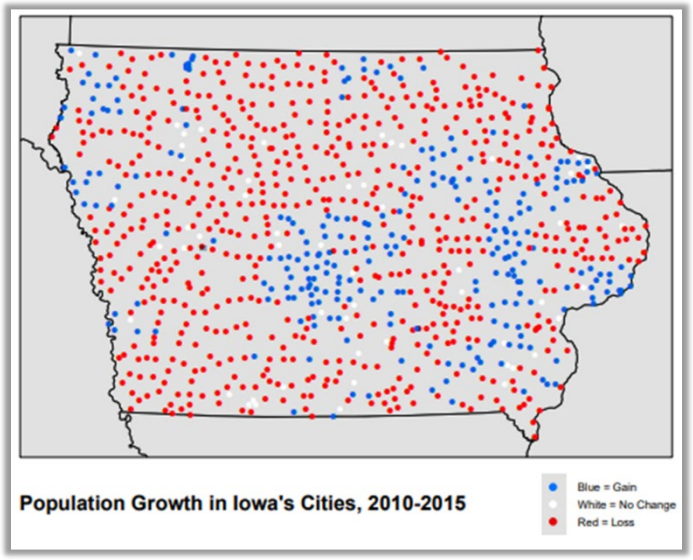
Figure 14

Rural to Urban Population Shift

There has been a rural to urban population shift in recent years that contributes to the challenges of managing rural health care. Figure 15 shows areas of population growth in Iowa cities. From 2010 to 2015, Iowa had a population gain of 70,030 residents (2.4% growth rate) but the gains accrued to less than one third of Iowa cities. Metropolitan and micropolitan areas contain 48% of the population and experienced the most growth (45% and 49% respectively). All other cities or unincorporated areas contain 62% of the population and experienced little to no growth, or lost residents. To compound this issue, younger persons and families are moving to urban areas, leaving an aging population in rural

areas.[45]

Figure 15



635 of Iowa's 945 Cities experienced **population loss** from 2010 to 2015

Redistribution of Health Care Services

A vulnerability study conducted by the Chartis Center for Rural Health predicted that 4 of Iowa's rural hospitals are at risk for closure based on key indicators such as age of plant, case mix index, and government control status, among others.[46] Although Iowa's participation in Medicaid expansion in 2014 helped to stabilize healthcare systems, many hospitals remain vulnerable, with one in five rural hospitals at risk of closure.[47] A report from Navigant states that 17 rural hospitals in Iowa are high-financial-risk, 15 of which are considered essential rural hospitals.[48]

Nonetheless, rural hospitals are evolving to address financial hardships and workforce challenges while also continuing to meet the needs of the communities served. Some are looking to adopt different patient care models. Several have been proposed:

1. Partnering with larger hospitals in urban areas to deliver specialty care.
2. Creating the Rural Emergency Hospital (REH) designation to allow hospitals to preserve access to essential services while no longer providing inpatient care.
3. Modifying the Critical Access Hospital (CAH) program to provide a window for hospitals to apply for CAH status and offer increased reimbursement for home health care and emergency medical

[45] Eathington, L. (2016, November). Population change in cities, 2010-2015. https://www.icip.iastate.edu/sites/default/files/uploads/specialreports/popbriefs/city_popest_2015.pdf
[46] The Chartis Group & Chartis Center for Rural Health. (2020, February). The rural health safety net under pressure: Rural hospital vulnerability. https://www.chartis.com/forum/wp-content/uploads/2020/02/CCRH_Vulnerability-Research_FiNAL-02.14.20.pdf
[47] Post, G. (2020, February 27). Most pressing rural health problem is closing hospitals. Iowa Starting Line. https://iowastartingline.com/2020/02/27/most-pressing-rural-health-problem-is-closing-hospitals/
[48] Mosley, D., & Debehnke, D. (2019, February). Rural hospital sustainability: New analysis shows worsening situation for rural hospitals, residents. https://guidehouse.com/insights/healthcare/2019/rural-hospital-sustainability

services. The CAH program was established in 1997 to preserve small hospital services to rural residents who would otherwise be a long distance from emergency care.

4. Providing infrastructure funding to allow rural hospitals to right-size to smaller or more efficient facilities.[49]

Some hospitals have already made adjustments to patient care, with positive and negative consequences. Some hospitals provide space for specialty clinics to accommodate visiting specialists who have scheduled time to provide outpatient services. There is an economic benefit as smaller hospitals can save costs on administrative services and information technology support.

> "Rural hospitals face low patient volumes, treat an older patient population, and have a payer mix that tips more heavily toward Medicare and Medicaid."
>
> *Kirk Norris, Iowa Hospital Association*[44]

At least one hospital reports that staffing has been negatively impacted. MercyOne in Newton reports staffing has decreased by hundreds of employees when compared to four years prior as a result of cutting services and partnering with larger hospitals.[50]

Of particular concern is the closing of obstetric services in rural counties. Approximately 36 rural hospitals have stopped delivering babies over the past 20 years.[51] This trend may result in patients having to drive out of town for health care and exacerbate higher-risk, preterm birth rates.[52] Another concern is that individuals who seek specialty services in urbanized areas may choose to transition primary care out of rural systems for ease of coordination.[53]

> "UnityPoint has had problems recruiting and retaining OB/GYN physicians at rural hospitals, because they are in high demand nationwide. Deliveries in Muscatine have declined, with Trinity Muscatine reporting 280 births in 2017, 261 in 2018, and 231 in 2019."
>
> *CEO Robert J. Erickson, UnityPoint Health-Trinity Muscatine*[54]

One northern Iowa Community has maintained success in preserving maternity care according to one study. The maternity team, which included nurses and physicians, reported rare patient transfers (average of one per

[49] MercyOne. (2019, October 2). Statewide hospital meeting unveils IHA rural reform proposal [Press release]. https://www.mercyone.org/newton/about-us/news-releases/2019-10-02-statewide-hospital-meeting-unveils-iha-rural-reform-proposal

[50] Iowa rural hospitals make tough choices to stay lean and provide needed care. (2019, October 1). Times-Republican. https://www.timesrepublican.com/news/todays-news/2019/10/iowa-rural-hospitals-make-tough-choices-to-stay-lean-and-provide-needed-care/

[51] Krebs, N. (2019, September 19). Rural Iowa's dwindling options for maternal care [Press release]. https://hospitals.iowawatch.org/rural-iowas-dwindling-options-for-maternal-care/

[52] Kozhimannil, K. B., Hung, P., Henning-Smith, C., Casey, M. M., & Prasad, S. (2018). Association Between Loss of Hospital-Based Obstetric Services and Birth Outcomes in Rural Counties in the United States. JAMA, 319(12), 1239. https://doi.org/10.1001/jama.2018.1830

[53] Reese, K., Hartwig, M., & Vermie, G. (2018, December). Rural health forum: A summary report to promote action. https://www.idph.iowa.gov/Portals/1/userfiles/34/sorh/RuralHealthForumFormalSummary_Final%202019.pdf

[54] Hotle, D. (2020, February 6). Having a baby? Muscatine-area moms will need to travel to Quad- Cities, Iowa City for delivery. Quad-City Times. https://qctimes.com/muscatine/news/local/having-a-baby-muscatine-area-moms-will-need-to-travel-to-quad-cities-iowa-city/article_ba6c4662-341e-5a7b-af9f-728d2a4f9094.html

month) were attributed to high-quality care, which included pre-screening procedures and a tracking mechanism that follows the patient through their pre-delivery, delivery, and post-partum experience.

The study also highlighted the need for a strong maternity care workforce and support for infrastructure to facilitate high-quality care, including transportation, emergency support, and equipment. For example, the maternity team mentioned that having dedicated maternity nurses, on-call services to provide back-up care, and ultrasound capability as factors that affect the need to transfer a patient for care.[55]

> "If you have an OB emergency that you want an ultrasound for on the weekend or evening, those women are transferred, just because they need an ultrasound. There is no other reason they would need a transfer."
>
> *Physician, Hospital in Northern Iowa*[50]

> "We have detailed knowledge of our patients including their social situations, things that just cannot be surmised from a chart, making it easier to provide the best care. This is even more true if they are having complications as it is easier to understand and then manage their risk factors."
>
> *Physician, Hospital in Northern Iowa*[50]

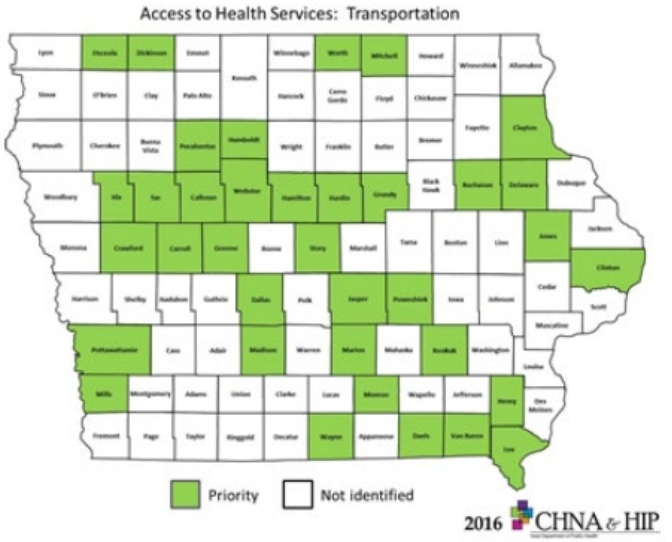
Some hospitals are finding creative ways to fill the void. For example, Hansen Family Hospital in Iowa Falls used the space once utilized to provide obstetrics services to establish a program for senior citizens called Senior Life Solutions. The obstetrics department has evolved to better reflect the capacity of the community through the creation of a "share care" model that allows pregnant women to receive early prenatal care at the hospital then transition to a larger hospital at the second trimester through delivery.[56]

