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Putting Action into Population Health Science: Primary Care Interventions to Address Social Determinants of Health

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Abstract

Concern about health equity and social determinants of illness (e.g., income inequalities, lack of education, food insecurity) figure prominently in many conceptions of population health. In order to illustrate how population health can actively translate science into action, we consider primary care interventions that promote healthy populations by addressing the social determinants of health. In the examples provided in this article, primary care and population health are linked in a way that reinforces each other, and these innovative interventions may lead to improved health outcomes. Population health science provides a variety of methods and approaches for designing and evaluating interventions that aim to link patients with community resources that can address social determinants of health and improve the quality of their lives. Population health can serve as an important bridge between primary care and the public health sector.

Population health science has been defined as "the study of the conditions that shape distributions of health within and across populations, and of the mechanisms through which these conditions manifest as the health of individuals" (Keys, K.M. 2016). According to this perspective, population health science elucidates the mechanisms that produce disease and the discipline of public health then applies that information to promote health in populations. Put another way, population health can be seen as the basic science of public health (Galea, S., et al. 2018). Other conceptions of population health have a direct concern with the translation of science into actions, and view science and action as linked and reinforcing each other (Kindig, D., et al. 2003; Diez Roux, A.V., 2016). For example, Kindig & Stoddart (2003) differentiated population health from public health, health promotion, and social epidemiology and argued that "the field of population health includes health outcomes, patterns of health determinants, and policies and interventions that link these two." The thesis of this commentary is that population health science goes beyond studying the mechanisms that shape distributions within and across populations to include actions that promote health of the entire human population. In support of this thesis, examples are provided from the literature on interventions in primary care that promote healthy populations by addressing the social determinants of health.

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Introduction

While public health goes back at least as far as the nineteenth century (Coughlin, S.S, 1996), population health science is a relatively new discipline that has only had a burgeoning literature in the past decade or two (Frank, J.W, 1995; Dunn, J.R., 1999; Kindig, D., et al. 2003; Kindig, D.A. 2007; Sharfstein J.M., 2014; Keys, K.M; 2016;), including textbooks on the topic (Evans R., et al. 1994; Kindig DA. 1997; Young TK. 1998; Keys K., et al. 2018). Concern about health equity and social determinants of illness (e.g., income inequalities, lack of education, food insecurity) figure prominently in many conceptions of population health (Evans R., et al. 1994; Diez Roux, A.V., 2016). For example, the Health Promotion and Programs Branch of Health Canada argued that "the overall goal of a population health approach is to maintain and improve the health of the entire population and to reduce inequalities in health between population groups (Health Canada, 1998). Authors have debated definitions of population health (Kindig, D., et al. 2003; Diez Roux, A.V., 2016) and noted that health care providers have adopted the phrase "population health" to refer to a variety of efforts to improve health outcomes (Sharfstein J.M., 2014). The American Hospital Association concluded that population health depends on effective initiatives to increase the prevalence of evidence-based preventive health services and preventive health behaviors, and to improve health care quality, patient safety, and care coordination. Such conceptions of population health are tied to groups of patients who receive care from a particular provider or are covered by a particular health plan and consequently they overlook people without a medical home or no health insurance. To improve the situation, Sharfstein recommended that providers and insurers invest in innovative and creative approaches to improve health outcomes and participate in collaborative initiatives to address the underlying causes of illness.

Addressing Social Determinants of Illness in Primary Care

In order to illustrate how population health can actively translate science into action, we now turn to a consideration of primary care interventions that promote healthy populations by addressing the social determinants of health. It is widely appreciated that the social context in which people live and work influences their health (Garg A., et al. 2013). The World Health Organization defined the social determinants of health as the "conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of daily life" (World Health Organization, 2014). Addressing social determinants of health has largely been left up to disciplines such as health policy, social services, and public health. However, in primary care, screening strategies have been developed for specific psychosocial issues such as substance abuse and intimate partner violence (Garg A., et al. 2013). Moreover, there is growing appreciation for the importance of family physicians understanding the living conditions patients face when they leave the medical office or when they leave the hospital (American Academy of Family Physicians; Woolf S. 2011; Institute of Medicine, 2012). In recent years, increasing efforts have been made in primary care settings to screen for a broader array of social determinants of health including inadequate food and nutrition, lack of education, unemployment, and inadequate housing, and to refer patients to community resources (e.g., food pantries, job training centers, housing programs, and general educational development programs) (Garg A., et al. 2013; Gottlieb, L.M., et al. 2015; Bazemore, A.W., et al. 2016; Page-Reeves, J., et al. 2016; Pinto, AD., et al. 2016). According to this perspective, quality primary care includes the amelioration of the harmful health effects resulting from income inequalities and lack of basic needs, and, primary care settings are an appropriate environment for assessing and intervening on social determinants of health (Garg A., et al. 2013; Gottlieb, L.M., et al. 2015; Bazemore, A.W., et al. 2016; Page-Reeves, J., et al. 2016; Pinto, AD., et al. 2016).

