What Can Public Health Programs Do to Improve Health Equity?

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Health inequalities are disparities in health, reflecting either differences in access to a range of promotional, preventive, curative, or palliative health services or differences in outcomes including disability, morbidity, and mortality spanning physical, mental, and social health. The causes of inequalities in health are dynamic and reflect multiple determinants. Health inequities, however, are differences in health that are judged to be avoidable, unfair, and unjust.[1] Health inequities are often revealed through systematic patterns or gradients in access or outcomes across populations with different levels of underlying social advantage or disadvantage—that is, wealth, power, prestige, or other markers of social stratification.[2]

Numerous reviews across low-, middle-, and high-income countries continue to document that health inequalities are related not only to biological or genetic factors, but also to social factors that are amenable to policy and are potentially avoidable given cross-group or cross-population comparisons. Studies most often document differential access to health services based on an individual's socioeconomic position or place of residence, rather than on need,[3–6] although other approaches exist.[7] The place in the social hierarchy that individuals and groups occupy, combined with the epidemiological environment, then determines exposure and vulnerability to health-enhancing or health-damaging conditions in daily life (e.g., where people are born, grow, live, work, and age).[8] The underlying causes are complex, often reflecting systematic social, political, historical, economic, and environmental factors that also interface with biological factors. The term "social determinants" is often used as shorthand for all of these factors and is relevant to communicable and non-communicable conditions alike.[9] An added complexity is that negative or positive impacts of social determinants of health (SDH) can be accumulated during a lifetime, alter health trajectories across the life course, and be transferred across generations.[10]

Moreover, labeling an inequality as an inequity also reflects a value judgment. This labeling is sometimes made explicit by deliberating on facts, clarifying underlying values, and designing remedial actions. Often, however, there is no

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process to discuss and debate what is observed, either because there is limited information or a narrow range of perspectives required for meaningful deliberations. The result is often inaction, with inequalities (and inequities) stagnating or getting worse. Values that are held by individuals, interested groups, experts, or policy makers, and the balancing of priorities, determine to what extent an objective epidemiologic fact is avoidable, unfair, and unjust and if anything will be done to address the root cause or even the symptoms. Values also shape who has the responsibility to act and the type of response that is undertaken.[11]

Values can be enshrined in international norms. Two important documents set out rights for attaining the best average level of health and the smallest feasible differences among individuals and groups within countries and around the world: the Constitution of the World Health Organization (WHO)[12] and the Universal Declaration of Human Rights.[13] Both documents share principles of nondiscrimination and equal opportunity, outline the right to health, link health outcomes with SDH and other social goals that enhance population well-being, and address responsibilities of duty-bearers, primarily member states (e.g., governments) and those who act on their behalf, such as intergovernmental organizations.

Incorporating these principles and rights into the frameworks and practice of public health is possible. Moreover, public health professionals from around the world put equal weight on achieving improvements in overall health (i.e., goodness) and the distribution of health (i.e., fairness) as a way to measure health systems' performance.[14] Improving fairness includes documenting health inequalities, identifying inequities, advocating for action, and ensuring that action is guided by evidence and ethics.[15–17] Many contribute to this effort. As part of the work contributing to the WHO Commission on Social Determinants of Health (hereafter, the Commission), WHO documented—through new models and available data from demographic and health surveys, or equivalent surveys—that at least 25% of health inequalities (within-country differences) are due to a lack of access to effective health services.[18,19] These health services often include essential services as recommended by WHO or national policies, including access to essential medicines or antenatal care visits. This percentage increases when adding in other basic public health interventions, such as access to safe water or sanitation. Additional SDH contribute to about another 50% of the total health inequalities documented, suggesting that, depending upon the process or outcome of interest, about 75% of health inequalities could be considered unfair and potentially avoidable, thus labeled as health inequities.

