

Provider Confidence and Satisfaction with Communication Strategies to Address Vaccine Hesitancy

NDSU

CENTER FOR IMMUNIZATION RESEARCH AND EDUCATION

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BACKGROUND

Parental concerns about vaccine safety and necessity have led to increasing vaccine hesitance. Because parents recognize healthcare providers as the most reliable source of vaccine information, providers may have the greatest potential to impact vaccine acceptance.

Many interventions have been tried by researchers and healthcare providers to increase vaccine acceptance, specifically among hesitant parents, but none have been validated in any prospective study. The American Academy of Pediatrics suggests using a presumptive approach, the C.A.S.E. approach, and motivational interviewing (MI) as potential tools to garner vaccine acceptance. Yet these strategies differ significantly in their fundamental premises and methods of approach. (Table 1)

Presumptive/C.A.S.E. Approach	Motivational Interviewing*
Presumptive approach → "Your child needs the following immunizations today..."	Participatory approach → "What is most important on your agenda today? What would you like to do about vaccines?"
Provider-centered. Provider is the expert and directs the vaccine conversation to the patient/parent.	Patient-centered. Provider guides the patient/parent through their natural ambivalence.
Key Concepts: CASE → Corroborate, About me, Science, Explain/Advise	Key Concepts: PACE → Partnering, Accepting, Compassion, Evocation
Communication is short and to the point.	Communication may be short, but continuous dialogue may span multiple visits.
Structured response to the questioning parent.	Facilitative approach to communication to evoke change.
Direct persuasion, while building partnership → expert-authoritative/recipient relationship	Facilitative inquiry while building partnership → patient/parent comes to own conclusion
The Goal: To get patient/parent to agree to vaccination today → person ought to change	The Goal: Also is to direct the patient/parent to vaccination, but places a higher priority on preserving patient/parent personal-autonomy

Table 1: Contrasting a Presumptive/C.A.S.E. Approach to Motivational Interviewing

*Adapted from: E Britt, et al. *Patient Education and Counseling*, 53 (2004) 147-155 and Rollnick, et al. *Motivational Interviewing in Health Care*, New York, NY: The Guilford Press; 2008.

OBJECTIVES

This pilot study assessed these communication strategies in a small group of pediatric providers. Measures included provider confidence in managing vaccine-hesitant parents and their subjective appraisal of the contrasting approaches.

METHODS

- Five pediatric providers were recruited to implement the communication strategies.
- All providers attended a day-long retreat and eight, one-hour training/debriefing sessions. Training topics included: vaccine safety, efficacy, and licensure; how to refute common vaccine myths; and the two communication strategies.
- Providers were supplied with books, journal articles, and videos to complement the training.
- Providers implemented a presumptive/C.A.S.E. approach for four months, and then used an MI approach for four months.
- Providers received scripted tools for both approaches.
- Vaccine education materials were placed in each exam room for providers to give to parents with vaccine questions.
- A research assistant shadowed the providers weekly to observe progress and provide coaching with the communication methods.
- Providers completed anonymous online surveys regularly to assess their confidence in addressing vaccine hesitancy and satisfaction with the strategies.
- Individual interviews were conducted at the end of the study to gather provider feedback on strategy preference and opinions and recommendations for project improvement.

RESULTS

- Providers were more confident in their ability to address vaccine hesitancy and parental concerns as the study progressed. (Figure 1)
- Providers believed the seven-hour retreat was valuable because it increased their knowledge of vaccines and confidence in vaccine promotion.
- They acknowledged that education and training on vaccines and communication strategies to address hesitancy are insufficient in medical school and residency.
- Proficient provider implementation of the communication strategies was a gradual process that required frequent practice and coaching. Ongoing trainings/support were critical to ensure provider accountability in adopting the strategies.

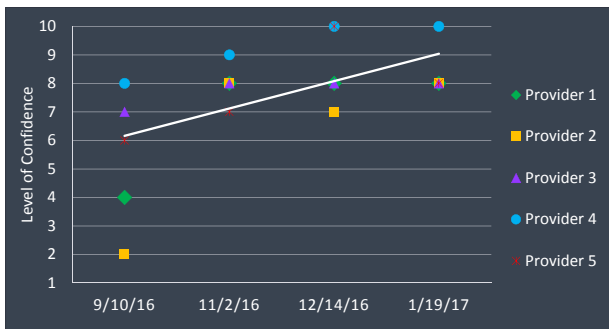


Figure 1: On a scale of one to ten, with ten being the most confident and one being the least confident, providers self-reported confidence in their ability to discuss a parent's concerns about vaccines.

