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Mobile Health Clinics: Delivering Care to Underserved Communities

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ABSTRACT

Mobile health clinics have emerged as a critical solution to address healthcare disparities by providing accessible, cost-effective, and timely care to underserved populations. These clinics deliver primary and preventive healthcare services, including diagnostic testing, chronic disease management, and health education, directly to individuals in rural, urban, and disadvantaged areas. They play a pivotal role in improving health outcomes, enhancing healthcare compliance, and bridging gaps in service delivery. Despite their significant impact, mobile health clinics face challenges such as funding limitations, workforce shortages, and community trust issues. This paper examines the design, operation, effectiveness, and challenges of mobile health clinics and proposes strategies to sustain and expand their reach. By leveraging technological advancements and fostering community collaboration, mobile health clinics can continue to evolve as a vital component of healthcare delivery systems.

Keywords: Mobile health clinics, Underserved communities, Healthcare access, Health disparities, Preventive care, Primary care delivery.

INTRODUCTION

Mobile health clinics play an essential role in providing access to healthcare for communities across the country. Mobile health clinics meet specific goals aimed at delivering care to underserved communities. They bring preventive and primary care services directly to patients who need care but are unable to access it easily. Mobile health units conduct diagnostic tests, provide examinations, and issue medications to patients directly. They also offer education and support to those individuals and help them navigate further care. Their timing and cost-effectiveness make mobile health clinics a practical solution to delivering much-needed care to large groups of individuals. Unfortunately, many barriers exist for those seeking care, which is a large reason that more than 95% of individuals do not see a practice regularly [1, 2]. Accessing healthcare is often easier said than done. For many, there are countless barriers to overcome in order to receive treatment, with the pandemic only adding to this list. These obstacles can force individuals to skip essential medical care, thereby making it difficult to access necessary services. To bridge this gap and fight health disparities, new and strategic care delivery systems are growing in popularity today. Historically, mobile health was crucial to delivering care, and today is no different. Mobile units have been a key cornerstone of community access for over 50 years. Many agencies have used similar strategies to reach out to individuals and families in need. To this day, humanitarian care is delivered around the world on large and small mobile care sites. Portable caregiving has begun to see increasing use not only in remote parts of the world. Access is not simply a physical road to healthcare, but the location and arising situations in which one resides [3, 4].

The Need for Mobile Health Clinics

As our U.S. healthcare system continues to evolve, one aspect remains constant: significant disparities still largely exist. Too often, individuals are plagued with barriers to accessing the care they so

desperately need. These barriers can be caused by a number of factors, including lack of reliable transportation to travel to centralized clinics, especially for patients in remote or rural locations; inability to have sufficient time away or arrange care for family responsibilities; or even the simple lack of funds to cover the costs of obtaining that care. Because of the likelihood that people who face these challenges are of the working poor or uninsured populations, the situation can lead to more than personal suffering; it can result in decline and ever-worsening general social conditions. This is not a small group that is affected. Forty-five million, or 15%, of the overall U.S. population is also uninsured. An estimated 121 million Americans between the ages of 19 and 64 have one or more major barriers to healthcare access, including inability to afford care, a lack of providers where they live, and lack of reliable transportation to and from care centers. The individuals who have one or all of these barriers to care represent 41% of rural America [5, 6]. Statistics are powerful, but they can desensitize us from recognizing that this is not just a group of "others," but our very neighbors who continue to struggle. Our neighbors, and sometimes ourselves or members of our families. A few cases have been documented that effect change in healthcare policy: changes in the U.S. healthcare infrastructure from changes based on healthcare-provided practice and experience. One initiative is the small mobile health center that provides regular visits for health directly to the doorsteps of those who need healthcare the most. These people are in many cases living at the "boiling point of the working poor" and do not get healthcare even if they have the means and access to providers, due to time constraints and work schedule conflicts. The driving mechanism behind using a mobile clinic for this approach is the fact that many people cannot access a regular site clinic during their clinic hours, accounting for over 65% of the hot sites. By providing care right at the spot where the need is greatest, the checks prevent visits by those who are at great risk and equally in need of getting food that the program offers to bring about the goal of obesity prevention [7, 8].

Design and Operation of Mobile Health Clinics

To reach underserved and difficult-to-access communities, a full range of primary care services can be delivered using mobile vehicles. A mobile unit, or stand-alone vehicle, should be equipped with exam tables, running water, bathroom facilities, power sources for IT and medical devices, and enough supplies to be able to administer a full day of health services. A mobile unit is often designed to suit a certain function, such as general medical care or dental care, which is reimbursable via Medicaid or Medicare. Other vehicles are designed to bring the entire care team to a patient's home or work site to conduct extended home health visits or to initiate management of chronic conditions [9, 10]. Another recurring design element is the layout of the patient care area set up for very easy patient access. The build-out should also include ease of access for wheelchairs and be suitable for other patients with mobility issues. Steps required to secure payment or other community support for the mobile's services are extensive; thus, for simplicity, staffing, scheduling, and coordination of services appear to have given patients the greatest level of challenges. Finally, when possible, a mobile clinic should try to join the existing service delivery network or health ground. As with on-foot clinics, the integration of trailers or buses into a community care network requires time. Although it is possible that a staff member or volunteer at the base clinic could recommend the care of a mobile clinic attendee, the presence of the mobile clinic is not consistent enough to link participants and providers. To reach this level of clinic network integration, the participating parties would need an information-sharing tool to start communication about their shared patients and coordinate services. A mobile care project should not consider the needs of homebound adults when recruiting communities for mobile care planning. The demand for this form of care can focus on healthy adults who are unable to attend when a clinic is not open or who have difficulty taking time off for an appointment. In particular, the elderly and adults with complex care requirements may want to get a house call [11, 12].

