

# Mobile Health Clinic: Lessons Learned Building Partnerships Across Health Systems

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## ABSTRACT

Mobile health clinics (MHCs) are increasingly utilized to provide critical health care services, particularly to underresourced populations. This model improves outcomes while reducing the overall cost of health care delivery. To date, however, uncertainty remains about how best to initiate and integrate MHCs into existing partnerships. In this case study, we describe key lessons learned when establishing a collaboration across health systems. We describe the major characteristics of our partnership. We also detail 4 key lessons learned: (1) to demonstrate initial proof of concept, (2) to build early infrastructure to support community and research partnerships, (3) to align mission and vision with partners, and (4) that transformation and innovation require collaboration. We describe theories associated with these key lessons and how they played out in our own case. We close by discussing future plans.

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Mobile health clinics (MHCs) are increasingly used to deliver health care in the United States. Estimates suggest that more than 2000 units are presently in operation across the country.<sup>1</sup> MHCs increase access to care by expanding health care services to geographically and logistically convenient locations, providing emergency coverage, and facilitating care, particularly for populations that are historically underserved.<sup>2</sup> MHCs also improve health outcomes by increasing preventive services and enhancing the management of chronic diseases.<sup>3,4</sup> Further, MHCs reduce the cost of care by avoiding unnecessary emergency department visits.<sup>5</sup> In the context of the COVID-19 pandemic, MHCs have creatively met the health care needs of diverse populations, most importantly in the context of increasing access to vital immunizations.<sup>6</sup> Many MHC initiatives leverage partnerships for cost sharing, for access to resources and services, and to fulfill specific health needs of individual communities.

While information grows about the impact and benefit of the MHC model, less is known about guiding principles and operational logistics. This is an important area of need for research and evaluation, particularly when contemplating launching an MHC initiative.<sup>7</sup> As one example, little is known about how to best integrate MHCs into existing workflows and partnerships within established, and sometimes competing, health care systems. To help bridge this gap, we describe our MHC partnership across 2 distinct health systems using a student-led free clinic model to deliver care to underserved, rural communities. Using this case study methodology, we present key lessons learned for others who may be interested in establishing a similar MHC partnership. Key lessons learned were formed by an iterative process of reflection and after-action reporting implemented by key leaders in the shared MHC initiative (M.P.M., A.Z., R.M., M.S.).

## Case

In 2018, Evangelical Community Hospital (ECH; Lewisburg, PA) purchased a 38-foot motor home outfitted as an MHC to mirror the traditional workflows and materials associated with a primary care clinic. The unit has 2 private exam rooms, a laboratory area, and a lavatory. Funding needed for the purchase of the MHC was raised exclusively through charitable giving, and it was purchased with the main goal of addressing access-to-care barriers within the ECH service area. The services currently offered on the MHC by ECH include primary care visits, vaccinations, laboratory services, dental care services, and specialty care visits. The ECH MHC also offers free screening services such as blood pressure and blood glucose screenings, bone density heel scans, varying modes of point-of-care testing, and COVID-19 testing services throughout the pandemic. The primary patient base of the MHC is the underserved, uninsured, and underrepresented population within the 37–zip code primary ECH service area, as identified in the 2021 ECH Community Health Needs Assessment.<sup>8</sup> The ECH MHC is utilized by ECH to provide these services to patients within the ECH service area 3 to 4 days per week.