The evidence on the existence of health inequities is overwhelming and beyond the scope of this article. Many argue that it is reasonable to give priority to addressing health inequities—pointing out that cross-group and cross-population evidence documents what is potentially avoidable—whether as a gradient across an entire population, as a comparison between the worst-off and best-off groups in a population, or comparisons across populations. Even if different groups draw the line between inequalities and inequities at different points, the questions policy makers, practitioners, and interested groups ask are, "What can be done to reduce unfair health disparities?" and "How will we know if we succeed?" In fact, the stated goal of the Commission was to leverage policy change by turning existing public health knowledge into actionable policy agendas.[20]

Building on the work of others,[21,22] the Commission adopted a conceptual framework to illustrate broader determinants of health and the causal pathways to the distribution of health (Figure 1). This model illustrates the pathways by which SDH affect both health outcomes and distribution, makes explicit the linkages among different types of health determinants, and explains the ways social determinants contribute to health inequities among different groups in society given the increasing evidence of significant social stratification in health status. This conceptual framework served as the departure point on how to operationalize or make concrete monitoring and assessment, with the initial purpose of identifying pathways to different health or illness outcomes, and to distinguish between the causes of health improvement and the causes of health inequities.[23]

From an operational perspective, an approach to improve health equity can address what the health sector can do and what other sectors can do, sometimes working together.[24] Two important aspects include horizontal and vertical equity: applied to the health field, ensuring vertical equity implies that individuals with different needs for health services are treated differently, while horizontal equity suggests that those with equal needs are treated in a like manner.[25] Broadly, an SDH approach can mean action by governments that can reduce health inequity by ensuring the provision of basic services, redistributing resources, and protecting and promoting human rights such as health care, education, sanitation and safe water, and the right to a decent standard of living.[26] Within the health sector, governments can directly influence the degree to

which public health programs are mandated to act on broader determinants of health.

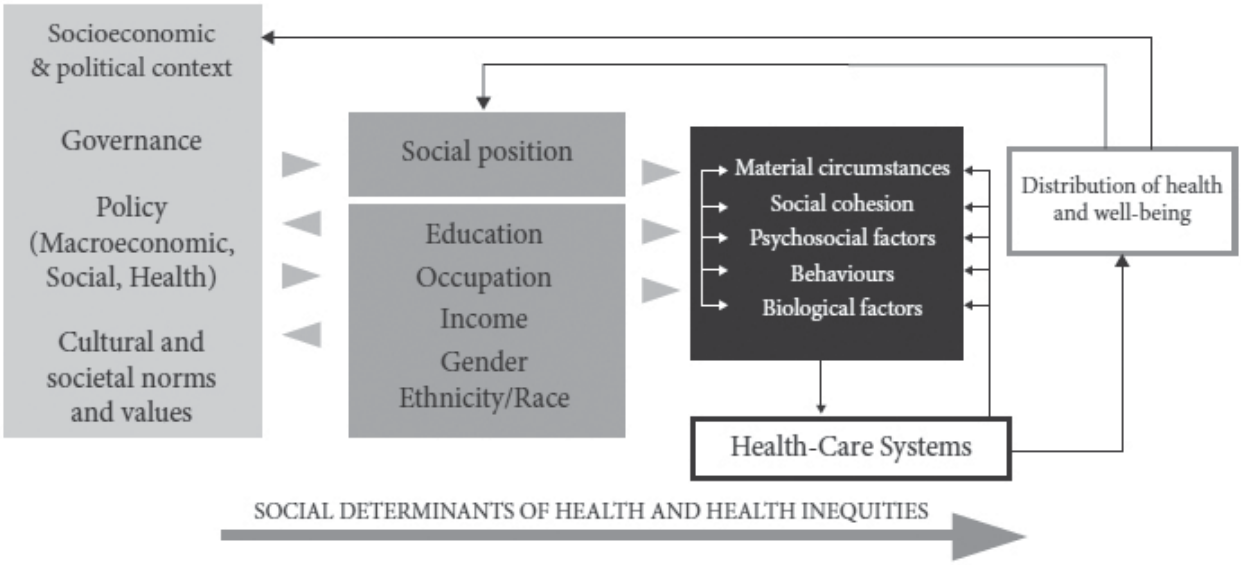
The Commission chose nine topical themes (globalization, women and gender, social exclusion, early child development, urban settings, employment conditions, health systems, public health conditions, and measurement and evidence) and supported the creation of global knowledge networks to synthesize existing global evidence. The aim was to identify effective and appropriate actions on what works to reduce health inequities in each area, with eight of these networks comprising experts from around the world.