- Before the project, providers acknowledged they felt significant stress/anxiety when having to confront vaccine-hesitant and resistant parents. At project completion, providers noted that they experienced less stress/anxiety because they were better able to address parental concerns.
- Providers found the presumptive/C.A.S.E. approach was easier to learn and provided a convenient script for vaccine-accepting and minimally hesitant parents. This strategy was found to be quite successful at obtaining vaccine acquisition at the medical encounter
- Providers found that MI was harder to learn and more time consuming to implement. They believed MI was a better approach for the very hesitant parents as it facilitates building and maintaining a long-term relationship of trust.
- Changing strategies was difficult. Providers recommended that future interventions include: 1) implementing the strategies for longer periods of time, 2) beginning with MI and switching to C.A.S.E., and 3) testing the strategies separately in different clinics.
- Providers had mixed opinions on the best communication approach for strongly resistant parents, often stating that nothing will convince this group to vaccinate.

CONCLUSIONS

A presumptive/C.A.S.E. approach was easier to learn and more readily used with the accepting and minimally hesitant parent. MI was perceived to be useful for the more strongly hesitant parent. Changing provider communication required persistent coaching and training. Meaningful change is not likely to occur with a single educational encounter.

Increased provider training opportunities in vaccine safety, efficacy, and licensure, countering common anti-vaccine myths, and communication strategies may help improve provider confidence in managing vaccine hesitancy.

A prospective study to validate increased vaccine acceptance with MI versus presumption/C.A.S.E. vs a combination of the two methods is warranted.

Limitations:

Generalizability of the study findings may be limited due to the small sample and homogeneity of the assessed providers. The study was not designed to assess if increasing provider confidence translates into greater vaccine acceptance in parents.

Acknowledgements:

The research team would like to acknowledge the Sanford Health Pediatric Clinic in Moorhead, Minnesota for participating in this pilot project. Participating providers included: Amanda Oney, CPNP, Dr. Melissa Kunkel, Dr. Samantha Perleberg, Dr. Brennan Forward, and Dr. Stephanie Hanson.



The Health Implications of Daily Smoking, Lack of Exercise and, Inability to Afford Medical Care on North Dakota Residents

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Abstract

- Cigarette smoking is the principal preventable cause of death in the United States, and is responsible for nearly one in every five deaths annually.¹ Cigarette smoking damages human health by harming nearly every organ of the body.¹ This present study focused on North Dakota current smokers and investigated the association between the cost of consulting a doctor and exercising over the duration of one month. Additionally, this study explored how these factors affect a smoker's overall health. Data specific to North Dakota was selected from the 2016 Behavioral Risk Factor Surveillance System (BRFSS), for adults 18 and older, which included 14% daily smokers; 57.6% of which are males and 42.4% are females.²

Methods

- 2016 Behavior Risk Factor Surveillance System (BRFSS) provided a represented probability sample.
- Smoking status was split into four categories focusing on daily adult smokers and adults who have never smoked.
- Poor health days, either mental or physical, were organized into six categories ranging from 0 to greater than 20 health days within the past 30 days.
- Cost barrier to seeing a doctor and those who reported exercising at least once in the past 30 days were combined and defined as
 - no cost barrier and exercise
 - no cost barrier and no exercise
 - cost barrier and exercise
 - cost barrier and no exercise
- Quantitative research methods were used to analyze the relationship between the variables.
- Assessed for relationship between smoking status, cost barrier to health, lack of exercise, and poor mental or physical health days.
- SPSS version 24 was used for all analyses

Results

Figure 1. Percent of Adults Reporting Poor Health Days by Smoking Status, North Dakota, 2016

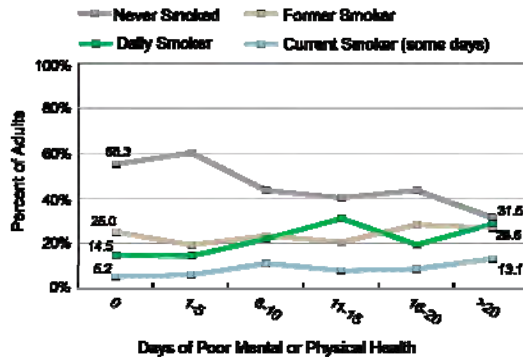


Figure 2. Percent of Adults Without Health Cost Barrier Reporting Poor Health Days by Exercise Status, North Dakota, 2016