Transportation Barrier

Access to health services pertaining to lack of transportation and its impact on health services was identified as a priority in 36 Iowa counties (Figure 16)

There are challenges for both the patient and the healthcare provider regarding transportation to and from care services. Public Health Administrators in rural counties in southeast Iowa held a meeting on rural health care in September 2019 and identified several factors contributing to negative health outcomes pertaining to transportation in the area:

Figure 15



[55] Kristensen-Cabrera, A., Interrante, J. D., Henning-Smith, C., & Kozhimannil, K. B. (2020, August). Providing maternity care in a rural northern Iowa community. https://rhrc.umn.edu/publication/providing-maternity-care-in-a-rural-northern-iowa-community/

[56] Iowa rural hospitals make tough choices to stay lean and provide needed care. (2019, October 1). Times-Republican. https://www.timesrepublican.com/news/todays-news/2019/10/iowa-rural-hospitals-make-tough-choices-to-stay-lean-and-provide-needed-care/

1. Managed Care Organizations ("MCOs", Medicaid Program) can be slow at issuing payments, making it challenging for some providers to make ends meet or causing some providers to not take Medicaid patients.
2. Coordinating with MCOs can be overwhelming for people who use a wheelchair or need a special vehicle.
3. Each MCO has unique billing and authorization requirements, making it difficult to coordinate care.
4. Physicians have contracts with different MCOs, making it difficult to coordinate care.[57]

In a study conducted in 2015 by McKernan et al on transportation barriers and the use of dental services among Medicaid-insured adults, distance to a dental facility was not the primary issue, but rather the concern about cost of transportation and driver/passenger status. As concern about transportation cost increased, likelihood of having a dental visit decreased.[58]

Telehealth

Telehealth is a tool to remotely provide health-related services between patients and providers as well as build capacity between providers, and has the potential to reduce costs and transportation burdens. Telehealth capability provides for expanded access to healthcare for rural population and decreases the rural-urban gap in the provision of mental health services.[59] Telehealth services may include real-time communication, data transfer, remote patient monitoring, and mobile health education. Medicaid currently provides reimbursement for telehealth services but private payers do not.[60]

In the 2019 Condition of the State, Governor Reynolds mentioned her continued support for rural broadband infrastructure development and high speed internet connection investment. Although 90% of Iowans have access to the internet in some capacity, there are still areas lacking access, and the internet gap is particularly pronounced in the rural areas.[61]

Telehealth services have improved outcomes and saved money for pregnant women who develop gestational diabetes, requiring frequent checkups. Telehealth usage in this population saved $500 to

One patient who lived 90 minutes from a clinic saved 280 hours in travel time and 12,600 miles during her pregnancy through a combination of remote blood sugar screening and interactive video visits.[57]

[57] Hallman, A. (2019, September 10). Rural residents face special challenges in accessing health care. Southeast Iowa Union. https://www.southeastiowaunion.com/mtpleasant/rural-residents-face-special-challenges-in-accessing-health-care-20190910

[58] Kuthy, R. A., McKernan, S. C., & Reynolds, J. C. (2019, January). Iowa dentist workforce atlas, 1997-2016: 20 years of the Iowa dentist tracking system. https://ppc.uiowa.edu/publications/iowa-dentist-workforce-atlas-1997-2016

[59] Erwin, P. C., & Braund, W. E. (2020). A public health lens on rural health. American Journal of Public Health, 110(9), 1275–1276. https://doi.org/10.2105/ajph.2020.305863

[60] Skinner, E. (2020, July). Boosting Oral Health Care in Rural Communities. National Conference of State Legislatures. https://www.ncsl.org/Portals/1/Documents/legisbriefs/2020/JulyLBs/Oral-Health-Care-Rural-Communities_24.pdf

[61] Iowa PBS. (2020, January 20). Iowa Gov. Kim Reynolds delivers condition of the state address [Video]. Govdelivery. https://governor.iowa.gov/2020/01/gov-reynolds-to-deliver-her-condition-of-the-state-address

$1,000 per patient, decreased C-section rates by 20%, eliminated hospital stays longer than two days of one-in-four women, and increased vaginal deliveries without complications by nearly 27%.[62]

There are, however, some challenges to telehealth. For example, older adults in rural areas may be negatively impacted by telehealth services as it may exacerbate already limited in-person, social interaction.[63]

State Initiatives

Empower Rural Iowa Act allocates five million dollars to support seventeen high-speed broadband projects in rural Iowa to bolster critical infrastructure. In 2020 additional funding was allocated to expand telehealth services to underserved Iowans. The Iowa Department of Human Services was charged with removing barriers that restrict schools from partnering with telehealth providers, especially for behavioral health.[64]

IDPH Strategic Plan 2017- 2021 is a report of what the Department plans to achieve as an organization. The document is a 5-year plan. However, status reports are provided bi-annually.

IDPH Community Health Needs Assessment and Health Improvement Plan (CHNA & HIP) is a standard reporting tool used by local communities to collect health status information and determine health priorities.

Maternal, Child, and Adolescent Health Programs operates at a regional level and links individuals and families to health services including risk assessment, immunizations, nutrition and psychosocial screening, oral health screening, and delivery planning.

The Primary Care Program works to improve access to services for underserved populations, especially those who remain at increased risk of illness and premature death. The Primary Care Program supports and enhances health systems programming to optimize effectiveness and eliminate health disparities. Additionally, the program works cooperatively with the federal Health Resources and Services Administration (HRSA), the Iowa Governor's Office, and local communities to identify primary care provider (primary medical care, dental health care, and mental health care) shortages across the state.

The State Office of Rural Health (SORH) Program helps identify and resolve issues to strengthen rural health infrastructure. To improve the quality, availability and accessibility of health care for rural Iowans and to create health care solutions, the Iowa State Office of Rural Health:

- Provides rural health advocacy and outreach.
- Coordinates efforts for rural health activities to reduce duplication.
- Collects and disseminates data and information on resources for rural communities.

---

[62] Baird, M., & Larson, D. (20-02). Telehealth's untapped potential in rural America. Medical Economics. https://www.medicaleconomics.com/view/telehealths-untapped-potential-rural-america

[63] Henning-Smith, C., Ecklund, A., Lahr, M., Evenson, A., Moscovice, I., & Kozhimannil, K. (2018, October). Key informant perspectives on rural social isolation and loneliness. University of Minnesota Rural Health Research Center. https://rhrc.umn.edu/publication/key-informant-perspectives-on-rural-social-isolation-and-loneliness/

[64] Iowa PBS. (2020, January 20). Iowa Gov. Kim Reynolds delivers condition of the state address [Video]. Govdelivery. https://governor.iowa.gov/2020/01/gov-reynolds-to-deliver-her-condition-of-the-state-address

- Provides consultation to rural Iowa communities and health care providers regarding Federal, State, and rural health program participation.

Small Rural Hospital Improvement Program (SHIP) offers small rural hospitals opportunities to purchase hardware/software or participate in programs related to value-based purchasing, accountable care organizations or shared savings, and prospective payment system or payment bundling.

Medicare Rural Hospital Flexibility Program (Flex) offers critical access hospitals opportunities to participate in free-of-charge technical assistance and programs for quality improvement, financial improvement, operational improvement, and population and community health.

SafeNetRx Program is a state sponsored program that provides medications and medical supplies for little or no cost for Iowans in need of assistance.

Loan Repayment/Scholarships

Loan repayment programs, cost of living difference, reimbursement and payer mix, are examples of retention incentives that rural health care professionals tend to experience over their urban counterparts.[65] There are several federal- and state-funded program that support providers and promote recruitment efforts in rural communities.

- *Primary Care Provider Loan Repayment Program* is a federal- and state- funded program that provides assistance with repayment of educational loans to primary care medical, dental, and mental health practitioners. In exchange, practitioners must complete a minimum, 2-year service obligation at an eligible practice site/s located in a federally designated health professional shortage area (HPSA). Candidates must meet certain requirements to qualify and are subject to a maximum award depending on the health care discipline.
- *Rural Iowa Primary Loan Repayment Program* is a state-funded program that provides loan repayment incentives for medical students of Des Moines University of Osteopathic Medicine or the University of Iowa College Of Medicine who agree to practice as physicians in rural areas for 5 years following completion of residency.
- *Health Professional Recruitment Program (HPRP)* is a state- and community-funded loan repayment program for graduates of Des Moines University's D.O, D.P.M., D.P.T., and PA Programs in exchange for a 4-year service obligation in a medically underserved community.
- *Health Care Loan Repayment Program* is a state-funded program that provides assistance with repayment of education loans to registered nurses, advanced registered nurse practitioners, and physician assistants in exchange for a service commitment of 5 consecutive years in an eligible area.
- *National Health Service Corp (NHSC)* is a federal program offering loan repayment and scholarships on a national level. It is administered by the Health Resources and Services

[65] The New England Journal of Medicine. (2019, March). Demystifying urban versus rural physician compensation. The New England Journal of Medicine Career Center. https://www.nejmcareercenter.org/article/demystifying-urban-versus-rural-physician-compensation/

Administration (HRSA) in the Department of Health and Human Services. Participation in NHSC programs must be performed in Health Professional Shortage Areas (HPSAs).