For the ninth network, and the focus of this article, WHO established a network of its major public health programs to investigate how it could enable its own condition-specific programs to (*1*) widen the discussion on what constitutes public health interventions by identifying the SDH inequities and appropriate interventions to address the situation and (*2*) expand on existing strategies and move, in a responsible and systematic way, to innovate and suggest new paths of action. Developing the components and steps to take would then be referred to as adopting in practice a social determinants approach for public health programs.

PRIORITY PUBLIC HEALTH CONDITIONS KNOWLEDGE NETWORK

As a starting point, putting into practice an SDH approach required establishing a knowledge base and then quickly and pragmatically moving on to explore and widen potential avenues and options for action. Through extensive discussion and sharing of experiences, the Priority Public Health Conditions Knowledge Network (PPHCKN)—comprising WHO

Figure 1. World Health Organization Commission on Social Determinants of Health conceptual framework[a] linking social determinants of health and distribution of health[b]



[a]The social and economic context (e.g., employment conditions, national taxation schemes, and global trade agreements) gives rise to a set of unequal socioeconomic positions. Social position reflects the unequal distribution of materials and other resources in every society, which can be portrayed as a system of social stratification or a social hierarchy, including educational achievement, income level, occupational status, and gender, often captured by markers of discrimination (e.g., race/ethnicity). These social positions are characterized by differential exposure to health-damaging conditions and differential vulnerability, in terms of health conditions and material resource availability. Social stratification likewise determines differential consequences of ill health for more and less advantaged groups. The framework also highlights a collection of intermediary factors covering differential exposures, vulnerabilities, and consequences as playing an important part in the explanation of health inequities, which include the health system itself. The outcomes that emerge at the end of the social "production chain" of health inequities are the measurable impacts of social factors on comparative health status and outcomes among different population groups (i.e., health equity). Source: Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Discussion paper for the Commission on Social Determinants of Health. Geneva: World Health Organization; 2007. Also available from: URL: http://www.who.int/social_determinants/resources/csdh_framework_action_05_07.pdf [cited 2013 Jul 8].

[b]Source: World Health Organization, Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health. Final report of the Commission on Social Determinants of Health. Geneva: WHO; 2008. Also available from: URL: http://www.who.int/social_determinants/thecommission/finalreport/en/index.html [cited 2013 Jul 8].

public health programs and their staff addressing alcohol, cardiovascular diseases, child health, diabetes, food safety, violence and injury prevention, maternal health, malaria, mental health, neglected tropical diseases, nutrition, oral health, sexual and reproductive health, tobacco, and tuberculosis (TB)—realized that the vehicle for change to improve health equity, over which condition-specific programs would have the most direct influence, was the programs themselves. The focus, therefore, was on what programs can do and less on what other entities should do, or at least what needs to be done by the health sector before asking other sectors to do their part.[27]

The following set of questions guided the focus on action and innovation:

- What can public health programs do individually?
- What can public health programs do collectively?
- What can public health programs do vis-à-vis other sectors?
- What must be done differently?

With this overview, this next section highlights the process used by the network and general findings on what can be done by the health sector through condition-specific programs to address health inequities using an SDH approach.

Learning from the PPHCKN

Health programs are integral components of health systems. Most resources for health in countries are directed toward disease control and risk factor reduction programs, which often focus only on biomedical interventions. Dealing with SDH and health inequity is often challenging to medical and other clinically oriented professionals because the causes of the observed symptoms and differentials are frequently rooted at a distance in time, field of policy, or expertise. Moreover, interaction with the health system, including condition-specific programs, might either generate further inequities in process, outcomes, and consequences or improve inequities.[28] Even if efficacious biomedical interventions (e.g., vaccines, antibiotics, or statins) are potentially available, a broader framework for action is needed to ensure that programs achieve both goodness and fairness and do no harm in terms of increasing inequities.[4] The ongoing difficulties to sustain childhood immunization coverage, meet the polio eradication goal, or reduce TB incidence illustrate clearly the limitations of a standalone biomedical approach. Thus, agreeing on the need to enlarge the approach remains an important first step.

