

**SPECIAL COMMUNICATION**

# The Importance of Primary Care Research in Understanding Health Inequities in the United States

*John Heintzman, MD, MPH and Miguel Marino, PhD*

**Eliminating health and health care inequities is a longstanding goal of multiple United States health agencies, but overwhelming scientific evidence suggests that health and health care inequities persist in the United States, despite decades of research and initiatives to alleviate them. Because of its comprehensiveness, studying health inequities in the context of primary care allows for the use of multiple paradigms and methodologic approaches to understanding almost any state of health, disease, social challenge, or societal circumstance a patient or group of patients might face. We argue in this special communication that the many features/advantages of primary care research have valuable contributions to make in reducing health inequity, and scientists, journals, and funders should increase the incorporation of primary care approaches and findings into their portfolios to better understand and end health inequity. (J Am Board Fam Med 2021;34:849–852.)**

**Keywords:** Delivery of Health Care, Health Care Disparities, Primary Health Care

Health inequities are differences in health status or the distribution of health resources between different population groups, arising from the social conditions in which people are born, grow, live, work and age.<sup>1</sup> Eliminating health and health care inequities is a longstanding stated goal of multiple United States health agencies, but overwhelming evidence suggests that these inequities persist in the United States, despite decades of research and initiatives to alleviate them. This stasis has led to calls for advancement in health inequities research methods and content by several US federal organizations. In 2012, the National Institutes of Health (NIH) convened a summit calling for a broadening of approaches to address health inequities,<sup>2</sup> and the National Institute of Minority Health and Health Disparities (NIMHD) has led visioning exercises to identify health inequity research priority

areas.<sup>3,4</sup> While these renewed calls are needed, there are still gaps to better study health inequity. Overall, US health inequities research has been frequently described as a subdiscipline of public health research,<sup>5</sup> and major federal health inequities initiatives have relied on surveys initially developed around the mid-20<sup>th</sup> century.<sup>6</sup> While a survey-based, public health approach benefits understanding region and society-wide trends and intervention efforts to reduce inequities, definitive progress on fully understanding and eliminating health inequities remains unfulfilled. An essential avenue for understanding and addressing health care inequities may be to more directly observe how vulnerable populations interact with the US health care system. Primary care providers are the front door to this system—even in a nation without universal primary care access—to which a wide swath of the United States, including vulnerable populations, access at multiple points throughout their life.<sup>7,8</sup> The addition of primary care research perspectives, approaches, and data into health inequities research may be a crucial step toward understanding, improving, and ultimately helping end health inequity in the United States.

This article was externally peer reviewed.  
Submitted 12 February 2021; revised 12 April 2021; accepted 13 April 2021.

From the Oregon Health and Science University, Department of Family Medicine, Portland (JH, MM); OCHIN, Inc., Portland, OR (JH); Oregon Health and Science University School of Public Health, Portland (MM).

**Funding:** National Institute on Aging and National Institute on Minority Health and Health Disparities.

**Conflict of interest:** None.

**Corresponding author:** John Heintzman MD, MPH, 3181 SW Sam Jackson Park Road, Portland, OR 97239, Phone: 503-494-2542 (E-mail: heintzma@ohsu.edu).

## The What and Why of Primary Care Research

Primary care is first contact health care that is comprehensive, continuous, and coordinated.<sup>9</sup> Primary

care research is research done in the primary care environment,<sup>10</sup> therefore, involving primary care patients, practitioners, perspectives, and priorities. Because of its comprehensiveness, studying health inequities in the context of primary care allows for the use of multiple paradigms and methodologic approaches to understanding almost any state of health, disease, social challenge, or societal circumstance patients might face. Further, while most research methods can be used in primary care, some methods such as pragmatic trials,<sup>11,12</sup> dissemination and implementation research,<sup>13</sup> and patient-investigator partnerships<sup>14</sup> are especially appropriate for primary care settings. Primary care delivery will not solve inequity alone, but observational and interventional research in the primary care setting is an essential and overlooked piece of the science to understand and reduce health inequity. Research in the primary care setting is a window that displays disease and health care and a wide representation of the issues relevant to inequity: the experience of violence, poverty, addiction, racism, cultural factors, and disadvantage, among others, throughout a lifetime.<sup>7,8,15,16</sup> The beneficial relationships forged in primary care<sup>17,18</sup> may, in part, start to mitigate the effects of violence perpetrated by researchers in the past.<sup>19</sup> There have been calls to examine inequities over the life course,<sup>20</sup> and primary care disciplines, especially family medicine, are well-positioned to do this given their comprehensiveness in scope.