- *Nurse Corps Scholarship Program* is a federally funded program that provides scholarship support for students of the following programs: Graduate Level Nurse Practitioner, Associate Degree School of Nursing, Collegiate School of Nursing, Diploma School of Nursing, and Nursing Bridge Program Nursing. Students are eligible to receive funding for their training in exchange for a minimum 2-year service commitment at an eligible Nurse Corps facility upon graduation. Locations are Critical Shortage Facilities and designated as HPSAs.
- *Nurse Corps Loan Repayment Program* is a federally funded program that offers funding to registered nurses, advanced registered nurses, and nurse faculty for payment of their qualifying educational loans in exchange for a minimum 2-year service obligation at a Critical Shortage Facility or serve as nurse faculty in an eligible school of nursing.
- *FIND Project: Dental Education Loan Repayment* is a state and local collaboration to recruit and retain dentists in private practice settings in rural, underserved areas in Iowa. The project includes dental education debt repayment through the Delta Dental of Iowa loan repayment program.

Residency Training

- The Medical Residency Training State Matching Grants Program is established to provide greater access to health care by increasing the number of practicing physicians in Iowa through the expansion of Iowa-based residency positions. Sponsors may apply for funding to establish a new or alternative campus-accredited program for the provision of a new residency position, or to fund residency positions in excess of the federal residency cap. Sponsors must be a hospital, school, or consortium located in Iowa that sponsors and maintains primary organizational and financial responsibility for an Iowa graduate medical education residency program accredited by the Accreditation Council for Graduate Medical Education or by the American Osteopathic Association and is accountable to the accrediting body.
- The Psychiatry Residency Training Program designates funding to support the expansion of psychiatry residency spots of established accredited programs in Iowa.

Mental Health Training

- The Psychiatry Training Program for Physician Assistants and/or Nurse Practitioners Program is a state-funded program that supports the advanced mental health training of physician assistants and nurse practitioners matriculating through an established, accredited program in Iowa.
- The Des Moines University Mental Health Training is a state-funded program that supports Des Moines University to offer the National Alliance of Mental Illness (NAMI) Provider program DO students.

J-1 Visa Waiver Program is a federal program for international medical graduates who complete U.S. residency programs. This program waives the normal requirement for these individuals to return to their home country for two years prior to pursuing permanent residency in the United States. Applicants for this program agree to a service commitment in Iowa for a period of 3 years. Thirty waivers are available to physicians each year and 20 must be placed in a designated shortage area. The remaining 10 are

considered flex spots and are not restricted to a shortage designation. The department provides letters of support for physicians who meet eligibility criteria.

Physician National Interest Waiver (PNIW) Program is a program administered through the US Citizenship and Immigration Service and is an avenue for international physicians who have already completed all of their medical training to achieve permanent residence status in the United States. In order to be considered for a PNIW, eligible physicians must be practicing primary care or be a specialty physician. Physicians must agree to provide full-time services in a shortage area or underserved area for an aggregate of 5 years and must obtain a statement from the IDPH that the work is in the public interest.

Healthcare Workforce Website is a collaborative endeavor to create a website devoted to healthcare workforce recruitment and retention for rural Iowa. The goal is to increase awareness of and interest in primary healthcare job opportunities and workforce initiatives, and ultimately increase the number of primary care providers who live and work in rural communities statewide.

3RNet is a non-profit specializing in health care jobs in rural and underserved communities. The organization is made up of two parts: a national network of members, and the website, *www.3RNet.org***.** Members work to connect facilities and candidates through the online job portal. The IDPH has hosted 3RNet for years, and has successfully used it as a tool to connect job candidates to employers.

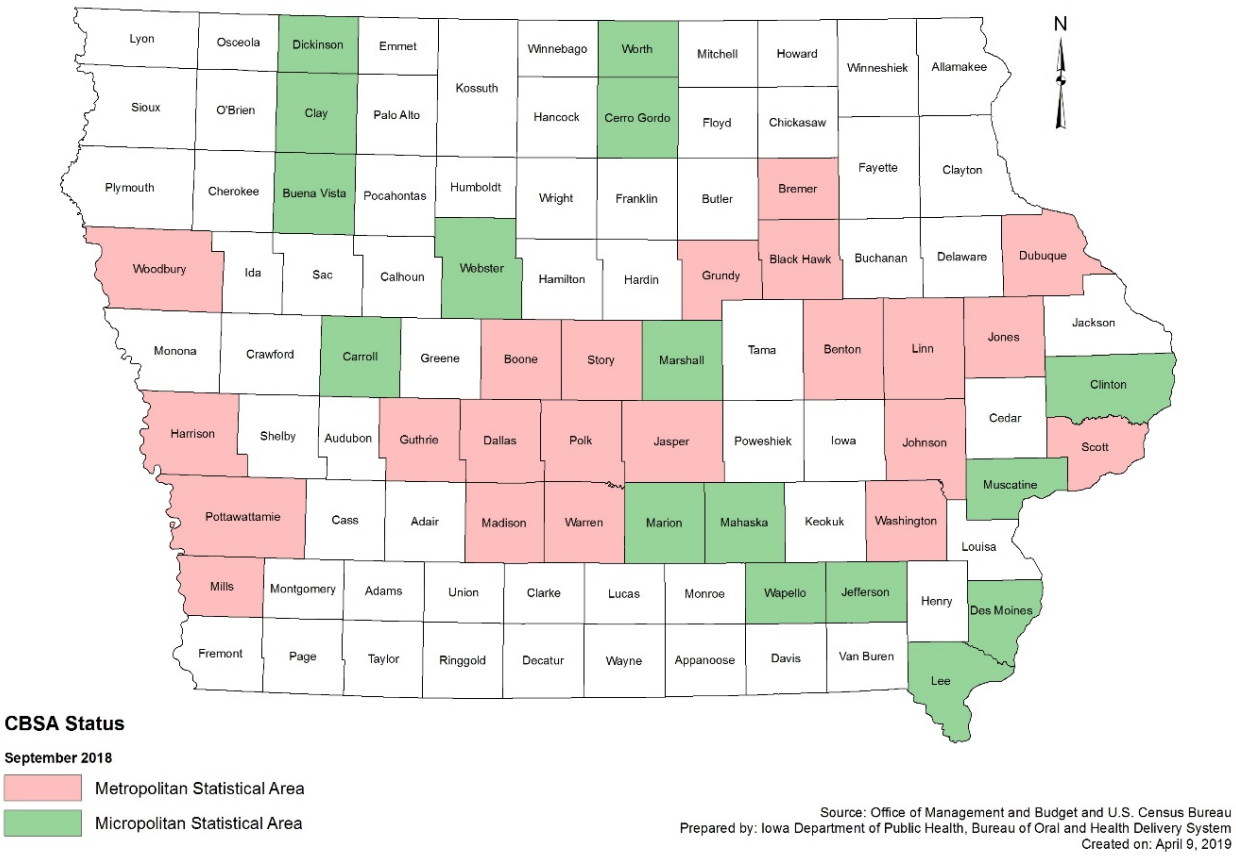
Volunteer Health Care Provider Program ("VHCPP") is a state-sponsored program that strives to increase volunteerism by competent health care professionals by offering protection to eligible volunteer health care providers and eligible clinics providing free health care services. An individual volunteer health care provider or clinic holding a current agreement with the VHCPP shall be afforded the protection of an employee (or agency) of the state under Iowa Code.

State of Iowa Characteristics

Iowa is Midwestern state located west of Chicago, Illinois and bordered by the Missouri and Mississippi rivers.

- 55,857 square miles (23rd largest state)
- 64% Urban
- 36% Rural
- 22 Counties are Metropolitan Statistical Areas
- 16 Counties are Micropolitan Statistical Areas

Iowa: Core Based Statistical Area Classifications



CBSA Status

September 2018

Metropolitan Statistical Area

Micropolitan Statistical Area

Source: Office of Management and Budget and U.S. Census Bureau
Prepared by: Iowa Department of Public Health, Bureau of Oral and Health Delivery System
Created on: April 9, 2019

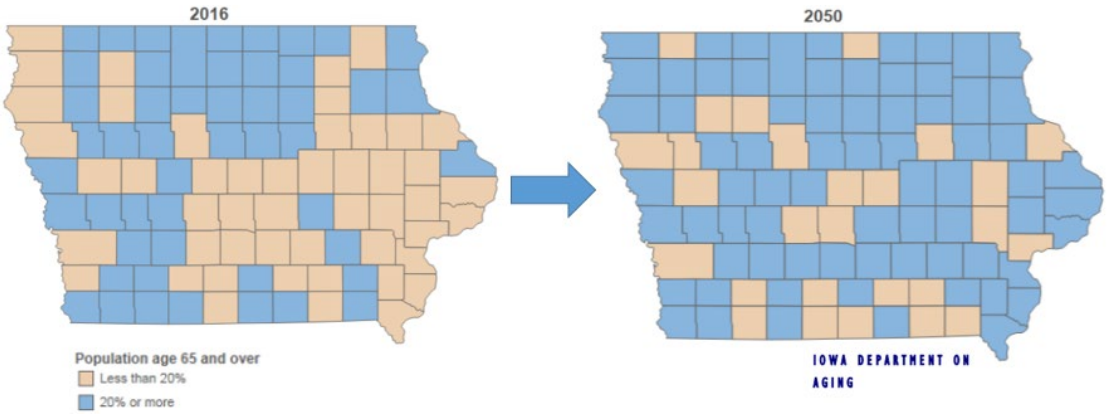
Iowa Demographics/Social Determinants

Population

Iowa's population of 3,155,070 is predominately white (90.7%) compared to the nation (76.5%). People who are of Hispanic or Latino ethnicity comprise 6.2% (U.S., 18.3%), Black or African American comprise 4.0% (U.S., 13.4%), and all other races comprise 5.2% (U.S., 10.1%). The percent of those 65 and younger is 25% (U.S., 28.5%) and people aged sixty-five or older make up 17% (U.S., 16%). Gender distribution is relatively equal at roughly fifty percent for both males and females.