Impact and Effectiveness of Mobile Health Clinics

Mobile health clinics improve health outcomes, improve compliance with treatment and follow-up care, and reduce health care disparities among high-risk urban and rural populations. Mobile clinics fill service gaps throughout the United States by providing screenings and early disease detection, orphan drug administration, substance use disorders, immunizations, and health education. In addition, mobile clinics serve as a platform to respond to public health emergencies. What kind of impact are personnel mobile health clinics having on communities in need by providing disease prevention and health promotion services in badly underserved, disadvantaged communities? [13, 14]. Mobile health clinics are not only responding to public health needs but in some cases are helping public health officials gather needed prevalence data. Findings suggest that mobile health vehicles enhance the reach of primary care providers

and provide health care to clients who would not otherwise receive medical or dental treatment. The elderly had great control over decisions about their healthcare, and eighty-eight percent of those surveyed reported using a primary care provider to address questions or concerns. Those who reported having specific medical or dental healthcare service needs also accessed a primary care provider. HIV tests were provided to individuals, and patients received a positive test result for HIV. Examining the services provided by both mobile health vehicles suggested that programs are meeting the primary needs and complementing services offered at various sites. Participants had a positive response to both surveys, especially service providers within agencies operating different mobile health vehicles. Lastly, agencies reported that services were being provided efficiently and effectively to program clients based on the equipment and services being offered through mobile health vehicles [15, 16].

Challenges and Future Directions

Mobile health clinics, though promising for improving access to care, are not without challenges. Financial barriers, political will, and sustainability continue to be the most significant of these challenges. Capital and operational costs are the most frequently identified reasons for staffed and non-staffed mobile health programs to cease operation. Program sponsorship is the primary source of operational funding for the average free health clinic program, and full reliance on a clinic's fees and donations puts them at risk of closure due to low patient volume or a competing facility opening [17, 18]. Further accounting for the 5% variance in effectiveness, the workforce was a frequently discussed barrier for mobile health clinics. Since mobile health programs require staff members to deliver direct patient care, recruitment and training of these paid and unpaid members is a key factor for onsite service delivery. Collaboration and mobilization of an established community health workforce may be particularly valuable in more complex mobile health models, as the few mobile health models focused solely on emergency response were able to leverage existing partnerships and resources. This may help to explain why there are more rural and medically underserved area mobile health models, as these areas were incentivized to develop a culture of collaboration that has given them a historically broader range of services. Regular community engagement and maintaining partnerships can also improve the likelihood of a successful mobile health initiative. Community engagement and partnerships highlight trust and rapport with a community as necessary for mobile health programs, as without these relationships, clients may avoid a mobile program and go elsewhere for services. Transiently providing care at large and well-attended events was not enough to create a sense of trust, so some groups suggested also doing additional outreach activities like presentations and workshops or working to get the community involved and becoming a part of a decision-making process. The use of an advisory board was particularly encouraged, as this allowed for the community (or its representatives) to weigh in on local needs and programs and pushed shared decision-making from concept to actual practice. As concepts, values, and cutting-edge practices crystallize into the standard of care and the code of ethics are formalized, other policies and research questions will guide the future development and operation of mobile health clinics and similar programs. Until then, researchers, advocates, and healthcare professionals can take the following steps to overcome these challenges. Advancements in technology and connectivity should be harnessed by mobile health initiatives aiming to benefit rural and other underserved areas. This involves promoting telehealth businesses and ensuring broadband internet availability. The landscape is changing quickly, and outdated guidelines may soon do us all a disservice. To overcome the challenges discussed, collaboration is essential. Stakeholders should work together to make these recommendations a reality. To provide lasting benefits, they should use lessons from the past and adapt to account for new developments and technological advancements [19, 20].

CONCLUSION

Mobile health clinics are an indispensable resource in bridging the gap between healthcare access and underserved populations. By bringing essential services directly to those who face significant barriers, these clinics improve public health outcomes, enhance equity, and foster trust within communities. However, their sustainability and scalability are contingent upon addressing financial, logistical, and operational challenges. Strengthening partnerships, integrating telehealth technology, and prioritizing community involvement are essential steps to enhance the effectiveness and reach of mobile health programs. Future advancements in technology and policy will play a crucial role in overcoming barriers and ensuring the continued success of mobile health clinics in delivering equitable and high-quality care to all.

