Literature Review: Best-Practice Approaches to Improving Health with Limited Resources

Jeffrey Tritten

Department of Public Health, University of West Florida

PHC4940: Public Health Capstone

Instructor: Rebekah Butterfield, MPH

May 03, 2024

Abstract

This literature review outlines approaches to achieving health equity in socioeconomically disadvantaged communities with limited resources. Community health interventions are designed to prevent disease or injury, promote health, and achieve health equity in priority populations who live in impoverished communities and are at higher risk for chronic diseases, mental illnesses, and lower life expectancy. The CDC suggests that changes to social determinants of health (SDOH) are necessary to achieve health equity. Single-strategy community health interventions like free blood pressure screenings and flu vaccination clinics can be effective for small incremental changes. Achieving health equity across entire populations, including disadvantaged groups, normally requires a multi-sector, community-based approach. This approach prioritizes collaboration with other organizations to foster healthy environments and address the underlying SDOH. However, implementing multi-level approaches can be expensive, with limited evidence of large-scale impact and long-term success. Creating a population-based multi-level approach is more challenging in communities with limited financial resources. Given these challenges, a few interventions have shown a positive, cost-effective impact. Multiple randomized control trials and prospective studies have combined community-based participatory research (CBPR) with lay health worker programs to increase health literacy and improve health in disadvantaged communities. These studies report clinically meaningful improvements from 15-25% across multiple health measures including clinical measures, health behaviors, screening rates, preventive screening utilization, disease management, medication adherence, physical activity, and overall health literacy. The utilization of CBPR and lay or community health workers (CHWs) to increase health literacy can play a crucial role in cost-effectively advancing health equity.

Literature Review: Best-Practice Approaches to Improving Health with Limited Resources

People who live in impoverished communities are at higher risk for chronic diseases, mental illnesses, and lower life expectancy (Khullar & Choskshi. 2018). The most socioeconomically disadvantaged communities with the lowest income and education levels are the least healthy (Braveman et al., 2011). Though the Healthy People 2030 goals outline a desire to improve social determinants of health (SDOH), limited funding for massive community-wide changes to affect SDOH is an issue since 11.5% of people live in poverty. The Healthy People 2030 desired goal of reducing the proportion of people living in poverty has had little or no detectable change, and food insecurity is worsening (Healthy People 2030, n.d.).

Since there are limited economic resources to change SDOH, community-wide interventions to change health behaviors may be necessary to improve impoverished communities' physical and mental health. To achieve health equity and prevent chronic disease in impoverished communities, multisector community coalitions are normally used (Agurs-Collins, 2019), and some tools are available through the CDC (CDC, 2021). The World Health Organization outlines support mechanisms for health promotion and disease prevention which should include multisectoral partnerships with an emphasis on health communications (WHO, n.d.). However, a systematic review by researchers indicates that large-scale community-based health promotion programs result in limited changes (Nickel & von dem Knesebeck, 2020). In addition, Nickel & von dem Knesbeck (2020) postulate that multi-component community-based interventions to promote health have not realized their full potential, and over a third of interventions show no differences between the intervention and the control group. Changing SDOH, and large multisector interventions are implausible in most communities, so alternative best-practice methodologies are needed.

The Community Engagement Alliance (CEAL) approach was very successful in combatting COVID-19 health disparities (Price et al., 2024). Jiménez et al. (2023) highlight the work of combining the CEAL approach with academic researchers and community health workers (CHW) in Arizona and found it very effective in their pandemic response. The CEAL approach utilizes community-engaged research to address health disparities, build trust in science, and improve health knowledge with trusted messengers according to the NIH (n.d.). Similar to CEAL, the IMPaCT intervention to hire and train CHWs for Individualized Management for Patient-Centered Targets (IMPaCT) found that every dollar invested in the intervention realized a $2.47 return to Medicaid payers (Kangovi et al., 2020). In addition to a return on investment, the IMPaCT intervention improved chronic disease control and mental health outcomes while reducing hospital readmissions. Verhagen et al. (2014) found that CHWs can be successful in addressing health disparities among ethnic populations to improve healthcare use, health behavior, and health outcomes. Community health workers are trusted community members who share backgrounds with those they serve and work to provide culturally appropriate health education and advocacy to the community. CHWs have been consistently recognized by the American Public Health Association and the National Institutes of Health as important to meeting our nation's healthcare needs.