Age

It is projected that by 2050, 73 Iowa counties will have at least 20% of residents age 65 and older according to Woods and Pools Economics, Inc. As a comparison, in the year 2000 that number was 30. In 2016, it was 50 Iowa counties.[66]



In addition, older adults are less likely to migrate. Between 2015 and 2016, 93.3% of Iowans age 65 years and older did not move. The state average for migration was 84.7%.[6]

Obesity

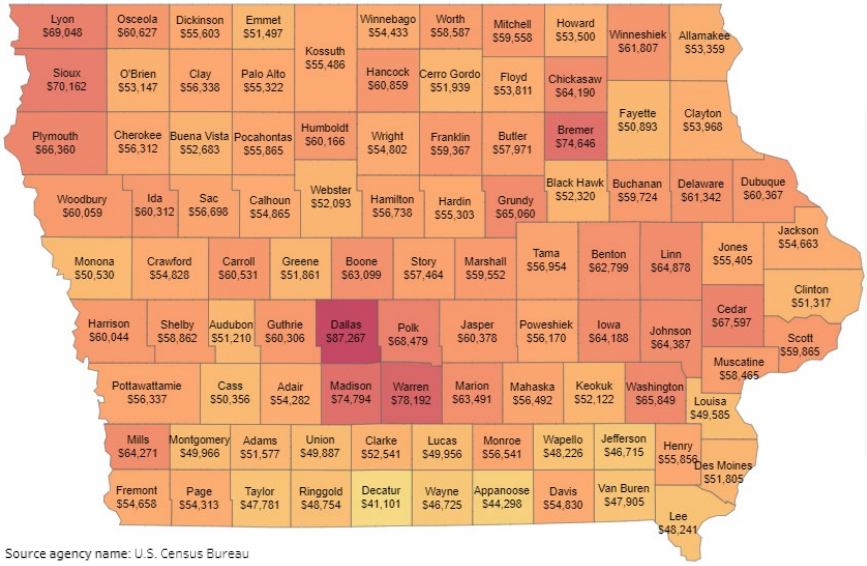
The indicator *Iowa adults who are obese*, shows that Iowa takes the 21st place with the highest obesity rate in the nation in 2019. Iowa's adult obesity rate is higher than the national average.[67] The prevalence of adult obesity is increasing in Iowa. Iowa's adult obesity stands at 35.3% according to the Iowa Department of Public Health Tracking Portal. For comparison purposes, it was 29.0% in 2011.[68]

Income

According to the U.S. Department of Agriculture, rural areas fared better with regard to annual, per-capita income, which increased by 6.7% from 2017 to 2018 when compared to urban areas at an increase of 4.9% during the same timeframe. However, per-capita income in rural areas was less overall compared to urban areas ($48,237 vs $51,389 in 2018). Earnings per job also increased more in rural

[66] Older Iowans: 2018. (2018, May). Retrieved January 27, 2021, from http://publications.iowa.gov/28014/1/older2018.pdf
[67] Adults Who Are Obese by Race/Ethnicity. (2020, October 13). Retrieved January 27, 2021, from https://www.kff.org/other/state-indicator/adult-obesity-by-re/?currentTimeframe=0&selectedRows=%7B%22wrapups%22%3A%7B%22united-states%22%3A%7B%7D%7D%2C%22states%22%3A%7B%22all%22%3A%7B%7D%7D%7D&sortModel=%7B%22colId%22%3A%22All+Adults%22%2C%22sort%22%3A%22desc%22%7D
[68] Adult Obesity Data. (n.d.). Retrieved January 27, 2021, from https://tracking.idph.iowa.gov/Health/Obesity/Adult-Obesity-Data

areas (4.3%) when compared to urban areas (3.1%) between 2017 and 2018, however, earnings per job in rural areas were less than urban earnings ($47,821 vs $55,442) in 2018.

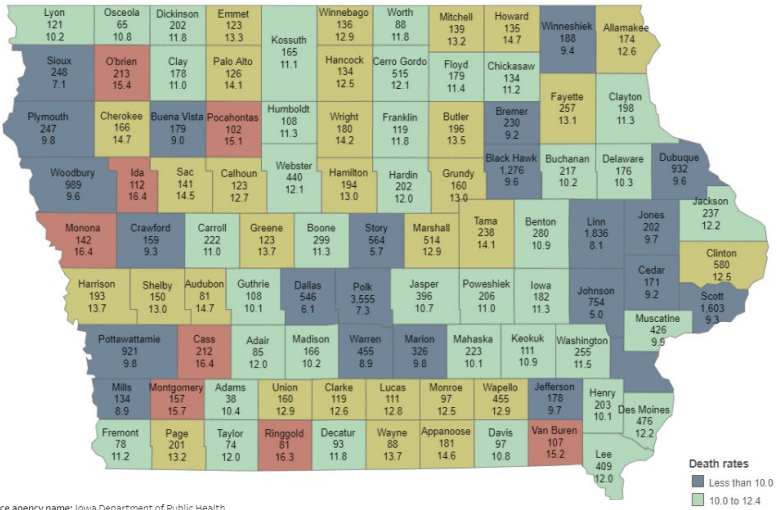


Iowa Median Household Income by County: 2018
The map illustrates median household income (MHI). Darker shades of orange illustrate counties with higher MHIs relative to other counties in Iowa.

Source agency name: U.S. Census Bureau
Source agency program: Small Area Estimates Branch
Source agency contact: Small Area Estimates Branch, 301-763-2422 , sehsd.saipe@census.gov
https://www.census.gov/programs-surveys/saipe.html
Source agency release date: December 2019
Date added to State Data Center Web site: March 10, 2020
State Data Center contact information: State Library of Iowa, State Data Center Program, http://www.iowadatacenter.org 800-248-4483, census@iowa.gov

Mortality

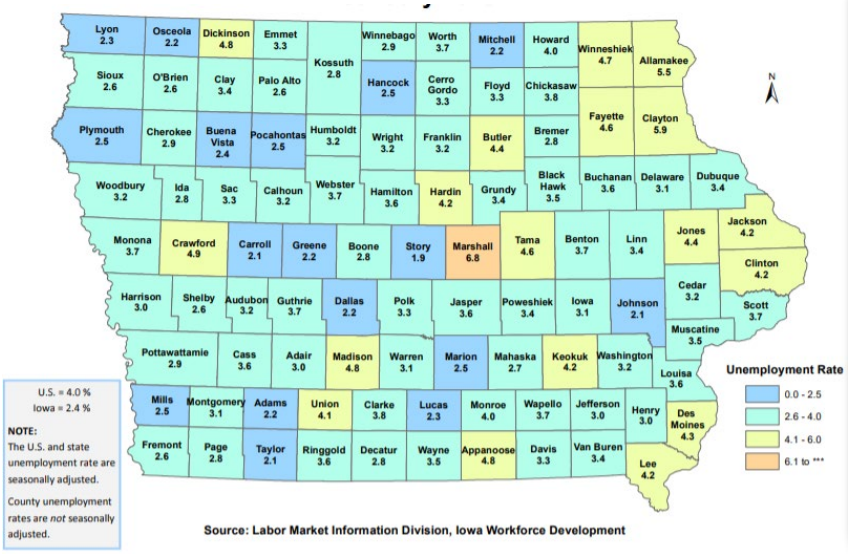
Total number of deaths and death rate in Iowa counties: 2018
The map illustrates county deaths and death rates. The map is divided into four quartiles with orange indicating the highest number of births (15.0 or more per 1,000 population), followed by light orange, green, then blue (less than 10.0 per 1,000).



Source agency name: Iowa Department of Public Health
Source agency program: Bureau of Health Statistics
Source agency contact: (515) 281-7221
Source agency release date: June, 2019
Date added to State Data Center Web site: June, 2020
State Data Center contact information: State Library of Iowa, State Data Center Program, 800-248-4483, census@iowa.gov, http://www.iowadatacenter.org

Unemployment

In 2019, the unemployment rate in rural Iowa was 2.8% while in urban Iowa was 2.7% (USDA-ERS, 2019).[69] According to the Iowa Workforce Development, the annual average unemployment rate was 2.4% in January 2019. The national average was significantly higher at 4.0%.



Unemployment rate in Iowa counties: January, 2019

The map illustrates unemployment rates in January 2020 (prior to COVID pandemic). The map is coded by four color quartiles. Blue illustrates up to 2.5% unemployment rate and orange illustrates the counties with highest unemployment at greater that 6.1%.

