The Intersection of Urban and Global Health

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KEYWORDS

• Urban health • Global health • Health inequity • Social determinants of health
• Health disparities

KEY POINTS

- Global health and urban health are more related than often understood.
- Health care in underserved urban areas can benefit from the same attention to engagement found in global health professionalism.
- Sustainable and successful health care interventions require community engagement.
- The provision of health in underserved areas needs to pay more attention to the social, political, economic, and other cultural forces impacting the communities served.

INTRODUCTION

Health is most commonly defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."[1] That this definition has persisted, unamended, since its initial adoption by the World Health Organization in 1948[2] illustrates the strength of this understanding. Although this foundational definition of health remains unchanged, academic medicine has broken down the broader definition into specialized foci, such as rural, urban, global, international, academic, and community-based health. One of the reasons for this differentiation is to direct training that better serves a more well-defined population. It also, however, has led to territory marking and conflict over medical education and the practice of health care. What follows is an exploration of the opportunities for pediatricians to think, practice, and teach at the intersection of two of these fields: global and urban health. Although not commonly thought of as similar in the professional community or in the literature in general, each can learn much from the other to further patient center the care provided. The concepts we put forward in this Introduction are summarized in **Fig. 1**.

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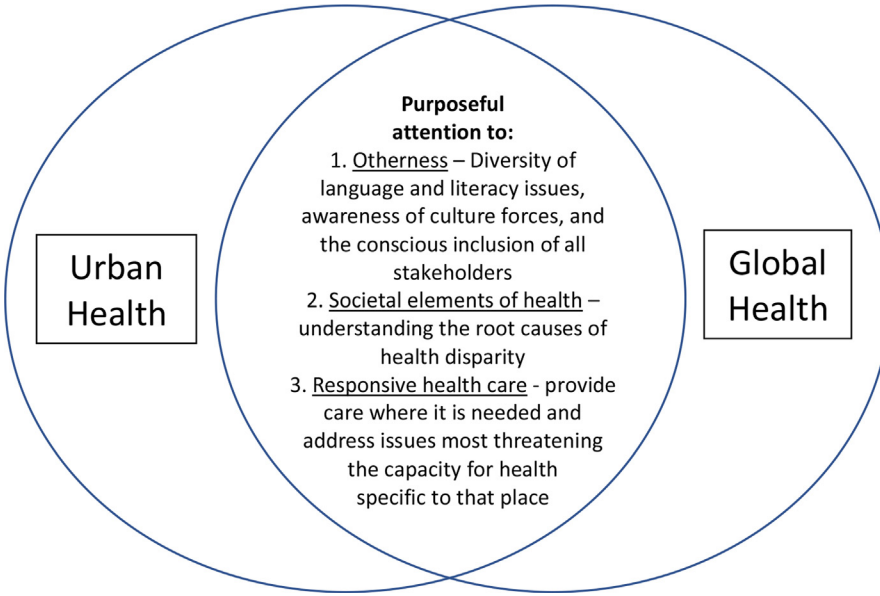

Fig. 1. The intersection of urban and global health.

Global health "feels" different from many of the other foci because it involves providers intentionally traveling to a foreign location and working with people who are usually very different from themselves in terms of general demographics and worldview. Global health can be very focused on the "other," a generic term used to describe people not only from a different place, but with different experiences and worldviews. Global health's conscious awareness of this otherness is reflected in its educational competencies, including attention to language and literacy issues, awareness of culture forces, and the conscious inclusion of all stakeholders in deciding how, when, and where to provide care.[3,4] Such purposeful attention to the diversity of the other is central to professionalism within global health.

Urban health has not carried that same sense of other. Disparities that exist in urban communities have historically been seen to result from factors related to personal accountability, and a common proposed remedy includes highlighting the need for behavioral change, accomplished with education.[5] More recently, there has been an understanding of the role of social determinants on health and on the impact on health of societal ills like poverty, food insecurity, poor educational systems, and transportation issues.[6,7] Despite their importance, these factors are too often considered to be out of the purview of the health care provider, and thus not factored into the structure or practice of health care. In addition, much less emphasis is placed on a sense of other, even though the people providing the care in urban distressed communities are rarely from the communities they are serving. Urban health care is not generally provided in a way that responds to what the community needs or how the community would best be able to take advantage of the services. Health care in urban, distressed communities is delivered, just as all other health care in the United States is delivered: it is centered around the providers and is more often reactive to disease rather than directed at providing opportunities for health.