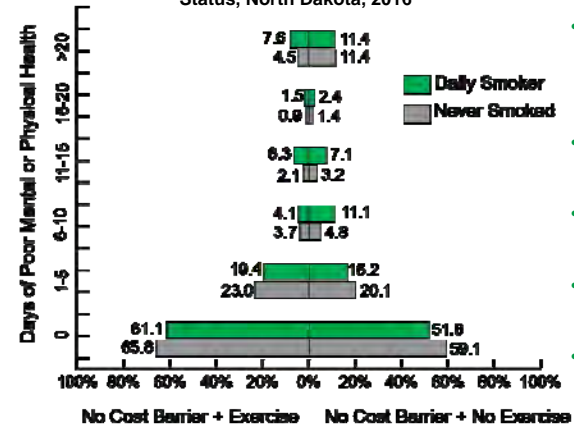
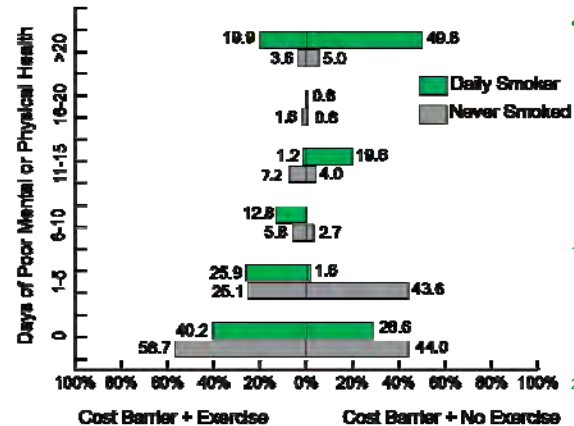


Figure 3. Percent of Adults With Health Cost Barrier Reporting Poor Health Days by Exercise Status, North Dakota, 2016



- Among North Dakota adults in 2016:
 - 14.0% are daily smoker
 - 5.7% are current smokers (some days)
 - 24.8% are former smokers
 - 55.5% are non smokers
- 55.3% of North Dakota adults who had reported 0 poor health days had never smoked compared to daily smokers, 14.5%.
- In moving from 0 to >20 poor health days, the percent of daily smokers increases from 14.5% to 28.5%.
- 61.1% of North Dakota daily smoking adults without health cost barrier, who had exercised reported 0 poor health days compared to 51.8% of those not exercising.
- Fewer adult daily smokers (7.6%) who exercised and had no cost barrier reported having more than 20 poor health days than those who did not have a cost barrier but did not exercise (11.4%).
- 40.2% of North Dakota daily smoking adults who experienced a health cost barrier and exercised reported 0 poor health days compared to 28.6% of those not exercising.
- Fewer adult daily smokers (19.9%) who exercised and had a cost barrier reported having more than 20 poor health days than those who had a cost barrier but did not exercise (49.6%).

- 5.0% of adult non smokers with a cost barrier and no exercise reported having over 20 poor health days compared to 49.6% of daily smokers.

Conclusions

- This study highlights that smokers are more likely to experience poor health days than non smokers.
- Considering that there is a much larger percentage of adults in North Dakota who have never smoked compared to those who smoke daily, the increasing trend across the number of poor health days for daily smokers is telling of smoking's impact.
- Both daily smokers and non smoker who exercise report better health than those who do not exercise when there was no cost barrier.
- Like those without a cost barrier, adults with a cost barrier but exercised reported better health than those who did not exercise.
- Nearly half of daily smokers who do not exercised and had a cost barrier had more than 20 poor health days in the past 30 days.
- This study underscores the important role physical exercise plays on health. Daily smokers who exercised had better health outcomes even if they did not have a cost barrier keeping them from seeing the doctor.
- Daily smokers should be encouraged to exercise regularly, since this study showed that those who exercise experience fewer poor health days.
- Limitations include
 - Self reporting data
 - Non clinically diagnosed poor mental or physical health day
 - Experiencing a cost barrier was reported at the discretion of the individual.

