Institute of Design (ID) | Uchicago Medicine (UCM)

Introducing quality primary care at home to address social-determinant-of-health barriers to care within UCM's Service Areas (Hyde Park and Kenwood neighborhood)

Design problem

High-quality primary care is the foundation of a robust health care system and one of the essential elements for improving the health of the U.S. population.[1] However, there's a lack of access to this care for vulnerable populations. Often, this lack of access is driven by social, economic, and other social-determinant-of-health barriers that people face in achieving health, [2] including but not limited to poverty, lack of access to transportation, crowded housing, lack of access to affordable healthy food, lack of access to technology, unemployment, community violence, and other social factor variables.[3]

As part of continued efforts to expand primary care offerings closer to and deliver quality primary care to people's homes in 2024, UChicago Medicine (UCM) would like to better understand and respond to the social-determinant-of-health barriers within UCM's 12-ZIP code service area or 28 Chicago Community Areas[4], specifically Hyde Park (zip code 60637) and Kenwood (zip code 60653) neighborhoods. According to the latest Community Health Needs Assessment (CHNA) cycle and the most recent data available from the American Community Survey, the unemployment rate of those living in the UCM Center's Service Areas (UCMCSA) was 16%, which is three times the US national rate of 5%.[5] With commitment to addressing community health challenges, UCM is interested in developing an innovative primary care at home model to effectively reduce barriers and better serve the community.

Design process

We propose to conduct a four-phase, 10-week, research and design project with three full-time design team members. This research process will include engaging both patient and provider stakeholders in the Hyde Park and Kenwood neighborhoods to understand the social-determinant-of-health barriers they experience or perceive. These barriers will be used to inform the design and prioritize the three most feasible and culturally-compatible solutions for a new primary care at home service model. We will apply human-centered design methods. The 4 phases will overlap to meet our proposed 10-week timeframe.

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[1] National Academies of Sciences, Engineering, and Medicine. 2021. *Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care*. Washington, DC: The National Academies Press. https://doi.org/10.17226/25983.

[2] Musick, Hugh; Kauth, Ann; Freeman, Vincent L; Basu, Sanjib; Wang, Heng; Hershow, Ronald; et al. (2022). Transformation Data & Community Needs Report (South Chicago). University of Illinois at Chicago. Report. https://hfs.illinois.gov/content/dam/soi/en/web/hfs/sitecollectiondocuments/transformationdataandcommunityneedsreportdecember2022southchicago.pdf

[3] Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry/Geospatial Research, Analysis, and Services Program. CDC Social Vulnerability Index Fact Sheet. https://www.atsdr.cdc.gov/placeandhealth/svi/fact_sheet/fact_sheet.html. Accessed 10 February 2024.

[4] UChicago Medicine. 2021-2022 Community Health Needs Assessment (CHNA) Executive Summary. https://www.uchicagomedicine.org/-/media/pdfs/adult-pdfs/community/chna/2021-2022-ucmc-chna-executive-summary.pdf. Accessed 24 February 2024.

[5] UChicago Medicine. Community Health Needs Assessment (CHNA) 2021-2022. https://issuu.com/communitybenefit-ucm/docs/ucmc-chna-2021-2022?fr=sNTc0NTE0ODc0MDM. p13. Accessed 24 February 2024.

1) **Review existing data to identify emerging social-determinant-of-health barriers in the neighborhoods.** We will collaborate with UCM's primary care staff members to understand the current primary care model and the competence of UCM Cottage Grove (Hyde Park) and Kenwood clinics. The research will take into account the different patient populations served by the Cottage Grove clinic (primarily a pediatric population) and the Kenwood clinic (primarily a geriatric population). We will examine community survey data previously gathered from community resident surveys through the Community Health Needs Assessment (CHNA) process to identify emerging barriers perceived in the neighborhoods. The outputs will include insights and specific barriers to inform our hypotheses and directions for effectively serving both populations.

   2 weeks — weeks 1-2 of the project

2) **Engage key providers involved in the primary care service.** We will recruit research participants and conduct individual interviews with primary care physicians (PCPs), nurses, and relevant staff members at both clinics. Activities during the interviews will include mapping out primary care services to identify those that can be delivered online, at home, or public infrastructure in the community as a third place. Outputs will include a service blueprint informed by insights gathered from the providers' perspectives and possible service parts that be done remotely as a part of a hybrid primary care service considering their capacities.

   3 weeks — weeks 2-4 of the project

3) **Engage representative patients and/or caregivers in the neighborhoods.** We will recruit and screen 60 research participants, and then conduct 45-minute individual interviews, preferably at their homes, to get the most accurate insight into their environment within the community. However, we will also accommodate for remote interviews. Each research participant will be compensated $25 (USD) per interview. This method will enable designers to understand their mental models, perceived barriers, life factors, and constraints that impede their access to quality primary care, as well as their preferred practical solutions, ensuring cultural-competence solutions. Output will include insights and preferred solutions from representatives within the neighborhoods. Regarding patient health data, which is sensitive personal information, we will seek guidance on personal data management from UCM's legal department to ensure their privacy and our compliance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA) concerning personal data management, especially in the case of socially vulnerable patients.

   4 weeks — weeks 4-7 of the project

4) **Prototype and refine our solutions**. We will create low-fidelity prototypes and prioritize them with our previous research participants based on a design development framework, Quadruple aim (improved provider experience, improved patient experience, lower costs, and better outcomes). The three most preferred prototypes will then be presented to UCM's community partners, executives, and relevant stakeholders for review. This approach will enable us to identify the most fit and feasible potential solutions that mitigate social barriers to care and treatment, while also considering the limitations of UCM's resources. Outputs will include a report of the three most prominent solutions, ensuring stakeholders have sufficient resources to meet patients' needs. We will also consolidate all research findings and propose a set of metrics to measure the estimated impact on the UCM healthcare system and the community, in preparation for a future pilot program.

   4 weeks — weeks 7-10 of the project

Design outputs

1. Insights and specific barriers in the neighborhoods to inform research hypotheses and directions.
2. A service blueprint, informed by insights from the providers' perspectives, outlining possible potential components of a hybrid primary care service that can be delivered remotely.
3. Insights and preferred solutions identified by representatives within the neighborhoods.
4. A report detailing the three most prominent solutions and consolidated research findings.
5. Recommendations with a set of metrics to measure the estimated impact on the UCM healthcare system and the community.

Support and permission required for the research team

1. Kick-off meeting scheduled weekly or bi-weekly.
2. Access to existing data from UCM primary care clinic and community resident surveys collected, as well as current material from staff members involved in primary care (should be done during the kick-off meeting weeks).
3. A complete list of UCM's primary care physicians (PCPs), nurses, and relevant staff members at both clinics, as staff rotation might be frequent.
4. Permission to contact and conduct interviews with all of UCM's staff members and patients, online and in-person at the clinics.
5. Cooperation from UCM's staff members in facilitating interviews with patients at their homes.
6. Weekly or bi-weekly check-in meetings to ensure ongoing coordination and alignment of research efforts.
7. Guidance on managing the privacy and legal compliance of patients' personal health data from UCM's resources.