Perhaps the biggest difference between global health and urban health practitioners is in how each understands the root causes of health disparities. It is our observation, stemming from a collective of more than 50 years of experience in urban academic

medical centers, that providers, as well as the other stakeholders in a health care system, approach the disparities within our urban underserved populations as having their root causes in the beliefs, attitudes, and behaviors of our patients themselves. Such an approach is in many ways distinctly American, given that the United States is a country whose identity is rooted in an ideology of equality and equal opportunity. Under such a worldview, individuals who are less well off, less healthy, or less educated are so because they have failed to pull themselves up by their bootstraps. Global health practitioners, in contrast, do not generally think of the particular patients they see as being responsible for their need for health care. Fault for poor health is found in political, economic, and other social forces and policies that disproportionately and negatively impact vulnerable populations. We present the argument that understanding social determinants and their history as a primary causal mechanism is a skill from the global health toolbox that those of us working in urban health need to embrace. If we can better understand the factors that lead to unquestioned and uncritical acceptance of medical need of patients in global settings, we can perhaps replicate those factors and, thus, be better positioned to achieve similar successes.

A second major difference between global and urban health is seen in how each field approaches their respective populations. Urban health care institutions rarely define the population they serve as the community surrounding the health system, which is perhaps why residents of communities in the shadows of urban academic medical centers are often the least healthy individuals within a city. It is our contention that one of the main reasons this disparity exists is due to the secondary safety net systems that urban health centers create to serve the urban distressed community. A safety net system is not tailorable to any particular community, but is more of a minimal public health requirement. Following a different approach, global health practitioners provide care where it is needed and address the issues most threatening the capacity for health specific to that place. Such an approach could mean addressing communicable diseases and vaccination, facilitating clean drinking water, aiding access to sustainable nutrition, or fostering the ability to provide long-term access to medications. Global health provides health care specific to the needs of the community they are serving and does not have a safety net mentality for the communities they serve.

We are arguing that there is a usefulness to exploring the intersection between global and urban health, and that global and urban practitioners and educators can learn from each other to provide better, more focused care in each specific setting. To illustrate this point, we focus on 2 specific guiding principles within global health—otherness and engagement—that, if applied to the provision of urban health, would greatly improve health equity in urban distressed communities. We discuss 3 specific innovative interventions that apply these principles and reflect this promise. Finally, we review the current movement within academic medical centers in the United States to concentrate on urban health–related curricula and how that impetus can help to inform a more sustained approach to effective and comprehensive global health programs throughout the world.

REFINING THE DEFINITION OF URBAN HEALTH

Before continuing, we need to clarify what exactly we are referring to when we use the term urban health. The term refers, at its most basic level, to health in urban spaces. It is often contrasted with rural health, and refers to the provision of health care in areas that are dense and diverse, with economic, health, and other social disparities. Although not often overtly stated, urban health does not apply to all populations within urban centers. Residents of wealthier urban neighborhoods with comprehensive

private insurance and accessible high-quality health care do not merit particular concern in medicine because these individuals do not lack access, insurance, or other resources related to health; in other words, they have the capacity to be healthy.

The lack of full capacity to be healthy is more prevalent in urban communities with fewer socioeconomic, educational, and financial resources, with limited access to healthy foods and safe streets, and with less political and social power. Such social determinants are critical for the capacity to be healthy because social and economic forces are overwhelmingly responsible for any individual's overall morbidity and mortality[8] (Fig. 2). A life expectancy project sponsored by the National Center for Health Statistics and the Robert Wood Johnson Foundation starkly illustrated the correlation of life expectancy with zip code.[9] Our city, Philadelphia, has the distinction of being the city with the second greatest life expectancy disparity in the United States; residents of neighborhoods separated by 4.4 miles experience a 20-year disparity in life expectancy.