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Evaluation of Breastfeeding Rates, Durations, and Support in North Dakota

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Introduction

- Breastfeeding offers many benefits and is an essential strategy in reducing morbidity and mortality among mothers and infants.¹
- The aim of this report is to describe the current situation regarding breastfeeding rates, durations, and support in North Dakota (ND), as well as explore breastfeeding practices in ND health facilities.

Benefits for Infants²

Infants who are breastfed have reduced risks of:

- Asthma
- Obesity
- Type 2 diabetes
- Respiratory infections
- Sudden infant death syndrome (SIDS)

Benefits for Mothers²

Breastfeeding can help lower risk of:

- Heart disease
- Type 2 diabetes
- Ovarian cancer
- Breast cancer

Baby-Friendly Hospitals Initiative (BFHI)³

- The initiative promotes breastfeeding by providing support to mothers and infants and a Baby-Friendly designation (BF) for compliant facilities through the implementation of ten steps of practices called the "Ten Steps to Successful Breastfeeding." Figure 1
- The Ten Steps has been shown to have a significant impact on breastfeeding rates and durations.
- More than 500 facilities are BF designated in the U.S.
- ND has only two BF designated facilities: Essentia Health, Fargo (May, 2018) & Quentin N. Burdick Memorial Health Care Facility, Belcourt (Dec, 2012).

ND Breastfeeding State Laws⁴

- In 2009, the ND Legislature passed legislation to protect a woman's right to breastfeed her child in any location public or private, where the woman and child are otherwise authorized to be.
- This legislation also established an "infant-friendly" designation for workplaces that adopt breastfeeding support policies.

The breastfeeding support policies include:

- Allowing flexible break times for expression for milk.
- Providing a clean, private space (not a toilet stall or restroom) for pumping or nursing.
- Access to a clean water source for washing hands and cleaning breast pump equipment.
- Providing a place for storing breast milk such as a refrigerator.

Healthy People Objectives 2020

Breastfeeding Rates	Healthy People 2020 Target %	North Dakota 2016
Early Postpartum	81.9%	82.3%
6 Months	60.6%	51.5%
1 Year	34.1%	27.9%

⁵Information adapted from Vital Records birth certificates



Breastfeeding Initiation Rates by Birth Hospitals (2016)

Facility	County	Initiation Rate	Total Births
West River Regional Medical Center	Adams	83%	1430
CHI St. Alexius Health	Burleigh	85%	1093
Sanford Medical Center	Burleigh	80%	317
Essentia Health	Cass	68%	314
Sanford Medical Center	Cass	82%	734
Altru Health System	Grand Forks	43%	88
CHI St. Alexius Health	Ramsey	78%	1184
Quentin N. Burdick Memorial Health Care	Rolette	84%	1988
CHI St. Alexius Health	Stark	85%	1406
Jamestown Regional Medical Center	Stutsman	84%	689
Tonry Hospital	Ward	81%	1670
CHI St. Alexius Health	Williams	86%	61
Home Births	----	85%	143
Other out of State Facility Birth	----	80%	249
All ND Occurrence Births	----	82%	11384

⁶Source: ND: CDC/NCHRS and CDC/NCHS

The CDC mPINC Survey: ND 2015

mPINC Care Dimensions	Percentage of hospitals that met the goal	Score
Labour and Delivery Care	78%	84
Feeding of Breastfed Infants	81%	85
Breastfeeding Assistance	66%	55
Contact Between Mother and Infant	72%	72
Hospital Discharge Care	87%	89
Staff Training	70%	71
Structural & Organizational Aspects of Care Delivery	75%	75

- Scores range from 0 to 100 for each item.
- ND overall rank is 44. Ranks range from 1 to 53; 1 is the highest rank among U.S. States.

⁷Source: CDC Survey of Maternity Practices in Infant Nutrition and Care (mPINC)

10 Steps to Successful Breastfeeding

The bigger a baby is breastfed, the greater the benefit.