Since CHWs role is largely health education, it is important to review the impact of increasing health literacy. Low health literacy is associated with poor health outcomes, and improving health literacy shows statistically significant improvements across multiple health metrics including health equity (Nepps et al., 2023). A review of the efficacy of health literacy interventions shows that they improve measurements of health literacy and improve health behaviors which usually result in improved health outcomes (Walters et al., 2020). Trump &

Mendenhall (2017) found that diabetes interventions involving CHWs significantly impacted health outcomes and behaviors by increasing knowledge. In an exhaustive review of health literacy intervention studies that increase health-related outcomes for socioeconomically disadvantaged communities, Stormacq et al. (2020) found that peer-supported health literacy interventions with frequent interactions are a promising strategy. Other systematic reviews indicate that efforts to increase health literacy in socioeconomically disadvantaged and underserved communities are effective when the interventions are culturally sensitive and tailored to the population (Singh et al., 2024). CHWs are peer supporters who are ideally suited to ensure the cultural appropriateness of health literacy interventions and increase health literacy.

Community-based participatory research (CBPR) also actively involves community members in all aspects of the research and intervention process. A 10-year systematic review of CBPR to enhance ethnic minorities' participation in clinical trials indicated that 85% of studies employing CBPR saw positive outcomes (McFarlane et al., 2022). A systematic review of CBPR interventions to improve diabetes outcomes found that community-engaged research utilizing community health workers “demonstrated statistically significant improvements in diabetes outcomes” (Campbell et al., 2020). CBPR is an effective tool to improve health outcomes. Since CBPR seeks to engage community members as research partners heavily engaged in the intervention process, incorporating CHWs is an ideal way to accomplish this task (Smith & Blumenthal, 2012). In a scoping review of incorporating CHWs in CBPR, Coulter et al. (2020) found that this approach was extremely effective in understanding the community, reaching hard-to-reach populations, resulting in more sustainable programs, and maximizing the participants' benefit from the intervention.

Combining CBPR with CHWs to increase health literacy is a promising methodology to cost-effectively advance health equity. A systematic review of community-engaged research concluded that CBRP has shown to be successful in achieving research outcomes, particularly when bicultural CHWs along with community participation and collaborative partners were employed (Cyril et al., 2015). The review indicated that 87.5% of the studies examined reported improvements in health literacy, health behaviors, and health outcomes. These impressive statistics warrant additional review of the approach.

The CBRP coupled with the CHW approach has been used successfully based on multiple studies including randomized clinical trials. One intervention took twenty-two CHWs in South Florida and trained them to educate Latinx immigrant farmworkers about breast cancer detection and screening utilizing CBPR and the researcher found that it was an effective strategy to increase breast cancer knowledge (Rodriguez et al., 2020). CBPR was used for training CHWs to help increase hypertension and type 2 diabetes screening rates among ethnic women with low health service utilization with excellent success rates (Harvey et al., 2009). CBRP was utilized to show that CHWs can play a key role in improving health behaviors due to their understanding of the community's culture allowing them to design and deliver health education programs that are both relevant and accepted by the target population (Bender et al., 2013). The combined approach is effective in improving health outcomes in disadvantaged populations, largely by improving health literacy and providing peer support that is culturally appropriate for these communities.

Prioritization of increasing the number of community health workers is evident. To advance health equity, the Centers for Medicaid and Medicare Services (CMS) recently announced that they will begin paying for services involving community health workers to

address health-related social needs that impact care (CMS, 2023). Since this announcement, several states have launched free educational programs to train CHWs in disadvantaged populations. CMS also published an expansive report on the benefits, planning, implementation, and funding of CHW programs (CMS, 2021). The report indicated that CHWs improve health equity by providing culturally appropriate care, addressing social needs, and reducing costs. This effort is likely to contribute to the Healthy People 2030 goal of improving health communications by increasing the health literacy of the population.