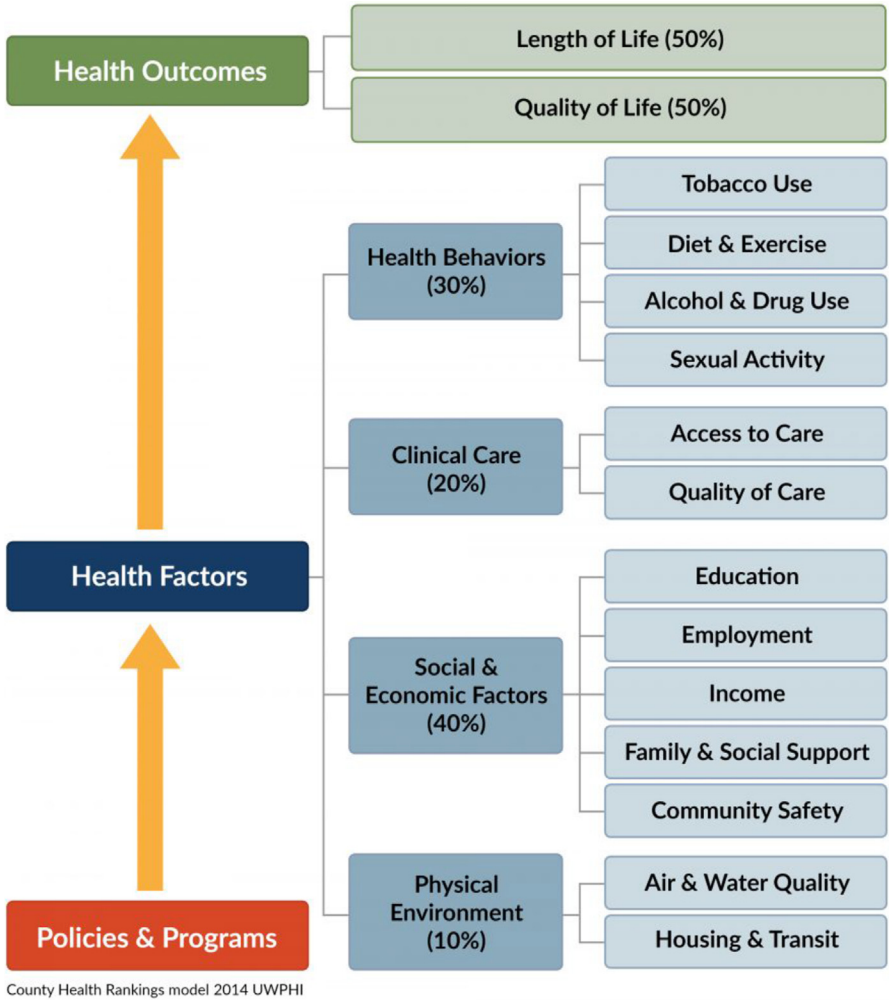

Fig. 2. County health rankings model. (*Courtesy of* University of Wisconsin-Madison Population Health Institute.)

The repeated examples of such extreme disparities over small geographic areas supports the argument that geographic location is a stronger predictor of health than race, gender, educational attainment, insurance status, or any other demographic variable alone. Geographic location is, however, complexly intertwined with these other demographics, and the variables cannot be so easily disentangled in life as they can in epidemiologic statistics. What this means is that people of color, poor people, and otherwise marginalized individuals in the United States are living in circumstances as disparate and distinct from each other as the United States is to developing countries. As inequities in the United States continue to increase, the phrase "the local is global" takes on new implications, and it is to these that we now turn.

Otherness

The health care workforce in the United States does not generally reflect the people who live in our urban, distressed communities. Very few practitioners live in the neighborhoods that surround our urban academic medical centers, making it more likely that they know relatively little about the history, context, strengths, and challenges of the communities where their patients live. Seeing community members only in the clinic, in moments of need, pain, and powerlessness, can result in significant bias, poor communication, a lack of trust, and an eventual lack of empathy. In stark contrast, before global health practitioners embark on a project, there is an expectation that they learn the history, strengths, challenges, culture, and context of the community to which they are traveling.[10] This process allows for a greater sense of empathy, better communication, more trust, less marginalization, and less bias.

In 2012, our center created a master of arts degree in urban bioethics (www.temple.edu/bioethics) with the explicit purpose of looking at disparities in health as not only inequitable, but as unethical. We also wanted current and future health care providers (as well as researchers, administrators, and others) who are not knowledgeable about the urban community in which they find themselves, to gain a methodologic toolbox to become informed and be aware of otherness. Thus, students spend the second year of the program embedded into the community to learn from and work with community members. The goal of this course is to learn how to do this in any urban, distressed setting. Our graduates have shared with us how this experience has changed their practice of medicine, relieving some of their moral distress and better working with patients to successfully foster health. In light of this success, we have started a less intense, but longitudinal and mandatory, service learning program for all medical students. We are in the process of evaluating whether this experience changes their attitudes toward and understanding of urban communities as well as their ability to maintain empathy throughout their practice.