As an example, Page-Reeves et al(2016) developed an 11-item survey to screen patients for social determinants of health in 3 family medicine clinics in Albuquerque, New Mexico. The questions included: (i) In the past 2 months, did you or others you live with eat smaller meals or skip meals because you didn't have money for food? (ii) Are you homeless or worried that you might be in the future? (iii) Do you have trouble paying for your utilities (gas, electricity, phone)? (iv) Do you have trouble finding or paying for a ride? (v) Do you need daycare, or better daycare, for your kids? f) Are you unemployed or without regular income? (vi) Do you need help finding a better job? h) Do you need help getting more education? (vii) Are you concerned about someone in your home using drugs or alcohol? (viii) Do you feel unsafe in your daily life? (ix) Is anyone in your home threatening or abusing you? A total of 3,048 patients were screened over a 90 day period. Forty six percent of patients screened positive for at least 1 area of social need, and 63% of those had multiple needs. Medical assistants and community health workers then offered to connect patients with appropriate services and resources to address the identified needs. This pilot study demonstrated that it is feasible for a clinic to assess primary care patients for social needs and to refer patients for assistance.

Pinto et al. (2016) developed a set of 14 questions that covered a range of social determinants of health. These were translated into 13 languages. The survey was self-administered to a convenience sample of 407 primary care clinic patients in Toronto. In a subsequent implantation across 5 clinics, 10,536 patients were surveyed. Only 724 (6.9%) declined to participate. The authors concluded that it is feasible and acceptable to collect data on social determinants of health through a self-administered survey and link them to a patient's chart (Pinto AD., et al. 2016).

Discussion

In the examples provided in this article, primary care and population health are linked in a way that reinforces each other, and these innovative interventions may lead to improved health outcomes. Population health science provides a variety of methods and approaches for designing and evaluating interventions that aim to link patients with community resources that can address social determinants of health and improve the quality of their lives. Seen from this perspective, population health can serve as an important bridge between primary care (e.g., family medicine) and the public health sector (American Academy of Family Physicians; Institute of Medicine, 2012).

Public health, population health and community health are terminologies sometimes used interchangeably. Regardless,

responsibility of care for long-term wellness requires vested alignments through technology, improved processes, and proactive care management systems. Medica Research Institute purports the "Triple Aim" concept, introduced by Berwick and colleagues (Berwick, D.M, 2000), and is a leading force in guiding efforts to improve the patient experience as well as the cost and the quality of health care services. According to the authors, determinants of "population health" include quality medical practice in addition to social environment (income, education, employment, social support, culture), and physical environment. Their research concluded that higher social spending (social service and public health spending) compared to health spending (Medicare and Medicaid spending) is associated with better population outcomes, supporting a need for well-informed policy makers and better coordination between medical care providers and social services to achieve reduction in disparities and improved health status for the most vulnerable.

In recent years, incentives have emerged for providers to invest in prevention. These incentives brought about by health care reform include accountable care organizations, bundled payments, and penalties to hospitals from Medicare for 30-day readmission (Kaufman A. 2016). The National Committee for Quality Assurance (NCQA), a certifying entity for the esteemed Patient-Centered Medical Model and certification, currently recognizes social determinants of health as an important measured competency in order to achieve certification status. Specifically, not only are primary care systems expected to collect data on social determinants of health within their treated populations, but demonstrate an approach and methodology to inform and continuously enhance their care system by utilizing community connections to systematically address needs. This all relates to a strategy to operationalize population health, measurement, and affect change in an area (social determinants of health) that was added to the certification competencies compared to former standards.

Physicians recognize the importance of social determinants of health in their practice but they may lack confidence in addressing social needs (DeVoe JE., et al. 2016; Valles SA. 2018). Recent studies have documented the feasibility of screening primary care patients for social determinants of health, and referring them to community resources with the help of medical assistants and community health workers (Page-Reeves J., et al. 2016; Pinto AD., et al. 2016). Such efforts are consistent with conceptions of population health that have a direct impact on translation of evidence into concrete action. As noted by Valles, 2018, "population health science is a loosely organized field of research and practices, united by a commitment of understanding patterns of health distributions within and between human populations, and to achieving desirable equitable patterns of health distribution via interdisciplinary and intersectoral efforts."

