Improving Access to Pediatric Healthcare in Frontier Regions Through the Use of Innovative Technology Solutions

Cohort: 2018-2021

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Location:
Missoula, Montana

Focus Areas:
Early Childhood
Health Care Access
IT/Technology

Background

As a former Montana U.S. Senator put it, “There’s a lot of dirt between light bulbs in Montana.” Montana is a frontier state, in which 44 out of 54 counties are classified as frontier regions – less than 6 persons per square miles. It ranks 4th in the country for landmass and 44th for population density. The geographic spread and distribution of healthcare resources lead to uniquely challenging problems around access to healthcare. For special populations, including children, limited access to healthcare can be devastating. Montana ranks 46th in overall clinical care and 43rd in child mortality. With only ~121 pediatricians in the state, the majority of whom practice in more urban areas, children are commonly evaluated in critical access hospitals and emergency departments or clinics not well equipped to handle their needs.

For a variety of socioeconomic and health system-based reasons, families and children often need to access care in an “after hours” setting. Our healthcare systems pay for over 25 million pediatric ED visits every year, at an average cost estimated to more than $1000.00 per visit. Seventy-five percent of those visits occur on nights
and weekends when medical home practices are closed and it has been estimated that between 30 and 50 percent of those visits are unnecessary. The healthcare market has seen a rapid expansion in use of telehealth visits by standalone virtual providers to address these issues. However, many of these models provide fragmented and inappropriate care that does not link back to the medical home.

What if, frontier regions, such as ours, could harness our current pediatric workforce in a creative and supportive way by utilizing new adaptations of telemedicine to improve access to quality pediatric care?

**Wicked Problem Description**

Our team is proposing a novel use of telemedicine technology grounded in collaboration among Montana's pediatric workforce. We are proposing to build a virtual team of geographically isolated Montana pediatricians unified by a shared goal to provide pediatric after-hours medical care to children in Montana. By utilizing new adaptations of telemedicine we believe we can support the state's current pediatric workforce and improve equity in healthcare delivery, especially in rural locations. By integrating the model into our existing pediatric practices we stand to strengthen the pediatric medical home and improve the Culture of Health for children in Montana.

Montana is a state in which regulations require insurance reimbursement for telemedicine visits when those visits meet clinical and technological standards. Our collective workforce would be able to provide pediatric-specific care using a telemedicine platform during hours typically taken up by on-call responsibilities, but with a direct communication link to the medical home. Our virtual provider cooperative will improve equity of access to pediatric expertise, alleviate some of the burden on areas of physician shortage, and extend a supportive framework to practicing pediatricians that can improve quality of care.

**Project Strategies**

Our team of 5 will use a simple telemedicine web-based RTC platform designed to enable continuity of pediatric care for families with concerns during hours their own provider is not available. This platform is HIPPA compliant and does not rely on compatibility with an electronic medical record. The technology is pediatric-focused and has been developed over many years by a scholar on our team with the option to build upon and provide ongoing feedback to its use in clinical care. We are starting our project with support from approximately 34 out of 121 board certified state pediatricians who have agreed through letters of intent to participate in a collaborative initiative to extend care to our patients. We plan to build capacity for use by assessing the needs of three stakeholders: providers, families and payers.
Outcomes

Short-term Outcomes
Our initial work will focus on identifying lead pediatricians in the state who commit to piloting use of the telemedicine platform and communication tools. After appropriate training and pilot use, our lead group will provide focused feedback around use of the platform in providing care to a subset of patients within their respective practices. Family needs assessments will be integral to this component of our work. We will work toward formalizing contracts with major payers and identifying the appropriate model of reimbursement that will allow for long-term sustainability of the collaborative practice.

Long-term Outcomes
This work will build a healthcare collaborative dedicated to supporting family networks in Montana and extending the reach of pediatric care to families in previously isolated regions without disconnecting them from a medical home. Through virtual after hours pediatric visits, we anticipate a reduction in unnecessary ED visits, improved family satisfaction in care and medical guidance, and improved integration of a shared care plan with the medical home. Families will experience reduced socioeconomic stress and gaps in access to high quality pediatric care for children. Every pediatrician in Montana will ultimately have the option to participate in the collaborative and guide families/patients to use it. In the years to come, we anticipate the model will elevate the transparency and quality of care in pediatrics. With a sustainable solution in place, we hope to apply this to specific sub-populations including medically complex children, children/youth experiencing mental/behavioral health challenges, children in school-based healthcare settings, and native populations.

Timeline

Year 1 – Capacity Building

- Mobilize a cohort of lead pediatricians committed to participating in the initial pilot phase and feedback cycles.
- Conduct baseline assessments of Montana pediatricians as to their level of community connection and risk of burn-out.
- Gather on-going family input around the experience of telemedicine use and future applications.
- Finalize the logistics of risk management and practice set-up to serve as the foundation for pilots and patient care.

Year 2 – Platform Utilization

- Expansion of care options as determined by family and provider feedback.
- Additional technology feedback and investment to customize remote care capabilities.
• Ongoing feedback and evaluation of providers and families using the platform.
• Track reimbursements through payers and begin review of utilization patterns.
• Begin exploration of applications beyond initial concept to special populations.

Year 3 – Coordinated Implementation

• Build upon pilot use to incorporate a state-wide collaborative.
• Refine model and continue human-centered design based on continuous input from providers and families.
• Examine data looking at comparisons of physician burn-out.
• Look at pilot use and integrated tools for use in special populations.

Partnerships

At its core, the solution to our wicked problem is based on establishing and growing partnerships. Our initial work around relationship building will focus on pediatric providers in the state, in an effort to create a broadly conceived clinical community better equipped to meet the needs of Montana families. We are working with payers to ensure that healthcare utilization impact can be monitored over the three years. We are also working with researchers from the University of Montana to identify the greatest needs for children and families and our potential impact in those areas. Our most important partners are the families of Montana and the many organizations serving those families who are in need of pediatric support.

Evaluation Strategies

We plan to focus our evaluation on each of the following groups essential to the success of this concept: providers, families and payers. We plan to conduct baseline assessments of physician burn-out and sense of isolation so as to compare any change over time in those participating in the collaborative. We will explore family needs and experience with telemedicine to inform a human-centered design process and a suite of low and high tech solutions for remote care that serve the most important needs of families. We will analyze healthcare utilization and financial data to understand the impact of connected pediatric access on system-wide costs. Embedded in our work will be ongoing focus groups, needs assessments and qualitative inquiry informing the growth and evolution of our first-year pilot.