Engagement

Hospitals in rural America, suburban America, and urban America look and function very similarly. However, the issues impacting health in these distinct areas differ dramatically. Global health concentrates on a specific geographic area and focuses on what is most affecting that particular area, whether it be an infectious epidemic, a resource problem like clean water, a policy impacting health, an educational need for providers, or many other possible scenarios. They then direct the work and care delivery to the most pressing needs of that particular place.[11,12] Our center has taken this lesson and applied it to the communities in the shadows of our academic medical center. Our first example illustrates a success story that began by listening to community voices, and the second focuses on an educational program founded on this principle.

Philadelphia CeaseFire

In 2010, our center completed a needs assessment of our urban catchment area that included a number of focus groups with influential and connected community members to learn what this community felt were the most pressing issues for them regarding health. Instead of diabetes, cardiovascular disease, and obesity, 3 clinical conditions whose prevalence is most starkly evident in epidemiologic studies of the area, violence was the most concerning problem for the majority of the residents, followed closely by the related issue of opportunities for their children. It is our contention that our ability to see these nonclinical factors as major health issues in the same way as global health providers see epidemics and clean water as central to providing health is imperative if urban centers are ever to positively address health disparities. Therefore, as a result of this information, we created a violence prevention model based on the premise supported by the Centers for Disease Control and Prevention that violence is a public health epidemic.[13] This program, Philadelphia CeaseFire (www.philaceasefire.com), hires ex offenders and trains them in conflict mediation so they can serve as credible messengers in their own communities, acting much like Centers for Disease Control and Prevention workers do in an epidemic: intervene when violence is happening, mediate people away from violence toward opportunity, and "vaccinate" high-risk individuals with education and employment. The model is based on Cure Violence, a program developed by an infectious disease physician, Dr Gary Slutkin.[14] In the last 2 years, our results show a 30% decrease in violence in areas of the city that had CeaseFire teams versus areas that had similar rates of violence and did not have CeaseFire teams. If implemented throughout our urban distressed community, this would result in 400 fewer shootings per year. Very little improves access to health than not being a victim of violence.

The Pincus Urban Health Fellowship

To help health care providers in urban settings be better prepared to respond to the needs of urban communities, we partnered with a local philanthropic organization to create the Pincus Family Foundation Pediatric Urban Health Fellowship. This program is directed toward junior clinicians interested in learning the skills needed to create, fund, and implement innovative programs based on community engagement principles that will work to improve the overall health of children in urban, distressed communities. We graduated our first fellows in 2018. Their research, presented herein, reflects many of the themes we are discussing.

The role of trauma-informed care in urban communities The origin and evolution of attention to Adverse Childhood Experience (ACE) is an example of how an engaged approach to addressing an "epidemic" more evident in urban distressed communities can yield incredible insight. ACEs were first defined in the late 1990s by Felitti and associates[15] based on their survey of middle class adult patients in the Kaiser Permanente Health System in Southern California that correlated different types of stressful experiences in childhood with chronic disease and health outcomes later in life. With 2 waves of survey data covering more than 17,000 adults, these original ACE studies found that two-thirds of participants had exposure to at least 1 ACE, and 1 in 9 had an ACE score of 5 or more.[16] In addition to revealing that ACEs were more common than many had expected, the study found a graded relationship between number of ACEs and adult risk behaviors and diseases[15,16] (**Fig. 3**).

The import of these powerful results has limited generalizability in 2 respects, however. Demographically, the original ACEs studies surveyed primarily white, upper middle class, college educated, and insured individuals. Individuals living and

Fig. 3. Adverse childhood experiences pyramid. (*From* Substance Abuse and Mental Health Services Administration. Adverse Childhood Experiences. Available at: https://www.samhsa.gov/capt/practicing-effective-prevention/prevention-behavioral-health/adverse-childhood-experiences. Accessed January 31, 2019.)

working in more diverse urban environments also found that the ACEs from the original study did not address their neighborhood and community experiences that created significant sources of stress. This concern led to the development of the Urban ACE study in Philadelphia.[17] Through literature review as well as qualitative data from African American and Latino youth in Philadelphia, the themes of the expanded ACEs were developed to include factors related to social location, such as exposure to community violence, experiencing racism, living in an unsafe neighborhood, experiencing bullying, and having a history of living in foster care (**Fig. 4**). The results of the Urban ACE study showed that the prevalence of the conventional ACEs was higher in the Philadelphia dataset compared with the original and most other subsequent