### ***The Reach of Primary Care for Health Inequities Research***

For the researcher interested in health inequities research, a context-specific discipline might elicit sampling concerns: does the US primary care environment contain enough patients experiencing inequities to produce meaningful understanding on these issues? Is not studying those in the US primary care environment just the study of care quality for a subpopulation with unlimited access to resources and all the health care they need? Are vulnerable people—with poor access to services and resources—represented in a context that requires access *a priori*? Historically, in the United States, these questions may have resulted in caution in evaluating health inequities in primary care settings, but this is rapidly changing. Even in a society that does not have universal health care coverage, a large proportion of the population does have contact with primary care providers; in national surveys,

more than 85% of US individuals, across demographic groups, have at least some usual source of care (doctor's office or clinic/health center—not the emergency department).<sup>21</sup> Specifically, vulnerable and marginalized populations do see primary care providers, especially in the nation's network of community health centers (CHCs). CHCs (clinics receiving federal funding to provide comprehensive primary care) serve ~30 million patients in the United States, approximately 10% of the country, regardless of citizenship, income, insurance status, language spoken, or other socioeconomic criteria, and especially serve low-income patients and racial/ethnic minorities.<sup>8</sup> Whether a patient accesses a CHC or not, numerous primary care networks, many of them now interconnected, widely represent those who might experience health inequities. For instance, primary care practices nationwide are increasingly part of data-connected networks – research networks, networks with shared administrative resources, and networks that share electronic health records and their functionalities for innovation and data aggregation.<sup>22,23</sup> These networks join the existing core resource of practice-based research networks (PBRNs) in primary care.<sup>24</sup> Though large connected primary care networks (data networks and PBRNs) may not have the representativeness of national surveys, they contain large patient samples with richer information on objectively measured health outcomes, care utilization, and increasingly, robust social determinants of health data.<sup>25</sup> All this is routinely collected in primary care clinics, which is challenging to collect or subject to recall bias in public health surveys. Amid calls for the integration of social care and the evaluation of social determinants of health into health care,<sup>26,27</sup> and calls for multi-level and “complex system analysis reflective of real-world settings”<sup>4</sup> to better understand inequity, these reports have missed an opportunity to explicitly recommend primary care research as a viable and necessary response to these calls. The primary care setting sits at the nexus of complex system factors, is already in the “real world” and therefore may have enhanced external validity, is where most social needs are witnessed in health care, and is where research into these aims is likely to be most effective. In addition, primary care data are already multi-level and routinely collected: multiple visit observations for a patient over time, patients

nested within providers, providers nested within clinics, and clinics nested in neighborhoods, cities, and states.<sup>22,25</sup>

### Recommendations to Improve Health Inequity Research

Researchers interested in US health inequities should consider primary care settings as a crucial avenue for understanding the full picture of health inequity and developing real-world interventions to end this inequity. The published opportunities of the NIMHD Health Disparities Science Visioning Initiative<sup>3</sup> all rely on studying the primary care environment. Still, primary care is not explicitly mentioned in this list. We would continue the call for an enhanced partnership between primary care and public health in a manner that leverages the research strengths of both fields to take advantage of these opportunities optimally. This outcome would mean a concerted and longitudinal integration of national US survey data with primary care-related datasets to even more fully capture the exposures, experiences, and care of those most at risk for poor health outcomes. Second, it would mean sustained collaboration in developing and testing scalable health-related interventions that span boundaries: boundaries between regions, care settings, and between “community” and “health care” settings. In the long-term, funding agencies and health systems could invest even more in primary care centered networks to continue building data sources that have the potential to aggregate significant data on the longitudinal experience and outcomes of vulnerable populations over the entire life course. While Congress has designated the Agency for Health Care Research and Quality (AHRQ) as the “principal source of funding for primary care research,” the AHRQ’s 2021 budget was 0.5% of the NIH’s budget,<sup>28,29</sup> and a very small proportion of the NIH budget is awarded to disciplines in primary care research.<sup>30</sup> In response to all these issues, we make the following recommendations:

1. **Funding agencies** in the United States should increasingly fund research projects that utilize broad primary care settings to study health inequity.
2. **Journal editorial boards** should recognize the importance, scientific merit, and enhanced external validity of utilizing primary care

settings in health inequity research. They should prioritize the inclusion of primary care researchers—especially those with experience in health equity research—on board rosters.

3. **Researchers** should consider multi-level, etiologic, and complex system analyses<sup>4</sup> and understand that primary care sits at a nexus of multi-level investigations into health inequity (primary care is the bridge between biology, behavior, health care, and community); researchers should utilize the existing multi-level data in primary settings and networks for observational and intervention studies.

Primary care providers treat and health inequities affect every organ, every system, every malady, in every family, and every community. Primary care researchers, along with public health researchers, may bring about understanding and intervention to end health inequity in the United States together.

---

The authors would acknowledge our home institutions and the patients and staff of the OCHIN Practice-Based Research Network, who support our work in general.

To see this article online, please go to: <http://jabfm.org/content/33/5/849.full>.

### References

1. World Health Organization. 10 Facts on Health Inequities and their Causes. Available from: [https://www.who.int/features/factfiles/health\\_inequities/en/](https://www.who.int/features/factfiles/health_inequities/en/). Published 2017. Accessed December 2019.
2. Dankwa-Mullan I, Rhee KB, Williams K, et al. The science of eliminating health disparities: summary and analysis of the NIH summit recommendations. *Am J Public Health* 2010;100:S12–18.
3. Wasserman J, Palmer RC, Gomez MM, Berzon R, Ibrahim SA, Ayanian JZ. Advancing health services research to eliminate health care disparities. *Am J Public Health* 2019;109:S64–S69.
4. Duran DG, Pérez-Stable EJ. Novel approaches to advance minority health and health disparities research. *Am J Public Health* 2019;109:S8–S10.
5. Satcher D, Higginbotham EJ. The public health approach to eliminating disparities in health. *Am J Public Health* 2008;98:S8–S11.
6. National Center for Health Statistics. Healthy People 2020 Data Issues 2015. Available from: [https://www.cdc.gov/nchs/healthy\\_people/hp2020/hp2020\\_data\\_issues.htm](https://www.cdc.gov/nchs/healthy_people/hp2020/hp2020_data_issues.htm). Published November 6, 2015. Accessed November 1, 2020.
7. Stange KC, Jaen CR, Flocke SA, Miller WL, Crabtree BF, Zyzanski SJ. The value of a family physician. *JFP* 1998;46:363–368.