In 2020, the Penn State College of Medicine University Park Regional Campus (UPRC) began an initiative to implement a student-led free clinic model for delivering preventive services to underresourced communities using an MHC. Leaders at UPRC (M.P.M., M.S.) and ECH (A.Z., R.M.) connected to explore a pilot collaboration. The pilot collaboration allowed UPRC to utilize the MHC to support patient needs in rural areas of Pennsylvania outside of the primary ECH service area, on days that the MHC would otherwise have been parked. Key focus areas in creating this collaboration included operational programming/logistics, types of visits, health screening modalities, purchase and outfitting of an MHC, downstream revenue, cost avoidance, and cost sharing. After approval from executive leadership at both institutions, additional planning meetings were held and a lease agreement signed. In this agreement, UPRC faculty and students provide health care services and ECH provides the mobile medical unit with necessary equipment and operational expertise. Overall, there was a period of 18 months (November 2020 through March 2022) from the start of negotiations to implementation. The partnership currently hosts 2 to 3 events per month at pre-designated areas of need in rural central Pennsylvania. These locations were selected due to identified need within Health Resources and Services Administration–designated medically underserved areas. One location, in particular, recently lost the federally qualified health center serving a wide rural area in central Pennsylvania. We have since partnered with various community organizations, such as the YMCA, to

provide additional resources to communities in need. Events have focused on preventive health and food insecurity. From the start, we limited the number of events to focus on better understanding the specific needs of the individual communities while demonstrating the feasibility of our approach to potential funding sources. We will expand locations, events, and services available in the coming months based on the success of this pilot approach.

## Key Lessons Learned

Throughout this process, we have learned multiple lessons that may help to guide other organizations interested in forming a similar partnership. Here we provide 4 lessons, a theoretical concept associated with each, and our personal view of how this played out in our current partnership.

**Demonstrate initial proof of concept.** Before a significant up-front capital investment in an MHC, it is helpful to demonstrate proof of concept at reduced scale using a pilot approach. This allows for identification of shared goals, shared metrics of success, and a smaller financial investment to get the project off the ground. Ensuring that key stakeholders are aware of and agree upon implementation metrics enhances buy-in for broader future goals and scalability.

The field of implementation science provides the framework to establish key measures of success and/or opportunities for improvement. Key outcome measures generally focus on 8 major categories: acceptability, adoption, appropriateness, cost, feasibility, fidelity, penetration, and sustainability.<sup>9</sup> Conversations about which core measures are of mutual benefit create a sense of shared ownership, mission, and vision. Working to collaboratively achieve those goals helps sustain the partnership across time.

Our initial efforts focused on finding shared goals between health systems and the community. We agreed to focus on evidence-based, cost-effective preventive care interventions. Our next steps focused on demonstrating feasibility, fidelity with established clinical protocols, and establishing enduring relationships with community leaders. Once our key metrics of success ([eAppendix](#) [available at [ajmc.com](#)]) were agreed upon, we secured research funding to explore these outcomes. We intentionally kept the initial pilot at a small scale to ensure accurate data collection and demonstration of feasibility. We initially performed a “soft launch” to walk through logistics (eg, parking, restrooms, patient flow) prior to our first event. Practicing each of these steps beforehand allowed us to have a better understanding of potential stress points and pitfalls.

**Build infrastructure that focuses on community and research partnerships.** By establishing early partnerships with key community leaders, MHCs are better able to understand local needs and increase the likelihood of buy-in.

Linking university-based research scientists with community members allowed for refinement of scientific protocols that are more likely to be adopted, and it increased participation. This is a crucial step, given that many MHCs require external grant support for continued operations. Building a research budget from the beginning helps to sustain the likelihood of ongoing operational success.

Community-based participatory research (CBPR) is a collaborative model that equitably engages partners in the process of scholarly inquiry by recognizing the unique strengths that each brings to the table. CBPR begins with a topic of scholarly importance to the community with the aim of combining knowledge and action for social change to improve community health and help eliminate health disparities.<sup>10</sup> CBPR leverages the bonding social capital of communities, empowering partnerships with regional health systems to tackle relevant challenges.

Building on this CBPR methodology, the UPRC focused on developing key relationships with different colleges within the university to assist with data collection and analysis. These core partners include the College of Agricultural Sciences, College of Health and Human Development, and Department of Health Policy and Administration. We pursued internal grant opportunities to support the initial research infrastructure with the goal of identifying external funding sources using data from the initial pilot venture. We met with rural community leaders to understand local needs and to discuss logistics (eg, where to park the vehicle, how to market information to the community, and what services would be of most benefit). This prework helped lay the groundwork for meaningful CBPR implementation.