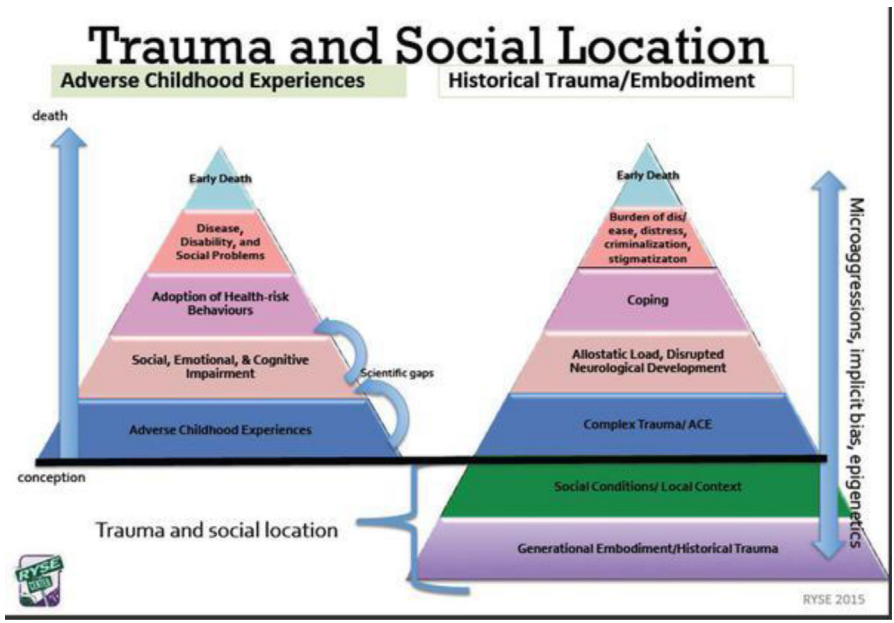

Fig. 4. Linking ACEs with social location and historical trauma. (*From* RYSE Center. Available at: https://www.acesconnection.com/blog/adding-layers-to-the-aces-pyramid-what-do-you-think. Accessed January 31, 2019.)

studies: 72.9% of Philadelphians had at least 1 conventional ACE, 47.6% had 1 to 3 ACEs, and 20.7% were found to have an ACE score of 4 or more. For the 5 Expanded ACEs, they found that 63.4% of the population surveyed had at least 1 exposure, 50% had a score of 1 to 3 ACEs, and 13.4% had 3 or more. A further analysis of the expanded ACEs found that 40.5% of participants had witnessed community violence, 34.5% experienced racial discrimination, and 27.3% felt their neighborhood was unsafe. The most distressed, urban neighborhoods in Philadelphia are in north Philadelphia, surrounding our health system, and ACE surveys from these communities reported that more than 48% of adults experienced 4 or more adverse childhood experiences.

Despite the scope of research on the impact of toxic stress, there remain children who succeed despite difficult circumstances. Resilience, or the ability to cope or adapt in response to risk, adversity, or challenge, has come to be the most commonly understood factor for such success. It is not inherent or unique to certain individuals, but is a dynamic concept that builds on individual strengths rather than emphasizing deficits. Resilience develops over time and can be fostered.[18] Many investigators make the assumption that greater resilience can mitigate the detrimental effects of ACEs; however, the correlation of resilience scores with long-term health outcomes is largely unknown. Two adult studies and 2 pediatric studies, all published in Europe, seem to show better health outcomes with higher measures of resilience,[19–22] but the question of whether resilience can mitigate the health effects of ACEs remains unexplored. Based on this existing knowledge and the current knowledge gap, we developed a research study, currently in the data collection phase, to examine the relation between resilience scores, ACE scores, and health outcomes in adolescents, particularly blood pressure, body mass index, and depression.