Poverty

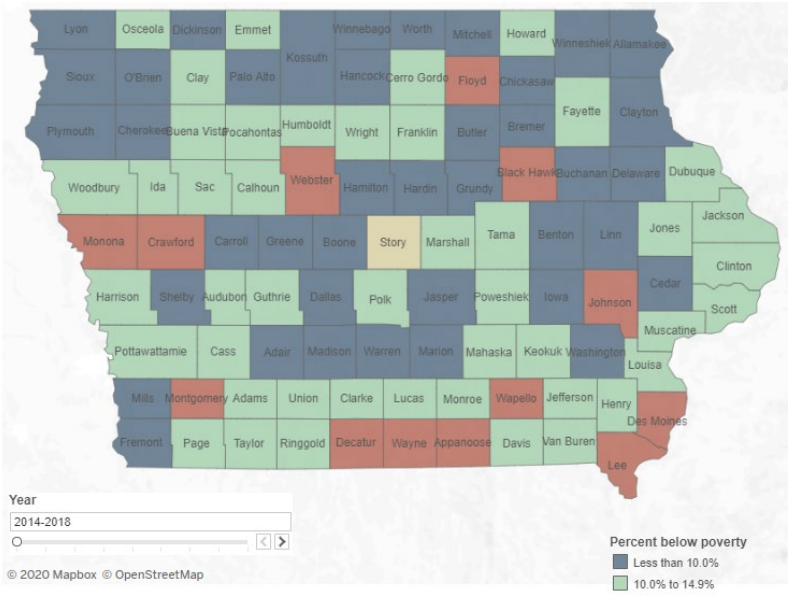
The overall rate of poverty in Iowa was 11.2% in 2018, and was slightly more pronounced in urban areas (11.3%) when compared to rural areas (11.0%).[70]

[69] USDA. (2020, December). State Data. United States Department of Agriculture Economic Research Service. https://data.ers.usda.gov/reports.aspx?StateFIPS=19&StateName=Iowa&ID=17854

[70] USDA. (2020, December). State Data. United States Department of Agriculture Economic Research Service. https://data.ers.usda.gov/reports.aspx?StateFIPS=19&StateName=Iowa&ID=17854

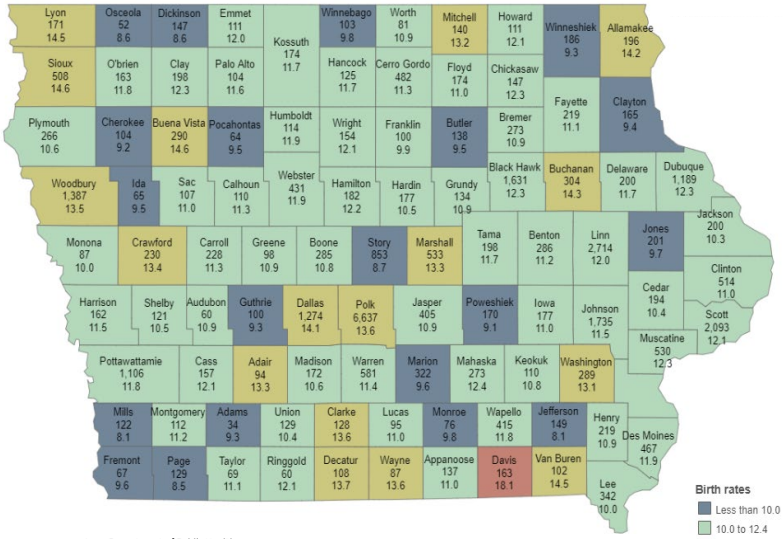
Poverty rate by county: 2014-2018

The map illustrates Iowa poverty rate by county. Thirteen counties have a poverty rate of 15.0% or greater and one county (Story) with 20.0% or greater. Johnson county and Ames county house the 2 state universities. Johnson county and Black Hawk county are the only 2 MSAs that also have higher poverty rates.



Source agency name: U.S. Census Bureau
Source agency program: American Community Survey
Source agency contact: (301) 763-8950, https://www.census.gov/programs-surveys/acs/
Source agency release date: December 19, 2019
Table number: S1701
Date added to State Data Center Web site: January 16, 2020
State Data Center contact information: State Library of Iowa, State Data Center Program, http://www.iowadatacenter.org 800-248-4483, census@iowa.gov

Live Births



Source agency name: Iowa Department of Public Health
Source agency program: Bureau of Health Statistics
Source agency contact: (515) 281-7221
Source agency release date: June, 2019
Date added to State Data Center Web site: June, 2020
State Data Center contact information: State Library of Iowa, State Data Center Program, 800-248-4483, census@iowa.gov, http://www.iowadatacenter.org

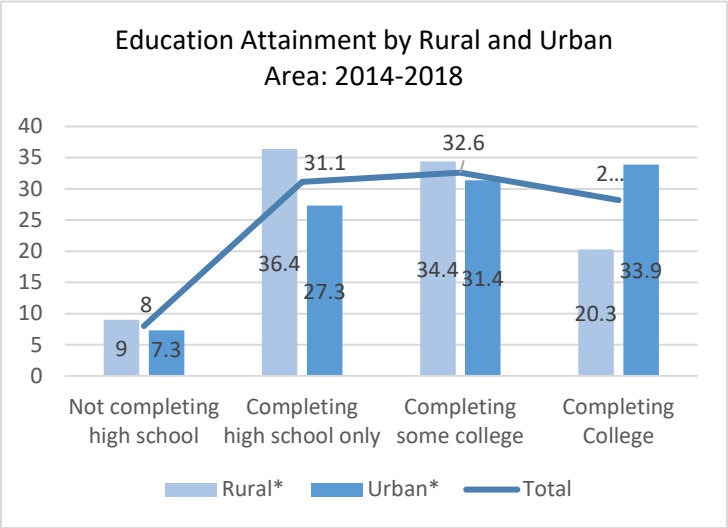
Total number of births and birth rate in Iowa counties: 2018

The map illustrates county births and birth rates. The map is divided into four quartiles with orange indicating the highest number of births (15.0 or more per 1,000 population), followed by light orange, green, then blue (less than 10.0 per 1,000).

Education

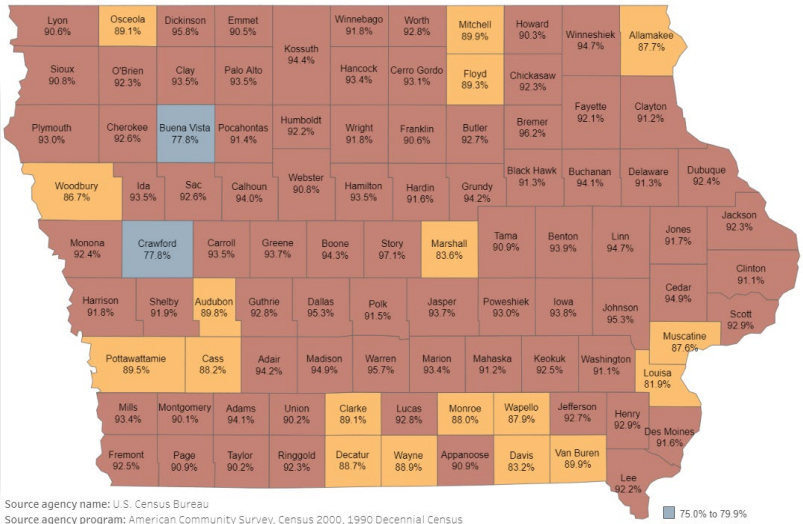
Education Attainment by Rural and Urban Area: 2014-2018

Education attainment differs in rural versus urban areas. More individuals living in rural areas either do not complete high school, complete high school, or complete some college, while significantly more people who live in urban areas complete college compared to rural Iowans (33.9% vs. 20.3%).



Percent of Iowans with a High School degree or higher: 2014-2018

The map illustrates county percentages representing Iowans who completed high-school or higher. The map is divided into three quartiles with light orange and blue indicating a lower percentage of high-school or above graduates.



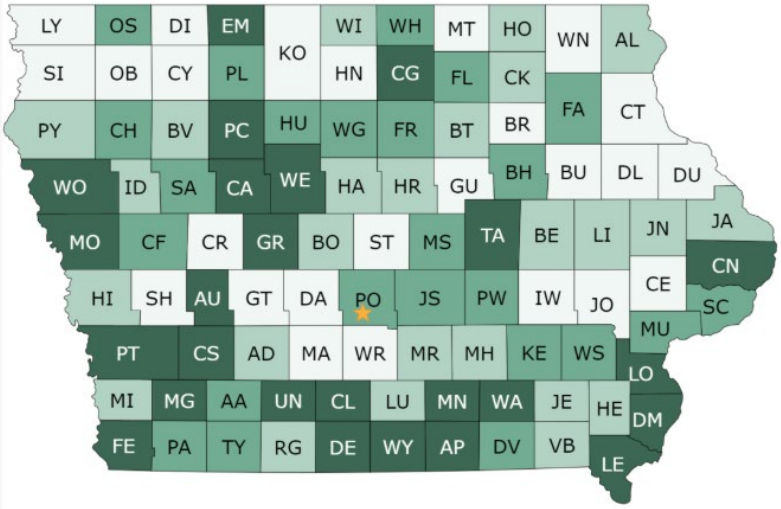
Health Outcomes & Health Factors

Figures A and B illustrate rankings of health outcomes and health factors of Iowans. Health factors are described as the behaviors, socioeconomic factors, and physical environment that can alter an individual's ability to access services, which subsequently may influence quality of life. Rankings for both health outcomes and factors appear to be negatively impacted in the southwestern, southeastern, and southern counties when compared to the remaining areas of the state.