Conclusion

This review examined the interventional approaches to achieving health equity in impoverished communities where social determinants of health (SDOH) contribute to higher rates of chronic disease, mental illness, and lower life expectancy. Traditional top-down interventions targeting SDOH have many constraints due to cost, scalability, and limited availability of resources. This critical review revealed promising alternative strategies that combine community health workers (CHWs) and Community-Based Participatory Research (CBPR) to increase health literacy in disadvantaged communities. CHWs are trusted members with deep community ties who can design and deliver culturally relevant health education programs. CBPR strengthens this approach by actively engaging community members in research and intervention design, building community trust, and ensuring long-term program sustainability. The effectiveness of this combined approach is supported by an expanding body of evidence across multiple health-related challenges. Studies outlined in this literature review have demonstrated significant improvements in health literacy, health behaviors, and health outcomes in interventions utilizing CHWs and CBPR principles. Recent policy changes by the Centers for Medicaid and Medicare Services (CMS) will reinforce this approach. By recognizing the impact

of SDOH and reimbursing CHW services addressing social needs and health education, CMS is spearheading a more complete and sustainable solution to achieving health equity in disadvantaged communities. The existing evidence strongly suggests that a combined approach of utilizing CHWs and CBPR principles offers a cost-effective and culturally appropriate strategy to empower impoverished communities to improve health literacy which has the potential to significantly advance health equity.

References

Agurs-Collins, T., Persky, S., Paskett, E. D., Barkin, S. L., Meissner, H. I., Nansel, T. R., Arteaga, S. S., Zhang, X., Das, R., & Farhat, T. (2019). Designing and assessing multilevel interventions to improve minority health and reduce health disparities. *American Journal of Public Health, 109*(S1), S86–S93. https://doi.org/10.2105/AJPH.2018.304730

Bender, M. S., Nader, P. R., Kennedy, C., & Gahagan, S. (2013). A culturally appropriate intervention to improve health behaviors in Hispanic mother-child dyads. *Childhood Obesity (Print)*, *9*(2), 157–163. https://doi.org/10.1089/chi.2012.0118

Braveman, P. A., Cubbin, C., Egerter, S., Williams, D. R., & Pamuk, E. (2010). Socioeconomic disparities in health in the United States: What the patterns tell us. *American Journal of Public Health, 100*(Suppl 1), S186–S196. https://doi.org/10.2105/AJPH.2009.166082

Campbell, J. A., Yan, A., & Egede, L. E. (2020). Community-based participatory research interventions to improve diabetes outcomes: A systematic review. *The Diabetes Educator*, *46*(6), 527–539. https://doi.org/10.1177/0145721720962969

CDC (2021, May 19). *Advancing health equity and preventing chronic disease.* https://www.cdc.gov/nccdphp/dnpao/health-equity/health-equity-guide/index.htm

CMS (2021). *On the front lines of health equity: Community health workers.* [PDF]. https://www.cms.gov/files/document/community-health-worker.pdf

CMS (2023). *CMS finalizes physician payment rule that advances health equity.* https://www.cms.gov/newsroom/press-releases/cms-finalizes-physician-payment-rule-advances-health-equity

Coulter, K., Ingram, M., McClelland, D. J., & Lohr, A. (2020). Positionality of community health workers on health intervention research teams: A scoping review. *Frontiers in Public Health*, *8*, 208. https://doi.org/10.3389/fpubh.2020.00208

Cyril, S., Smith, B. J., Possamai-Inesedy, A., & Renzaho, A. M. N. (2015). Exploring the role of community engagement in improving the health of disadvantaged populations: a systematic review. *Global Health Action*, *8*(1), 29842–29842. https://doi.org/10.3402/gha.v8.29842

Harvey, I., Schulz, A., Israel, B., Sand, S., Myrie, D., Lockett, M., Weir, S., & Hill, Y. (2009). The Healthy Connections project: a community-based participatory research project involving women at risk for diabetes and hypertension. *Progress in Community Health Partnerships : Research, Education, and Action*, *3*(4), 287–300. https://doi.org/10.1353/cpr.0.0088

Healthy People 2030 (n.d.). *Economic stability.* https://health.gov/healthypeople/objectives-and-data/browse-objectives/economic-stability

Jiménez, D. J., Gomez, O., Meraz, R., Pollitt, A. M., Evans, L., Lee, N., Ignacio, M., Garcia, K., Redondo, R., Redondo, F., Williamson, H. J., Oesterle, S., Parthasarathy, S., & Sabo, S. (2023). Community Engagement Alliance (CEAL) against COVID-19 disparities: Academic-community partnership to support workforce capacity building among Arizona community health workers. *Frontiers in Public Health*, *11*, 1072808. https://doi.org/10.3389/fpubh.2023.1072808