The results of this study can help us to direct where to focus intervention programs. If greater resilience is found to be associated with better health outcomes, then building resilience is a beneficial intervention to pursue. Additionally, with the resilience tool being used in this study we can further break down the resilience score into subscales looking more in depth at personal contributors, family contributors, and community contributors to resilience. This process can also help further refine where to target interventions. The data suggest that, for an urban health center to become engaged in addressing the most pressing issues of that community, the health center must become a trauma-informed institution. Data from decade long studies funded by the Robert Wood Johnson Foundation found that trauma-informed practices had a statistically significant positive impact on a community's overall health.[23] A trauma-informed approach is defined by the Substance Abuse and Mental Health Services Association as "a program or organization that 1. *Realizes* the widespread impact of trauma and understands potential paths for recovery; 2. *Recognizes* the signs and symptoms of trauma in clients, families, staff, and others involved with the system; 3. *Responds* by fully integrating knowledge about trauma into policies, procedures, and practices; and 4. Seeks to actively resist *re-traumatization.*"[24] Beyond the clinic or health system culture shift, work can continue to be done at the policy level creating more just systems that fight inequity in resources, access to schools, housing, and health care, therefore preventing some ACEs from occurring in the first place. We will also benefit from more engaged collaboration with schools, community programs, and places of worship, among others, to create a safety net for children and their families to help them nurture, grow, protect, and heal. We should strive for a more just, equitable society. That goal means addressing the inequities associated with ACEs now, and also addressing ACEs, offering healing, and resilience building to prevent further inequities in the future.

Using a community-engaged app to promote health literacy Health literacy is a complicated concept at the intersection of health and education. It is defined by the Institute of Medicine as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions."[25] More recent definitions have begun to consider health literacy as an interaction between the demands of the health system and the skills of individuals, highlighting the skills of all parties involved in communication, providers included.[26]

Low health literacy is associated with limited health-related knowledge and comprehension, decreased mammography screening and influenza immunizations, increased emergency care visits and hospitalization rates, higher mortality rates, and increased health care expenditure.[27] Given the enormous costs of limited health literacy on economics and outcomes, it is not enough to simply address health literacy by changing our communication practices; we must also screen for health literacy levels and provide tailored education. When health literacy is thought of as a clinical problem, it essentially becomes a risk factor for poor outcomes. Therefore, we should screen for it in the same way we screen for other risk factors, like high blood pressure. We can also look at health literacy from a public health standpoint, considering health literacy as an asset that can be built on, like a diet that can be made healthier. Health literacy becomes "a means to enabling individuals to exert greater control over their health and the range of personal, social, and environmental determinants of health."[28] The public health model also starts with health literacy assessment, but the focus of the health care provider now shifts from only modifying communication to also helping patients to develop knowledge and skills in multiple areas that affect health. It allows for a broader range of interventions, including outside of the clinical setting. This process is very important, because only a very small portion of a person's health behaviors take place in the presence of a health care professional. In US health care today, it is often the emergency department that links individuals in their homes and communities with the health care institutions, and thus provides a potentially fruitful avenue for fostering health literacy.

In 2014, American children aged 17 years and younger made nearly 20 million visits to emergency department, which averages to nearly 54,800 visits per day.[29] It is estimated that between 58% and 82% of these visits were for nonurgent complaints, defined as one where the patient could "safely wait 2 to 3 hours or be seen by their regular doctor the next day."[30] Parents of children presenting to the pediatric emergency department (PED) for a nonurgent complaint are more likely than average to have a low health literacy level, slightly more than 50% per 1 year-long study of 1 urban PED,[31] compared with only 26% of parents nationally.[32] Low health literacy has been associated with a 50% increase in PED visits.[31]

One reason that parents may bring their children to the emergency department is that they overestimate the degree of illness.[33] If parents with low health literacy tend to overestimate their children's degree of illness and this leads to increased PED visits, then health literacy interventions, designed to enable individuals to exert greater control over their health, could be a potential intervention. Several studies have shown that educational interventions can be effective in fostering parents' confidence about their children's health and for eliminating unnecessary and costly PED visits.[34,35]