Health Outcomes Ranked by County

The map illustrates county health rankings representing measures of how long people live and how health people feel. Length of life is measured by premature death (years of potential life lost before age 75) and quality of life is measured by self-reported health status (percent of people reporting poor or fair health and the number of physically and mentally unhealthy days within the last 30 days) and the % of low birth weight newborns. The map is divided into four quartiles with less color intensity indicating better performance.

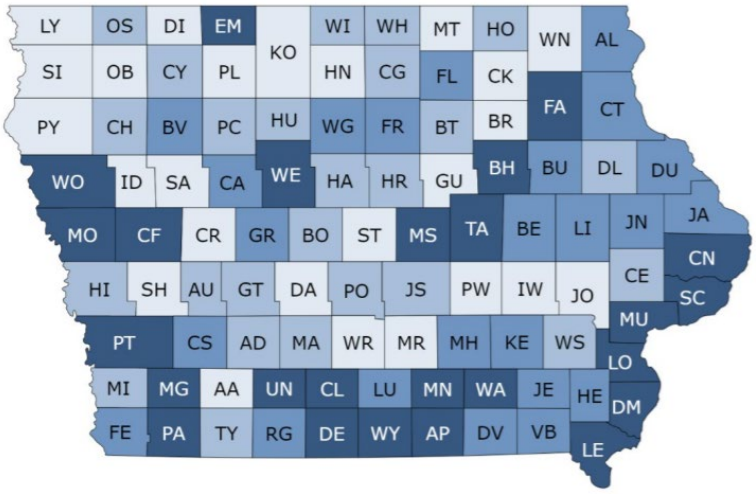
Figure A



Health Factors Ranked by County

The map illustrates county health rankings representing focus areas that drive how long and how well we live, including health behaviors (tobacco use, diet & exercise, alcohol & drug use, sexual activity), clinical care (access to care, quality of care), social and economic factors (education, employment, income, family & social support, community safety), and the physical environment (air & water quality, housing & transit). The map is divided into four quartiles with less color intensity indicating better performance in the respective summary rankings.

Figure B



PEST/SWOT Analysis

The IDPH Rural Health Programs conducted a PEST/SWOT analysis to determine the factors that contribute to or mitigate unmet health care needs in rural Iowa as it pertains to health systems and workforce issues. The scope of the analysis was restricted to the following aforementioned considerations that affect an individual's access to health care and unmet health care need:

1. Health care provider access to establish a relationship and receive needed services;
2. Gaining access to the system through health insurance; and
3. Physical access to a location where medical care is provided.

The goal of the PEST Analysis was to identify the political, economic, social, and technological influences that affect an individual's access to health care and unmet health care need with consideration for the scope identified above. The goal of the SWOT Analysis was to identify the strengths, weaknesses, opportunities, and threats of each factor identified in the PEST analysis.

PEST ANALYSIS			
Political	Economic	Social	Technological
● Scope of Practice ● EMS Services ● Medicaid Expansion ● Medicaid Privatization ● Medicare Access and CHIP Reauthorization Act ● Program Funding - Empower Rural Iowa - Loan Repayment Programs - Medical Residency/Training Programs - Private Grant Funding ● Medicare sequestration ● Program Planning - HHS/IDPH Strategic Plan - Community Health Needs Assessment - Healthy Iowans - The Rural Action Plan - The CHART Model - Rural provider recruitment and retention	● Health System Stability ● Internships/Residency Capacity ● Primary Care Workforce Compensation ● Volume to Value-based Reimbursement of Health & Dental Care Services ● Health Care Spending	● Health Equity ● Availability of Community Health Worker programs ● Healthcare Quality ● Primary, Dental, and Mental Health Care Workforce ● Redistribution of Health Care Services ● Rural to Urban Population Shift ● Unemployment ● Poverty ● Monthly Household Income ● Race ● Ethnicity ● Infant Mortality ● Low Birth Weight ● Level of Education ● Age ● Access to Health Insurance ● Access to Dental Insurance ● Chronic Disease Prevalence ● Life Expectancy ● Medical Visits - Dental Health - Mental Health	● Transportation/Care Coordination ● Telemedicine ● Electronic Health Records ● Availability of treatment/diagnostic equipment

● Broadband Capability ● Opioid epidemic ● Telehealth Parity Legislation		- Primary Care - Inpatient Care - ER Visits/Wait Times ● Physical Activity ● Self-rated Health ● Mental Health ● Pain Experience ● Tobacco Use ● Food Security/Disparities ● Housing Stability ● Crime and Violence ● Neighborhood and Built Environment ● Quality of Housing ● Incarceration/ Institutionalization ● Language/Literacy ● Early Childhood Education and Development ● Access to Healthy Foods ● Geographic isolation ● Substance Misuse ● Prevalence of Ag/Farm Injuries ● Farmer Suicide	
SWOT ANALYSIS			
Political Factors			
Practitioner Scope of Practice			

Strengths/Opportunities	Challenges/Threats
● Modernize relevant regulations. ● Senate File 2357 reduced burdens on PA practice	● Physician assistants and nurse practitioners have supervision requirements and scope of practice limitations according to current state and federal laws. ● Dental Hygienists have to perform all services (except those deemed educational) under the supervision of a dentist in limited settings, and do not have prescriptive authority. ● No telehealth/teledental parity legislation exists in Iowa currently. (Insurers have agreed to extend telehealth parity flexibility until February 1 given the public health emergency). ● Dental hygiene working at the top of their scope of practice- providing preventive services. ● Mid-level dental providers (dental therapist- in other states).
EMS Services	
Strengths/Opportunities	Challenges/Threats
● Include EMS as an essential service	● No law the requires EMS to respond to a call, only police and fire ● Rural operations run off billing patients, money from local townships, donations, or through support from the local fire department. ● Many agencies rely on volunteerism, nearly 50% are uncompensated. ● Transport times can be up to 30 minutes ● Concern with no shows when EMS services are called in certain areas. ● Some EMS lack training in obstetric emergencies (emergency delivery) and newborn care. An increase concern with the rising number of hospitals closing their birthing services
Medicaid Expansion	
Strengths/Opportunities	Challenges/Threats

● Allowed for residents above 133% FPL to access health coverage through the Iowa Health and Wellness Plan. ● Dental Wellness Plan ● Pregnant women are covered up to 375% of the FPL in Iowa	● Federal and/or State policy changes ● Funding match uncertainties
Medicaid Privatization	
Strengths/Opportunities	Challenges/Threats
● The intention is taxpayer savings, more efficient care, and improved health outcomes	● Claims denials and delays ● Beneficiaries implications ● Political support is divided ● Number of services that require a prior-authorization which results in delays in treatment ● Lack of communication with entities such as IDPH to assist in program development based on health trends/concerns as well as Dental MCOs called PAHPs - Pre-Ambulatory Health Plans.
Medicare Access and CHIP Reauthorization Act	
Strengths/Opportunities	Challenges/Threats
● None Reported	● Lack of dental coverage despite multiple known health conditions and outcomes which are impacted by overall health care.
Program Funding ***Empower Rural Iowa - Loan Repayment Programs - Medical Residency/Training Programs - Private Grant Funding***	
Strengths/Opportunities	Challenges/Threats
● Increased funding to support program expansion.	● Funded programs are no longer supported.
Medicare Sequestration	
Strengths/Opportunities	Challenges/Threats
● None Reported	● None Reported
Program Planning ***HHS/IDPH Strategic Plan - Community Health Needs Assessment - Healthy Iowans - The Rural Action Plan - The CHART Model - Rural provider recruitment and retention – HHS Strategy to Combat Opioid Abuse, Misuse, and Overdose***	

Strengths/Opportunities	Challenges/Threats
● CHART funding opportunity	● Rural Health and Primary Care Advisory Committee was eliminated in 2019
Economic Factors	
Health System Stability	
Strengths/Opportunities	Challenges/Threats
● Rural hospital closures tend to result in a decrease in number of primary care physicians and an increase in advanced practice providers ● Rural hospital conversions to another type of health facility have shown to increase the number of PCPs ● Integrated health care ● Resource Advocate Program ● Rural hospitals are nimble and are able to adapt to changes (see Rural Health Forum report). ● Establishment of Center of Excellence, a care model to leverage healthcare resources regionally and improve access to care. ● Establishment of the State Mental Health System (2019) to provide core mental health services. ● Sensible tort reform with caps	● Hospital closures contribute to economic instability in rural areas. ● Rural hospitals closures due to low patient volumes and occupancy rates, and physician shortages. ● EMS travel times increase due to rural hospital closures. ● Lack of social support programs and coordination with community resources ● Lack of transportation, emergency support, and equipment affect the need to transfer a patient. ● The impact of rural hospital closures on the vitality of rural communities. ● Lack of rural jobs leads to women of reproductive age and their families moving to more urban areas. This causes low birth volume and hospitals closing their birthing services. ● Medical malpractice lawsuits.
Provider Training Capacity	
Strengths/Opportunities	Challenges/Threats
● Educating family physicians in community-based programs contributes significantly to in-state retention ● Medical residency capacity building programs are currently in place	● Medical student graduates outnumber residency positions ● Iowa is in the bottom 10 states for the ratio of medical students/positions ● Psychologist fellowships outnumber internship opportunities ● General surgeons are no longer required to learn to do C-Sections ● Funding of residency programs continues to be problematic due to federal cap on the number of positions that are approved.