Kangovi, S., Mitra, N., Grande, D., Long, J. A., & Asch, D. A. (2020). Evidence-based community health worker program addresses unmet social needs and generates positive

return on investment. *Health Affairs (Project Hope)*, *39*(2), 207–213. https://doi.org/10.1377/hlthaff.2019.00981

Khullar, D., & Chokshi, D. A. (2018). *Health, income, & poverty: Where we are & what could help*. Health Affairs Health Policy Brief. https://doi.org/10.1377/hpb20180817.901935

McFarlane, S. J., Occa, A., Peng, W., Awonuga, O., & Morgan, S. E. (2022). Community-based participatory research (CBPR) to enhance participation of racial/ethnic minorities in clinical trials: A 10-year systematic review. *Health Communication, 37*(9), 1075–1092. https://doi.org/10.1080/10410236.2021.1943978

Nepps, P., Lake, A., Fox, J., Martinez, C., Matsen, P., & Zimmerman, K. (2023). Improving health equity through health literacy education. *Health Literacy Research and Practice, 7*(2), e99–e104. https://doi.org/10.3928/24748307-20230522-01

Nickel, S., & von dem Knesebeck, O. (2020). Effectiveness of community-based health promotion interventions in urban areas: A systematic review. *Journal of Community Health*, *45*(2), 419–434. https://doi.org/10.1007/s10900-019-00733-7

NIH (n.d.). *The science behind our approach.* National Institutes of Health Community Engagement Alliance. https://ceal.nih.gov/science-behind-our-approach

Price, S. M., Ferg, R., Eisenhauer, E. W., Chansky, M. C., & Opsomer, J. D. (2024). Effectiveness of community-engaged research strategies in increasing COVID-19 vaccinations in targeted communities: The Community Engagement Alliance (CEAL) regional teams. *American Journal of Public Health, 114*(S1), S124–S127. https://doi.org/10.2105/AJPH.2023.307517

Rodriguez, N. M., Casanova, F., Pages, G., Claure, L., Pedreira, M., Touchton, M., & Knaul, F. (2020). Community-based participatory design of a community health worker breast

cancer training intervention for South Florida Latinx farmworkers. *PloS One*, *15*(10), e0240827–e0240827. https://doi.org/10.1371/journal.pone.0240827

Singh, H., Samkange-Zeeb, F., Kolschen, J., Herrmann, R., Hübner, W., Barnils, N. P., Brand, T., Zeeb, H., & Schüz, B. (2024). Interventions to promote health literacy among working-age populations experiencing socioeconomic disadvantage: systematic review. *Frontiers in Public Health*, *12*, 1332720. https://doi.org/10.3389/fpubh.2024.1332720

Smith, S. A., & Blumenthal, D. S. (2012). Community health workers support community-based participatory research ethics: lessons learned along the research-to-practice-to-community continuum. *Journal of Health Care for the Poor and Underserved*, *23*(4 Suppl), 77–87. https://doi.org/10.1353/hpu.2012.0156

Stormacq, C., Wosinski, J., Boillat, E., & Van den Broucke, S. (2020). Effects of health literacy interventions on health-related outcomes in socioeconomically disadvantaged adults living in the community: a systematic review. *JBI Evidence Synthesis*, *18*(7), 1389–1469. https://doi.org/10.11124/JBISRIR-D-18-00023

Trump, L. J., & Mendenhall, T. J. (2017). Community health workers in diabetes care: A systematic review of randomized controlled trials. *Families, Systems & Health : The Journal of Collaborative Family Healthcare*, *35*(3), 320–340. https://doi.org/10.1037/fsh0000283

Verhagen, I., Steunenberg, B., de Wit, N. J., & Ros, W. J. (2014). Community health worker interventions to improve access to health care services for older adults from ethnic minorities: a systematic review. *BMC Health Services Research*, *14*, 497. https://doi.org/10.1186/s12913-014-0497-

Walters, R., Leslie, S. J., Polson, R., Cusack, T., & Gorely, T. (2020). Establishing the efficacy of interventions to improve health literacy and health behaviours: A systematic review. *BMC Public Health*, *20*(1), 1040. https://doi.org/10.1186/s12889-020-08991-0

WHO (n.d.). *Health promotion and disease prevention through population-based interventions, including action to address social determinants and health inequity.* World Health Organization. https://www.emro.who.int/about-who/public-health-functions/health-promotion-disease-prevention.html