- 1 Give a breastfed baby 8 oz or more of breast milk or formula every 2-3 hours during the first 6 weeks.
- 2 Show all health care staff the skills necessary to implement Step 1.
- 3 Inform all program workers about the benefits and management of breastfeeding.
- 4 Help mothers assess breastfeeding volume and/or weight.
- 5 Show program workers how to avoid and correct common lactation issues (e.g., how often to be expressed from their infants).
- 6 Offer immediate and on-demand breastfeeding (i.e., whenever the infant is hungry).
- 7 Practice "rooming-in" by allowing mothers and babies to remain together 24 hours a day.
- 8 Encourage rooming-in (i.e., avoid "check-in" feeding only).
- 9 Offer an unadvised early formula supplement is considered for breastfeeding infants.
- 10 Foster the development of breastfeeding support groups and help mothers find an available lactation consultant for ongoing lactation support.

⁸Figure 1. WHO, (2018)

Conclusion

- ND has seen a steady increase in breastfeeding rates and durations over the last years.
- ND exceeded the Healthy People 2020 goals. However, ND did not meet the goal of breastfeeding rate at 6 months and at 12 months.
- The breastfeeding rates show that most mothers in ND want to breastfeed but do not continue to breastfeed as recommended.
- Although few breastfeeding policies have been implemented to improve a breastfeeding-friendly environment, no studies have examined the effectiveness of these policies in ND.
- Most of the health facilities in ND successfully document mother's feeding decisions and provide counseling to mothers who are intend to breastfeed; however, these facilities do not meet standard guidelines against formula supplementation, adherence to allow healthy full-term infants to stay with mothers, initiation of skin-to skin contact, and implementing model breastfeeding policies.
- The breastfeeding rates and durations in ND improved; however, more research and strategies are needed to identify facilitators and barriers for providing breastfeeding support in ND.
- ND has the opportunity to reach Healthy People 2020 objective that is specifically related to breastfeeding duration and lead the states in best breastfeeding practices and support.
- Develop resources and training programs for healthcare staff could help to implement the Ten Steps in ND hospitals.

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The Architecture of Rural Healthcare: Supporting access to health in rural and remote areas

by Owen Schick and James E. Hill. Co-compiled their research for a Master of Science degree in Architecture from the University of Minnesota in partnership with the American Institute of Architecture for Health's Sustainability and Health.

INTRODUCTION

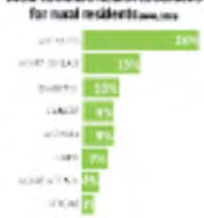
Many remote and rural areas in the United States lack adequate access to basic healthcare services such as primary, urgent, and emergency care typically provided by healthcare systems and hospitals. In addition, many rural communities are comprised of an increasingly aging population, a growing number of patients with chronic illnesses, and in some communities a high volume of tourists that need urgent care.

Remote communities struggle with providing access to these basic but essential healthcare services taken for granted in more populated areas. Changing reimbursement, evolving patterns of care delivery and advances in technology are all altering how access to medical care can be delivered in geographically isolated locations.

At the same time, increasing healthcare provider shortages place a particular strain on access to medical care in rural communities. This evolving context for care in rural America increases the pressures to provide greater access to better care with limited physical and human resources.

HEALTH OVERVIEW

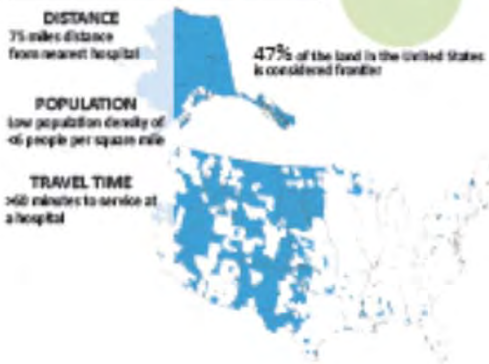
Most common health conditions for rural residents



DEMOGRAPHICS OVERVIEW



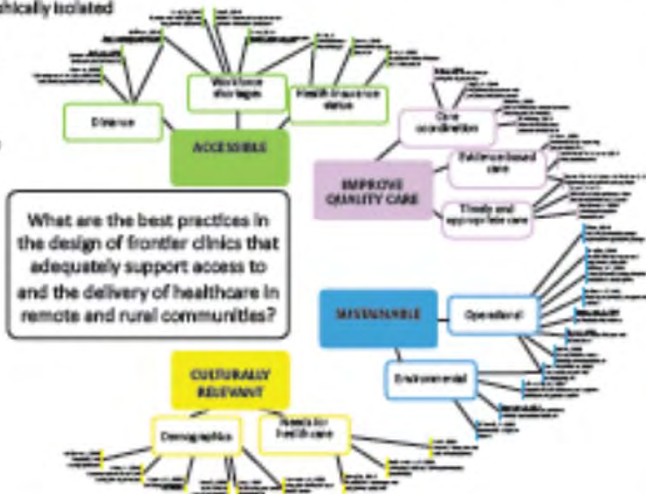
Frontier Definition



METHODS

A comprehensive literature and case study review was employed to identify background issues in healthcare and best practices for rural health care architecture. From the literature review, over 83 articles were reviewed with 70 of these articles directly or indirectly applicable to topics related to rural healthcare objectives.