Primary Care Workforce Compensation	
Strengths/Opportunities	Challenges/Threats
● PCP compensation in rural areas does not appear to be a barrier to recruitment and retention.	● None Reported
Volume to Value-based Reimbursement of Health Care Services	
Strengths/Opportunities	Challenges/Threats
● Efforts to convert to value-based. ● Affiliations with larger, regional health systems. ● Accountable Care Organizations ● Payment redesign that is applicable to rural health. ● The role of ACOs and the CHART Model	● Traditionally volume-based. ● Rural healthcare systems face a considerable expense before the benefit ratio can balance (population investment). ● Increased financial risk ● Low eligible patient participation ratio ● Low negotiated payment rates and slow reimbursement times. ● Dental is not included in value-based health care in Iowa.
Health Care Spending	
Strengths/Opportunities	Challenges/Threats
● Cost containment ● Global budgeting models ● Price transparency ● Medicare for All	● Increased steadily from 2008 to 2017 with mixed patient health outcomes. ● Costs increased steadily for employers and individuals ● Rural hospitals continue to use fee for service models ● Low patient volumes coupled with fee for service model. ● Hospital Days Cash on Hand/Financial Indicators of hospitals and clinics ● Lack of dental access (e.g., inability to receive dental clearance for medically necessary procedures) increases costs to health systems ● Lack of tracking how social determinants and lack of dental access impact medical costs ● Overutilization
Social Factors	
Health Indicators	

Monthly Household Income – Race – Ethnicity - Infant Mortality - Low Birth Weight - Level of Education – Age – Access to Health Insurance – Chronic Disease Prevalence - Life Expectancy- Physical Activity - Self-rated Health - Mental Health - Pain Experience – Tobacco Use - Substance Misuse - Unemployment - Poverty - Crime/Violence - Prevalence of Agriculture/Farm Injuries - Farmer Suicide - Geographic Isolation - Language/Literacy - Early Childhood Education and Development - Incarceration/ Institutionalization	
Strengths/Opportunities	Challenges/Threats
● Medicaid coverage for children and adults have increased due to ACA ● Number of uninsured children and adults have decreased due to ACA ● Behavioral Health Coalition ● Community Health Needs Assessment ● Health Insurance Marketplace increased access to health insurance ● Iowa Medical Society conducted annual maternal mortality review as of February 2019 ● Legislation passed in 2018 to ensure Iowa perinatal patients receive appropriate maternal and neonatal care as close to their homes as possible	● Rural residents are more likely to suffer greater health and economic disparities ● Minority populations suffer greater health disparities ● Iowa's health insurance landscape is dominated by one insurer ● Minority populations are disproportionately impacted by poverty. ● Job earnings are less in rural areas compared to urban areas ● Food disparities due to oral disease (inability to eat foods) ● Ability to navigate and understand medical, dental and behavioral health benefits ● Dismantling of the ACA ● ACA does not include dental coverage
Medical Visits ***Dental Health - Mental Health - Primary Care - Inpatient Care - ER Visits/Wait Times***	
Strengths/Opportunities	Challenges/Threats
● Hospital inpatient days have declined	● Transportation barriers ● Provider shortages ● Specialist availability ● Difficult to measure quality of care for outpatient visits ● Individuals who require dental clearance prior to surgery may delay or not receive required surgery because they cannot access dental services (affordability, limited providers)
Health Equity	
Strengths/Opportunities	Challenges/Threats
● Increased attention and awareness of health equity	● Awareness of health equity and services ● Cultural competency and Implicit Bias training

Primary, Dental, and Mental Health Care Workforce	
Strengths/Opportunities	Challenges/Threats
● PCP attrition has been stable. ● Projections show a surplus of advanced practice providers (2013 – 2025). ● Dentists who are born or educated in Iowa tend to stay in Iowa. ● Loan repayment programs/scholarships are in place – increase funding ● Area Health Education Center Program (not currently in place in IA) ● Pathways awareness campaigns are in place but are currently limited to direct care workforce health professions.	● Availability of Community Health Worker programs. ● Primary care providers, dental health providers, and mental health providers are scarcer in rural areas when compared to urban areas ● Projections show an undersupply of PCPs (2013 – 2025) ● Psychiatry has the most intense immediate demand ● Obstetrics are a major concern. ● On-call and back-up can be a burden. ● Liability concerns for physicians who are sole providers in an area. ● Lack of dentist network to serve Medicaid population for prevention and treatment needs. ● Barrier in providing medically necessary dental treatment in hospital due to low reimbursement and dental providers not having access to hospital through credentialing process.
Redistribution of Health Care Services/Availability of Treatments	
Strengths/Opportunities	Challenges/Threats
● Medicaid expansion stabilized healthcare systems somewhat. ● Some hospitals are repurposing areas to provide services (closure of obstetrics services, establishing senior services). ● Creation of “Share Care” model. ● Partnering with larger hospitals to provide specialty care. ● Rural Emergency Hospital designations. ● Modification of Critical Access Hospital program. ● Efficiency funding support for rural hospital re-sizing. ● Convene coalitions to determine health needs ● A greater emphasis is being focused on primary care, chronic disease management, and prevention ● Iowa’s SafeNet Rx program allows patients to obtain medications at little to no cost	● 4 of Iowa’s rural hospitals are at risk for closure (pre-COVID) ● Downsizing and closures lead to potential lay-offs. ● Transportation barriers. ● Maternal OB and high-risk pregnancies in rural areas lacking services. ● There is reduced availability of services for rural residents, especially obstetrics. ● Patients who have to seek specialty care elsewhere may also choose to transition primary care.

● Re-evaluate rules for critical access hospitals (CAH) to allow a carve out for maternity care patients eligible for Medicaid which would not affect CAH reimbursement rates. ● Iowa hospitals are limiting or declining to allow dental surgeries (e.g., pediatric for treatment of rampant tooth decay)	
Rural to Urban Population Shift	
Strengths/Opportunities	Challenges/Threats
● None Reported	● Cities outside of metro/micropolitan areas experienced no growth, or lost residents from 2005-2010. ● Younger persons and families are moving to urban areas. ● Shifts in population affects economic development as well as cultural consideration more so for rural communities.
Healthcare Quality	
Strengths/Opportunities	Challenges/Threats
● None Reported	● None Reported
Housing Stability/Quality of Housing	
Strengths/Opportunities	Challenges/Threats
● None Reported	● None Reported
Neighborhood and Built Environment	
Strengths/Opportunities	Challenges/Threats
● None Reported	● None Reported
Technological Factors	
Transportation/Care Coordination	
Strengths/Opportunities	Challenges/Threats

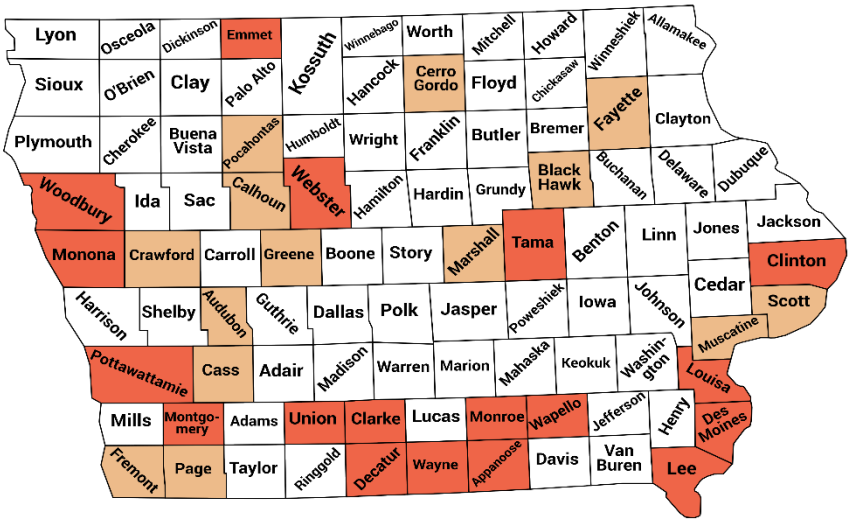
● Statewide Alert Network (SWAN) ● Regional public transportation hubs ● Local agencies partnering to provide transportation services. ● Emphasis on community care coordination ● Signify Health shared technology platform enables community providers across the state's 99 counties to safely share information, coordinate services, and connect members to non-medical needs like transportation, housing, health management resources, and mental health services.	● Managed Care Organizations (MCOs, Medicaid Program), can be slow at issuing payments, making it challenging for some providers to make ends meet, or causing some providers to not take Medicaid patients. ● Coordinating with MCOs can be overwhelming for people who use a wheelchair or need a special vehicle. ● Each MCO has unique billing and authorization requirements, making it difficult to coordinate care. ● Physicians have contracts with different MCOs, making it difficult to coordinate care. ● Cost of transportation and driver/passenger status ● Needs to expand reimbursement to support community care coordination
Telehealth	
Strengths/Opportunities	Challenges/Threats
● Can build capacity between providers. ● Potential to reduce costs and transportation burdens. ● Medicaid currently provides reimbursement for telehealth services. ● Sustain pandemic allowances for telehealth services (patient can receive and practitioner can provide telehealth service from home, smart phone is acceptable platform, expansion of allowed service types) ● Support by the Governor to expand broadband capability (Empower Rural Iowa). ● Has shown promising savings and outcomes for pregnant women. ● Telehealth parity legislation	● Generally, private payers do not provide reimbursement for telehealth services at the same rate as in person services ● The Internet gap is particularly pronounced in the rural areas. ● May exacerbate isolation for older adults. ● Smart phone capability and use among population groups, especially older populations. ● Lack of training and education among telehealth users and patients ● Lack of or inefficient telehealth equipment ● Broadband capability is lacking in rural areas
Electronic Health Records	
Strengths/Opportunities	Challenges/Threats
● Technological advancement of electronic health records	● Poses a learning curve for staff

● Population health opportunities with EHR data	● Need for data protection from cyber threats ● Lack of communication between different provider types (primary care, dental, and mental health) ● Does not link with dental records
Availability of treatment/diagnostic equipment	
Strengths/Opportunities	Challenges/Threats
● None Reported	● None Reported

Recommendations

Focus Area	Recommendations
Address geographical areas of unmet-need: based on County Health Rankings Data, Counties were ranked in the bottom 25 for health outcomes and health factors were prioritized. Counties that were ranked among the bottom 25 for both health outcomes *and* health factors were designated as high priority. Counties that ranked among the bottom 25 for either health outcomes *or* health factors were designated as moderate-high priority counties. The following table lists the high and moderate-high priority counties followed by a map of the designated counties. Dark orange illustrates the high priority counties and light orange illustrates the moderate-high priority counties.	1. Assess RHC/FQHC status in high-priority and moderate-high priority counties. 2. Assess HPSA designation status of high-priority and moderate-high priority counties. 3. Prioritize high-priority and moderate-high priority counties with regard to rural health programs eligibility. 4. Develop a method to assess hospital and emergency department data for identify areas of high-use.