***Align mission and vision with partners.*** A clear vision and mission are central to organizational success. A shared vision provides inspiration, accelerates learning, increases trust within an organization, fosters risk-taking and experimentation, and helps to grow any organization.<sup>11</sup> Without proper alignment, those involved can become discouraged or feel polarized, and they may not commit fully to organizational success.

The goal of the ECH MHC is to bring access to care to underserved, uninsured, and underrepresented individuals who would not otherwise be able to access care due to geographical or other mitigating factors. The central mission of improving access to care and the overall health and well-being of the underresourced communities in rural Pennsylvania provided clear goals and a shared conceptual model for both institutions. We frequently returned to our individual statements of mission and vision, opening the space for opportunities to clarify when there was

disagreement or conflict in how we were implementing various aspects of the partnership, hold the creative tension when there was misalignment, and build the partnership. As new team members came on board, clarifying the role of their individual contributions in the context of impact on the overall mission and vision helped achieve a sense of ownership and community purpose.

***Transformation and innovation in health care requires collaboration.*** Innovation in health care is not a discrete event, but truly a journey. It encourages us to think of innovations as unpredictable and contextualized, which may therefore give rise to multiple journeys that interact and overlap through spread, sustainability, and scale.<sup>12</sup> Whether they involve discoveries in science or creative thoughts to solve clinical problems, brainstorming ideas builds alliances. Despite complex negotiations that are often necessary to build trusted partnerships, the shared outcomes of innovation, collaboration, and other benefits (such as data sharing) are well worth the effort. As a result, strategic partnerships help organizations maximize return on investment.<sup>13</sup>

Our collaboration has charted a course for scalable growth and maximization of resource utilization. By sharing resources among institutions, we have formed a framework that leverages the competitive advantages that each collaborating entity brings to the table. Through our 18-month implementation of the MHC partnership, a clear pathway toward an innovative collaboration model is being forged. We built a process that allows for other collaborations across clinical care delivery, research, and education. We have now collaborated with multiple colleges across the university, multiple community-based organizations, and other health care organizations to find opportunities to share resources and allow competitive advantage for each college or organization. Clear memoranda of understanding define the roles and responsibilities in each of the areas of clinical care delivery, research, and education, allowing for continued growth and expansion of the partnership through ethical (and legal) clarity of who is providing what and for what purpose, including shared equipment and human resources. Without this intentional negotiation and sharing of resources, the ability to implement an MHC in partnership would not be possible.

## Conclusions

When implementing an MHC in partnership with others, it is possible to form connections and align opportunities across institutions. Four major lessons learned during our process were to (1) demonstrate initial proof of concept, (2) build early infrastructure to support community and

research partnerships, (3) align mission and vision with partners, and (4) understand that transformation and innovation in health care requires collaboration. We provided a few theories behind these key lessons to help understand how they inform practice. We hope this will help others as they work toward similar partnerships.

UPRC and ECH have hopes of collaborating with other health care, educational, and human service entities across the Commonwealth of Pennsylvania to share findings on social determinants of health related to care of Pennsylvania's patients and to create better access to that care with the use of essential mobile health care units. Our next steps include disseminating the outcomes of this partnership through various regional and national networks. We hope that this work will continue to shed light on important principles and practices that can help further understanding on how best to implement this alternative method of health care delivery.

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## **eAppendix**

### Metrics Collected During Pilot

#### Implementation Outcomes:

Number of events hosted

Number of patients seen

Number of blood pressure screens and treatment

Number of tobacco use counseling and intervention

Number of preventive screening assessments

Number of immunizations administered

Number of Social Determinants of Health surveys completed

Number of Social Determinants of Health identified

Number of clinic hours for medical students per event

Number of hours planning for faculty

Number of hours per event for faculty

Number of collaborations created

Number of media requests and interviews

Total Cost associated with operations

#### Research:

Qualitative interviews of patients, key stakeholders, and implementation team