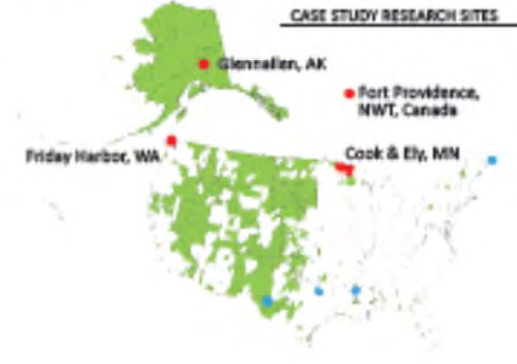
Primary research was gathered through site visits and formal observations of selected best practice case studies in a cross section of rural and remote communities in the US and Canada along with interviews of design professionals and health providers associated with the identified projects.



OBJECTIVES FROM RESEARCH

- Accessibility
- Sustainability
- Improving the quality of care
- Culturally relevant

The literature and case study research along with site visits was used to identify and develop a series of architectural design guidelines for rural medical facilities and a prototype program.



RESULTS

1. OPTIMIZE ACCESSIBILITY

- 1.1 Centrally located to dispersed populations
- 1.2 Located along major highways
- 1.3 Co-located with other essential services in the community



2. OPERATE SELF-SUFFICIENTLY

- 2.1 Energy independence and back up
- 2.2 Natural resource independence
- 2.3 Daylight distribution



3. EMPLOY MODULAR CONSTRUCTION

- 3.1 Pattern a grid structure system
- 3.2 Utilize prefabricated construction



4. STANDARDIZE CLINICAL SPACES

- 4.1 Standardize clinical layouts
- 4.2 Plan universal room modules



5. CREATE ADAPTABLE SPACES

- 5.1 Plan rooms with multiple purposes
- 5.2 Accommodate changing needs over the given circumstances & the life of the facility



6. MAXIMIZE STAFF CONNECTIVITY

- 6.1 Centralize work stations
- 6.2 Optimize open clinical pods
- 6.3 Provide hearing for clinicians



CONCLUSION

The intent of this thesis is to provide guidance on how architecture can support the access to and the delivery of health care in frontier communities. It is based on the understanding that many rural and remote communities lack access to primary and emergency care due to distance and provider shortage barriers. The needs of rural communities were used to identify a series of design objectives that architecture must accommodate to allow access for patients in isolated areas. The proposed unifying objectives for design claim that architecture must be accessible, promote high quality care, be viable sustainable, and maintain cultural relevance.

Health service conditions in frontier regions struggle with retaining clinical staff and optimizing the efficient and effective use of their services. Solving provider shortages in underserved medical areas is the first challenge for rural health. The design of a rural clinic can include staff centered environments that support efficient practices and optimize staff satisfaction. Solutions for rural clinic facility design necessitates a balance between staff focused design, best practices, and providing healthy patient centered environments.

Guidelines distilled from the research outline how architecture can support access and provide appropriate settings for small rural clinics. Various guidelines should be taken into account when formulating a comprehensive building. The most common users of the building are the staff and the guidelines need to express their healthcare work processes. The guidelines also target operational processes with standardized plans.

Following the development of the design guidelines, a model space program provides options to determine space needs for a frontier clinic. Each of the public, staff and clinical zones are organized to support optimal uses for efficiency and effectivity. They collaborate to support patient care and community development.

Several limitations to the study of rural healthcare begin with the variations in culture across the extensive geography of rural America. A single solution cannot adequately support vastly different frontier communities with contrasting health needs. Population health needs will drive planning and design decisions for each clinic service and operation. The relative lack of access to and documentation of best practice case study examples for frontier healthcare facilities was a significant limitation in this study.