8. National Association of Community Health Centers. Community Health Center Chartbook. Available from: <http://www.nachc.org/wp-content/uploads/2019/01/Community-Health-Center-Chartbook-FINAL-1.28.19.pdf>. Published 2019. Accessed November 1, 2020.
9. World Health Organization. Primary Health Care. Available from: <https://www.who.int/news-room/fact-sheets/detail/primary-health-care>. Published April 1, 2021. Accessed June 15, 2021.
10. Starfield B. A framework for primary care research. *JFP* 1996;42:181–185.
11. Carroll JK, Pulver G, Dickinson LM, et al. Effect of 2 clinical decision support strategies on chronic kidney disease outcomes in primary care: a cluster randomized trial. *JAMA Netw Open* 2018;1:e183377.
12. Eichner B, Michaels LAC, Branca K, et al. A Community-based Assessment of Skin Care, Allergies, and Eczema (CASCADE): an atopic dermatitis primary prevention study using emollients—protocol for a randomized controlled trial. *Trials* 2020;21:243.
13. Heintzman J, Gold R, Krist A, Crosson J, Likumahuwa S, DeVoe J. Practice-based research networks (PBRNS) are promising laboratories for conducting dissemination and implementation research. *J Am Board Fam Med* 2014;27:759–762.
14. Warren NT, Gaudino JA, Jr, Likumahuwa-Ackman S, et al. Building meaningful patient engagement in research: case study from ADVANCE clinical data research network. *Med Care* 2018;56:S58–S63.
15. Gillespie CF, Bradley B, Mercer K, et al. Trauma exposure and stress-related disorders in inner city primary care patients. *Gen Hosp Psychiatry* 2009;31:505–514.
16. Cottrell EK, Hendricks M, Damburn K, et al. Comparison of community-level and patient-level social risk data in a network of community health centers. *JAMA Netw Open* 2020;3:e2016852.
17. Blumenthal DME, Edwards J. The efficacy of primary care for vulnerable population groups. *Health Serv Res* 1995;30:253–273.
18. Nutting PA, Goodwin MA, Flocke SA, Zyzanski SJ, Kurt CS. Continuity of primary care: to whom does it matter and when? *Ann Fam Med* 2003;1:149–155.
19. Office of Environment, Health, Safety and Security, US Department of Energy. Chapter 12: the iodine 131 experiment in Alaska. In: *Final Report of the Advisory Committee on Human Radiation Experiments*. Washington, DC: US Government Printing Office; 1995. (Stock no. 061-000-008489) Available from: [https://bioethicsarchive.georgetown.edu/achre/final/chap12\\_4.html](https://bioethicsarchive.georgetown.edu/achre/final/chap12_4.html). Accessed March 29, 2021.
20. Jones NL, Gilman SE, Cheng TL, Drury SS, Hill CV, Geronimus AT. Life course approaches to the causes of health disparities. *Am J Public Health* 2019;109:S48–S55.
21. Centers for Disease Control and Prevention. Early Release of Selected Estimates Based on Data From the National Health Interview Survey, January–September 2017. Available from: <https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease201803.pdf>. Published March, 2021. Accessed November 1, 2020.
22. DeVoe JE, Gold R, Cottrell E, et al. The ADVANCE network: accelerating data value across a national community health center network. *JAMIA* 2014;21:591–595. Published 2014. Accessed November 1, 2020.
23. Kaiser Permanente Center for Health Research. Data & Analytics Expertise. Available from: <https://research.kpchr.org/About/Capabilities/Data-Analytics-and-Expertise>. Published 2018. Accessed November 1, 2020.
24. Agency for Healthcare Research and Quality. Practice-Based Research Networks. Available from: <https://pbrn.ahrq.gov/about>. Accessed March 25, 2021.
25. Bazemore AW, Cottrell EK, Gold R, et al. “Community Vital Signs”: Incorporating geocoded social determinants into electronic records to promote patient and population health. *JAMIA* 2016;23:407–412.
26. Lancet Editorial Staff. No health care without social care. *The Lancet* 2019;394:1206.
27. National Academy of Medicine. Integrating Social Care into the Delivery of Health Care: Moving Upstream to Improve the Nation’s Health. Available from: <http://nationalacademies.org/hmd/Reports/2019/integrating-social-care-into-the-delivery-of-health-care>. Published September 25, 2019. Accessed November 1, 2020.
28. American Institute of Physics. Final FY21 Appropriations: National Institutes of Health. Available from: <https://www.aip.org/fyi/2021/final-fy21-appropriations-national-institutes-health2021>. Published November 19, 2020. Accessed March 25, 2021.
29. Agency for Healthcare Research and Quality. Budget Estimates for Appropriations Committees, Fiscal Year 202. Available from: <https://www.ahrq.gov/cpi/about/mission/budget/2021/index.html>. Published February 2021. Accessed March 25, 2021.
30. Cameron BJ, Bazemore AW, Morley CP. Lost in translation: NIH funding for family medicine research remains limited. *J Am Board Fam Med* 2016;29:528–530.