REFERENCES

1. Wei Y, Zheng P, Deng H, Wang X, Li X, Fu H. Design features for improving mobile health intervention user engagement: systematic review and thematic analysis. Journal of medical Internet research. 2020 Dec 9;22(12):e21687. jmir.org
2. Nundy S, Cooper LA, Mate KS. The quintuple aim for health care improvement: a new imperative to advance health equity. Jama. 2022 Feb 8;327(6):521-2.
3. Solomos Z, Mothoneou AM, Boukouvalas G, Niakos I, Kavga A, Tsekoura D. Covid-19 case management in a Greek migrant camp: The Hellenic Red Cross Mobile Health Unit intervention in Nea Malakasa temporary accommodation center. Journal of Migration and Health. 2023 Jan 1;7:100184.
4. Alban A, Blaettchen P, de Vries H, Van Wassenhove LN. Resource allocation with sigmoidal demands: Mobile healthcare units and service adoption. Manufacturing & Service Operations Management. 2022 Nov;24(6):2944-61.
5. Ng K, May FP, Schrag D. US Preventive Services Task Force recommendations for colorectal cancer screening: forty-five is the new fifty. Jama. 2021 May 18;325(19):1943-5.
6. Fitzgerald TL, Fitzgerald LR. Affordable Care Act Medicaid Expansion Association with Improved Cancer Outcomes: Quality at What Cost?. Annals of Surgical Oncology. 2023 Nov;30(12):6965-6.
7. Rotenberg S, Downer MB, Brown H, Cooper J, Campanella S, Safar Y, Katz GM, Bell S, Porch W, Razak F, Rochon PA. COVID-19 vaccination for people with disabilities. Science Briefs of the Ontario COVID-19 Science Advisory Table. 2021 Jun 8;2021(2). ox.ac.uk
8. DeGroot DW, O'Connor FG, Roberts WO. Exertional heat stroke: an evidence based approach to clinical assessment and management. Experimental Physiology. 2022 Oct;107(10):1172-83. wiley.com
9. Chang JE, Lai AY, Gupta A, Nguyen AM, Berry CA, Shelley DR. Rapid transition to telehealth and the digital divide: implications for primary care access and equity in a post-COVID era. The Milbank Quarterly. 2021 Jun;99(2):340-68. nih.gov
10. Jimenez G, Spinazze P, Matchar D, Huat GK, van der Kleij RM, Chavannes NH, Car J. Digital health competencies for primary healthcare professionals: a scoping review. International journal of medical informatics. 2020 Nov 1;143:104260. duke.edu
11. Malone NC, Williams MM, Smith Fawzi MC, Bennet J, Hill C, Katz JN, Oriol NE. Mobile health clinics in the United States. International journal for equity in health. 2020 Dec;19:1-9. springer.com
12. Lee SM, Lee D. Opportunities and challenges for contactless healthcare services in the post-COVID-19 Era. Technological Forecasting and Social Change. 2021 Jun 1;167:120712.
13. Santos TM, Cata-Preta BO, Victora CG, Barros AJ. Finding children with high risk of non-vaccination in 92 low-and middle-income countries: a decision tree approach. Vaccines. 2021 Jun 13;9(6):646.
14. Bhatia S, Landier W, Paskett ED, Peters KB, Merrill JK, Phillips J, Osarogiagbon RU. Rural–urban disparities in cancer outcomes: opportunities for future research. JNCI: Journal of the National Cancer Institute. 2022 Jul 1;114(7):940-52. nih.gov
15. Coaston A, Lee SJ, Johnson J, Hardy-Peterson M, Weiss S, Stephens C. Mobile medical clinics in the United States post-affordable care act: an integrative review. Population Health Management. 2022 Apr 1;25(2):264-79. nih.gov
16. Grieb SM, Harris R, Rosecrans A, Zook K, Sherman SG, Greenbaum A, Lucas GM, Page KR. Awareness, perception and utilization of a mobile health clinic by people who use drugs. Annals of medicine. 2022 Dec 31;54(1):138-49. tandfonline.com
17. Filip R, Gheorghita Puscaselu R, Anchidin-Norocel L, Dimian M, Savage WK. Global challenges to public health care systems during the COVID-19 pandemic: a review of pandemic measures and problems. Journal of personalized medicine. 2022 Aug 7;12(8):1295. mdpi.com
18. Mbunge E, Muchemwa B, Batani J. Sensors and healthcare 5.0: transformative shift in virtual care through emerging digital health technologies. Global Health Journal. 2021 Dec 1;5(4):169-77.
19. Grafton-Clarke C, Uraiby H, Gordon M, Clarke N, Rees E, Park S, Pammi M, Alston S, Khamees D, Peterson W, Stojan J. Pivot to online learning for adapting or continuing

workplace-based clinical learning in medical education following the COVID-19 pandemic: a BEME systematic review: BEME Guide No. 70. Medical teacher. 2022 Mar 4;44(3):227-43. tandfonline.com

20. Coombs NC, Campbell DG, Caringi J. A qualitative study of rural healthcare providers' views of social, cultural, and programmatic barriers to healthcare access. BMC Health Services Research. 2022 Apr 2;22(1):438.

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