High Priority Counties	Moderate-high Priority Counties
Appanoose	Audubon
Clarke	Black Hawk
Clinton	Calhoun
Decatur	Cass
Des Moines	Cerro Gordo
Emmet	Crawford
Lee	Fayette
Louisa	Fremont
Monona	Greene
Monroe	Marshall
Montgomery	Muscatine
Pottawattamie	Page
Tama	Pocahontas
Union	Scott
Wapello	
Wayne	
Webster	
Woodbury	



In addition to the high-priority and moderate-high priority counties addressing primary care, mental health, and dental health, the following additional counties are added specifically to address dental health shortages.

Adair	Keokuk
Benton	Madison
Boone	Mahaska
Buchanan	Osceola
Butler	Palo Alto
Chickasaw	Ringgold
Dallas	Van Buran
Grundy	Worth
Guthrie	

Increase the number of Rural Health Clinics (RHC) that are National Health Service Corps (NHSC) practice sites: Currently there are only 53, or less than 1/3 of the RHCs in Iowa, that are NHSC practice sites. By federal law, once an RHC is certified, which is a requirement if Iowa, it is deemed an Auto-HPSA. However, to receive a HPSA score, the RHC must apply to become a NHSC practice site. Once approved, the RHC can then take advantage of beneficial recruitment tools such as loan repayment or scholarship programs.	1. Identify RHCs that may be eligible to become a NHSC practice site. 2. Partner with the Primary Care Association and Iowa Association of Rural Health Clinics to conduct an awareness campaign of NHSC and benefits to becoming a practice site 3. For interested RHCs, provide training and technical assistance as needed to support the application process to become NHSC practice sites.
Increase the number of Health Professional Shortage Areas (HPSA) designations in Iowa: There are 41 counties that currently do not have a	1. Develop service areas 2. Assess provider list for accuracy and quality by developing a quality assurance plan.

<table>
<tr><td colspan="2">primary care HPSA, 42 counties that do not have a dental health HPSA, and 8 counties that are not part of a mental health catchment area.</td><td colspan="3">3. Assess counties that do not have a HPSA designation for eligibility.
4. Submit HPSA applications for viable counties</td></tr>
<tr><td></td><td>Primary Care</td><td>Dental Health</td><td>Mental Health Catchment Areas</td></tr>
<tr><td>Low Income (LI) HPSA</td><td>27</td><td>45</td><td>-</td></tr>
<tr><td>Geographic (GEO) HPSA</td><td>26</td><td>8</td><td>17</td></tr>
<tr><td>Total LI & GEO HPSAs</td><td>60</td><td>57</td><td>17</td></tr>
<tr><td colspan="4">Facility HPSAs</td></tr>
<tr><td>Correctional Facilities</td><td>72</td><td>74</td><td>73</td></tr>
<tr><td>Total HPSAs</td><td>142</td><td>131</td><td>90</td></tr>
<tr><td colspan="2">Monitor scope of practice policies/ legislation for non-physician providers</td><td colspan="3">Track state legislation</td></tr>
<tr><td colspan="2">Monitor the status of the Rural Emergency Acute Care Hospital (REACH) Act: This bi-partisan legislation revises provisions related to health care in rural areas, including by allowing certain small rural hospitals and critical access hospitals to be designated as rural emergency hospitals for purposes of receiving special payment under Medicare. The bill was introduced in 2017 but has not been voted on.</td><td colspan="3">1. Track federal legislation
2. Assess which/how many Iowa hospitals would be eligible or would benefit from approved legislation
3. Work with the Iowa Hospital Association to assess and understand hospitals' attitudes and potential plans as a result of approved legislation</td></tr>
<tr><td colspan="2">Monitor the status of the Rural Emergency Medical Center (REMC) Act of 2018: This act would allow eligible hospitals to transition to a 24/7 emergency medical center with enhanced reimbursement and transportation to higher acuity facilities.</td><td colspan="3">1. Track federal legislation
2. Assess which/how many Iowa hospitals would be eligible or would benefit from approved legislation
3. 3. Work with the Iowa Hospital Association to assess and understand hospitals' attitudes and potential plans as a result of approved legislation</td></tr>
<tr><td colspan="2">Monitor the status of the Save Rural Hospitals Act (SRHA): this bill would allow for increased payments to and modify requirements of rural health care providers under the Medicare program.</td><td colspan="3">1. Track federal legislation
2. Assess the benefits and disadvantages of legislation</td></tr>
<tr><td colspan="2">Monitor the status of the Rural Maternal and Obstetric Modernization of Services Act (MOMS Act): The bill provides funding for the Health Resources and Services Administration (HRSA) to establish rural obstetric networks for improving outcomes in birth and maternal morbidity.</td><td colspan="3">1. Track federal legislation
2. Assess the benefits and disadvantages of legislation
3. Assess which/how many sites would qualify for participation</td></tr>
</table>

Monitor advances in telehealth Infrastructure – Gov. Reynolds proposal of $150 million to support rural broadband infrastructure development, high-speed internet connection investments, and workforce housing credits for rural communities (Center for Rural Revitalization).	1. Explore opportunities to engage with pertinent partners through committees or working groups. 2. Assess which sites would be eligible for funding/advancement under this proposal
Monitor CAH designations for system changes.	1. Work with the Iowa Hospital Association to obtain information on hospital systems 2. Monitor available information on bed count and assess changes
Monitor infrastructure funding to allow rural hospitals to resize to more efficient facilities.	1. Assess available financial data (e.g., outpatient to inpatient revenue) to determine whether it would be beneficial for specific hospitals to resize 2. Assess benefits and disadvantages of resizing
Monitor reimbursement changes.	1. Track federal and state legislation 2. Monitor state payer structures
Monitor obstetrics service provision, including closures and workforce shortages, in rural areas.	1. Work with the Iowa Hospital Association, Primary Care Association, and IDPH Bureau of Family Health to monitor service provisions and understand needs
Explore rural transportation systems and opportunities (short notice transportation system)	1. Develop partnerships to share information about transportation barriers and services.
Increase primary care residency capacity in Iowa	1. Work with the medical schools to understand the challenges of increasing primary care residency capacity. 2. Increase funding to support primary care residency expansion. 3. Address policy barriers to prioritizing Iowa medical students (from both medical schools) matching to Iowa residency slots.
Increase psychologist internship opportunities in Iowa	1. Work with the University of Iowa, Iowa State University, and the Iowa Psychological Assn. to understand the challenges of increasing psychologist internship capacity. 2. Increase funding to support psychologist internship capacity
Increase primary care state loan repayment capacity	1. Develop partnerships to share information about state loan repayment programs. 2. Increase funding for state loan repayment programs.
Establish an Area Health Education Center in Iowa	1. Work with medical schools to raise awareness of and interest in establishing an AHEC. 2. Identify funding support to stand-up an AHEC.

	3. Identify a contractor to facilitate the process.
Support Community Health Access and Rural Transformation (CHART) Model awardees.	1. Establish relationship with awardees. 2. Participate in pertinent council, advisory group, or working groups.
Establish a multi-stakeholder group for information sharing and to make recommendations.	1. Develop a proposal to stand-up a multi-stakeholder group 2. Engage stakeholders
Increase the number of high-school students who are aware of rural training and education opportunities related to primary care, mental health, and dental health professions.	1. Engage IDOE in awareness campaign through block grant opportunity/Career Pathways project. 2. Explore opportunities for accelerated medical education programs for undergraduate students interested in careers in rural primary care.
Explore expansion of services provided by Community Health Workers	1. Conduct a scan of local resources with regard to CHWs.
Explore the capability of establishing a Clinical Placement Clearinghouse (centralized system of clinical placement and residency tracking for health care professions).	1. Contact medical schools to determine existence or feasibility of a clinical placement clearinghouse.
Identify and participate in workforce-focused sector groups, coalitions, and subcommittees across Iowa	2. Work with existing partners to conduct an environmental scan of activities. 3. Join groups as appropriate.
Monitor licensing status of dental therapists in Iowa.	4. Monitor state legislation.
Explore the practice of dental screening and referral at rural health clinics.	5. Work with oral health partners to assess the capability of basic dental screening and referral practice in rural health clinics.
Monitor Medicaid reimbursement for dental services.	6. Monitor state legislation.