References

- American Academy of Family Physicians. Intregration of primary care and public health (position paper). PubMed | CrossRef | Others
- Bazemore, A.W., Cottrell, E.K., Gold, R., et al. "Community vital signs": incorporating geocoded social determinants into electronic records to promote patient and population health. (2016) J Am Med Inform Assoc 23(2): 407-412. PubMed | CrossRef | Others
- Berwick, D.M., Nolan, T.W., Whittington, J. The triple aim: care, health, and cost. (2000) Health Aff (Millwood) 27(3): 759-769. PubMed | CrossRef | Others
- Coughlin, S.S., Beauchamp, T.L. Historical Foundations. In: Coughlin SS, Beauchamp TL, Eds. Ethics and Epidemiology. New York: Oxford University Press, 1996. PubMed | CrossRef | Others
- DeVoe, J.E., Bazemore, A.W., Cottrell, E.K., et al. Perspectives in primary care: a conceptual framework and path for integrating social determinants of health into primary care practice. (2016) Ann Fam Med 14(2): 104-108. PubMed | CrossRef | Others
- Diez Roux, A.V. On the distinction—or lack of distrinction—between population health and public health. (2016) Am J Public Health 106(4): 619-620. PubMed | CrossRef | Others
- Dunn, J.R., Hayes, M.V. Toward a lexicon of population health. (1999) Can J Public Health 90(suppl 1): S7-S10. PubMed | CrossRef | Others
- Evans, R., Barer, M., Marmor, T. Why are some people healthy and others not? The determinants of health of populations. (1994) New York: NY: Aldine de Gruyter. PubMed | CrossRef | Others
- Frank, J.W. Why "population health"? (1995) Can J Public Health 86: 162-164. PubMed | CrossRef | Others
- Galea, S., Vaughan, R.D. Population health science as the basic science of public health: a public health of consequence, October 2018 (editorial). (2018) Am J Public Health 108(10): 1288-1289. PubMed | CrossRef | Others
- Garg, A., Jack, B., Zuckerman, B. Addressing the social determinants of health within the patient-centered medical home. Lessons from pediatrics. (2013) JAMA 309(19): 2001-2002. PubMed | CrossRef | Others
- Gottlieb, L.M., Tirozzi, K.J., Manchanda, R, et al. Moving electronic medical records upstream: incorporating social determinants of health. (2015) Am J Prev Med 48(2): 215-218. PubMed | CrossRef | Others
- Health Canada. Taking action on population health. (1998) Ottawa, Ontario: Health Canda. PubMed | CrossRef | Others
- Kaufman, A. Theory vs practice: should primary care practice take on social determinants of health now? Yes. (2016) Ann Fam Med 14(2): 100-101. PubMed | CrossRef | Others
- Keys, K.M., Galea, S. Setting the agenda for a new discipline: population health science. (2016) Am J Public Health 106(4): 633-634. PubMed | CrossRef | Others
- Keys, K.M., Galea S. Population health science. New York. (2018) NY: Oxford University Press. PubMed | CrossRef | Others
- Kindig, D., Stoddart, G. What is population health? (2003)

Am J Public Health 93(3): 380-383.
PubMed | CrossRef | Others

- Kindig, D.A. Understanding population health terminology. (2007) Milbank Q 85(1):139-161.
  PubMed | CrossRef | Others
- Kindig, D.A. Purchasing population health: paying for results. (1997) Ann Arbor: University of Michigan Press.
  PubMed | CrossRef | Others
- Institute of Medicine. Primary care and public health. Exploring integration to improve population health. Washington, DC: National Academy of Medicine, 2012.
  PubMed | CrossRef | Others
- Medica Research Institute (2016). Population Health, the Triple Aim and the Effects of Social Services. AJMC Managed Markets Network.
  PubMed | CrossRef | Others
- Page-Reeves, J., Kaufman, W., Bleecker, M., et al. Addressing social determinants of health in a clinic setting: the WellRx Pilot in Albuquerque, New Mexico. (2016) J Am Board Fam Med 29: 414-418.
  PubMed | CrossRef | Others
- Pinto, A.D., Glattstein-Young, G., Mohamed, A., et al. Building a foundation to reduce health inequities: routine collection of sociodemographic data in primary care. (2016) J Am Board Fam Med 29(3): 348-355.
  PubMed | CrossRef | Others
- Sharfstein, J.M. The strange journey of population health. (2014) Milbank Q 92(4): 640-643.
  PubMed | CrossRef | Others
- Valles, S.A. Philosophy of population health: philosophy for a new public health era. (2018) London and New York: Routledge.
  PubMed | CrossRef | Others
- World Health Organization. World Conference on Social Determinants of Health: Case studies on social determinants, 2014.
  PubMed | CrossRef | Others
- Woolf, S. 2011 National Conference. Family physician urges residents, students to consider 'social determinants' of health. 2011.
  PubMed | CrossRef | Others
- Young, T.K. Population health: concepts and methods. (1998) New York, NY: Oxford University Press.
  PubMed | CrossRef | Others