In an attempt to address overutilization of the emergency department, we have customized a pediatric symptom-checking smartphone app for our community. It supports decision making during acute illness, provides patient education, and is more convenient to use than a book or pamphlet. The content is owned by a company called Self Care Decisions (https://www.selfcare.info/) and is reviewed and updated at least yearly. Content is derived from the Schmitt -Thompson protocols, which are used by 90% of medical advice lines and more than 90% of pediatric

practices nationally for triaging patients and providing advice. The symptom checking app offers the same advice on a mobile device platform and is written for caregivers on a sixth-grade level per the standards of the Centers for Medicare and Medicaid Services. It includes symptom care guides to help families make decisions about what level of care is needed (eg, emergency department vs pediatrician office) and it offers advice on both first aid and specific wellness and behavior topics. Our app uses the content described and has been customized for the North Philadelphia community. It lists resources such as breastfeeding support and local food banks. It also has a mapping feature to locate the nearest emergency department or urgent care center. In addition, 9-1-1 can be dialed directly through the app, as can a mental health crisis line. Our app allows clinicians to provide their patients with the tools they need to start making better health decisions. From an ethical standpoint, this supports a person's agency, or their capacity to act independently and make free choices. The more a person understands different options available to them, the better able they are to make a choice for themselves. Empowering people to make good choices can contribute to health equity. Meeting a person where they are on their own literacy level, and then providing them with appropriate educational materials in a way that encourages them to make the healthiest decisions possible could be one step toward overcoming health disparities. It is our hope that a symptom-checking smartphone app will prove to be a useful tool for achieving this goal. Data is being collected to understand how families use our app, and we expect to publish within the next two years.

SUMMARY

The most effective way to support the health of a community is to be sure that the community has access to a culturally appropriate, inclusive, well-educated health care workforce. Many medical schools and academic medical centers are beginning to focus their curricula around specific foci of health. Primary care tracks have a long history of success in training providers to be better prepared primary care physicians, especially in rural communities, and there are a number of programs dedicated to creating physician–scientists as well. Medical schools are increasingly looking at the value of urban and global health care tracks as well.

Although it is valuable for practitioners to be educated in a longitudinal global health experience before taking part in a global health program, it would be preferable for people from the community that needs service to be trained to provide that care, and global health programs are beginning to look at the importance of this educational model.[36] Urban health tracks are similarly working to build pipelines in urban communities that support and encourage young people through STEM education to successfully complete medical training. Such programs diversify the health care workforce so that more providers share context with more of the patients in urban, distressed communities. Urban programs need to help communities most in need around the world to develop more complete STEM programs as well as supportive, inclusive provider education that can help to build a workforce for every community across the globe that is more representative of that community.

No More Safety Net Hospitals

Historically, and before the rise of larger urban academic medical centers, health was directed to the community in which the providers reside, meaning that geography bound the provider with their patient population. Urban health centers see themselves

Fig. 5. From a safety net hospital to a trauma-informed health system.

at a disadvantage if they sit in an urban, distressed community because the majority of the people living in such areas receive medical assistance, and it is much more difficult for a health system to remain fiscally sustainable when a majority of their reimbursements are coming from Medicare and Medicaid. As a result, health systems structure themselves to attract a more lucrative patient, one with better insurance. Care provided to the local community becomes a secondary concern when strategic decisions are guided primarily by fiscal sustainability. The term safety net hospital is used to describe such institutions, and cities and institutions speak in ways demonstrating pride in being able to provide such needed safety net care. It is our contention that this is an unethical perspective to take. We should instead provide care to the direct community, fostering the capacity to be healthy with our strengths working in conjunction with whatever resources they have available (**Figs. 5** and **6**). We need to concentrate on the neighborhoods in our urban distressed communities and stop competing for the same, better insured patients. This effort will not only result in better health outcomes, but will also save significant amounts of money in health care expenditures. Such an approach fosters a holistic view of health both locally and globally.

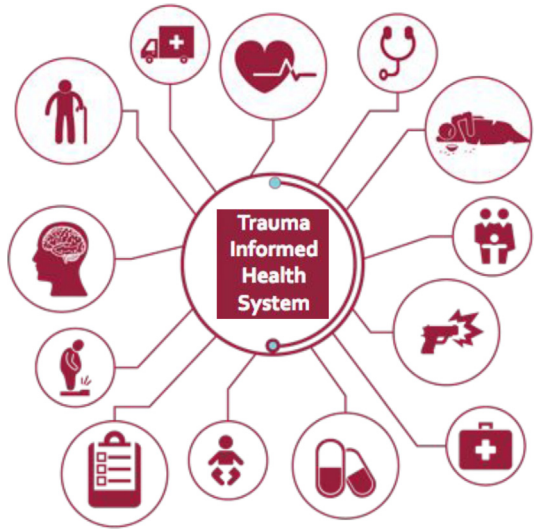

Fig. 6. Comprehensive nature of a trauma-informed health system.

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