To better understand and more effectively and practically intervene, the PPHCKN then took the Commission's conceptual framework (Figure 1), further developed it into five operational levels, and identified common social determinants as well as promising entry points for action within each level. Drawing on available evidence, the participating programs addressing different conditions, risk factors, or outcomes (e.g., alcohol, cardiovascular disease, health and nutrition of children, diabetes, food safety, mental disorders, neglected tropical diseases, oral health, unintended pregnancy and pregnancy outcomes, tobacco use, TB, and violence and unintentional injury) defined causal pathways, analyzed different distributions of the contributing determinants, and then identified promising entry points for interventions within each of the five levels that could reduce inequities in determinants, including access to services and health outcomes.[27] At each level, social determinants common to half or more of the analyzed 12 public health condition groups were identified (Figure 2).

Evidence and extensive deliberations concluded that the programs to date mostly focused on treatment and partially on vulnerabilities of different groups. Of the participating programs, only violence and injury prevention and tobacco were in any significant way addressing upstream social determinants that shaped exposure levels. Recognizing the limitations or boundaries of current action constitutes a second step.

Two things we learned across the public health programs included (*1*) a large unexploited potential for synergies across programs exists to intervene on common social determinants and (*2*) improving the level and distribution of health in general and for different conditions in particular will require upstream action. Programs also identified points of resistance to change and managerial challenges. Accepting that programs will require adjustments and redesign (e.g., to the technical competencies, modes of operation, and program management) followed. A bottom-up approach to identifying the practical components of a social determinants approach for each program, and then commonalities for action across programs, comprises the third and fourth steps.

Specifically, each program documented the relevance of a social determinants approach to prevention and control and the reduction of health inequities, including cardiovascular disease, which serves as an example.[29] Non-communicable diseases are responsible for many of the increased health inequities observed within countries, as disease distributions show a systematic pattern across the entire population (akin to an inverse dose-response gradient) by socioeconomic status (SES), with coronary heart disease and cerebrovascular disease (CVD) being major contributors to

Figure 2. Summary of the PPHCKN analysis using the five-level framework to identify common determinants and promising entry points for action[a]

Level of analysis (structural level)	*Common social determinants occurring on the pathway of ≥6 of the 12 conditions*	*Promising entry points for action*
Socioeconomic context and position (society)	• Globalization and urbanization • Social status and inequality • Gender • Minority situation and social exclusion • Rapid demographic change, including aging population	• Define, institutionalize, protect, and enforce rights, and empower to exercise • Redistribute and regulate power and resources within and between countries • Capitalize on positive effects and counteract negative effects of modernization and global integration
Differential exposure (social and physical environment)	• Social norms • Community settings and infrastructure • Unhealthy and harmful consumables • Non-regulated markets and outlets • Advertisement and television exposure	• Social institutions: norm-setters and keepers • Community infrastructure development (roads, transportation, water, sanitation, waste management, and electricity) • Availability of products for consumption, including diversity, security, safety, and marketing
Differential vulnerability (population group)	• Poverty and unemployment • Hard-to-reach populations • Health-care seeking and low access to health care • Low education and knowledge • Family and community dysfunction • Food insecurity and malnutrition	• Empower: offer social, structural, and economic opportunities, and educate • Compensate: target and subsidize • Public health outreach: use of health services, co-conditions, health products, and licit stimulants
Differential health-care (individual)	• Poor-quality and discriminatory outcome treatment and care services • Limited patient interaction and adherence	• Medical and administrative procedures (patient adherence) • Provider behaviors and practices (provider compliance) • Compensate: target issues and dedicate resources
Differential consequences (individual)	• Social, educational, employment, and financial consequences • Social exclusion and stigma • Exclusion from insurance	• Coping: compensate and empower (e.g., social welfare and rehabilitation) • Defining, institutionalizing, and protecting rights • Social and physical access (e.g., transportation, institutions, and workplaces)

[a]Source: Blas E, Sivasankara Kurup A, editors. Equity, social determinants and public health programmes. Final report of the Priority Public Health Conditions Knowledge Network of the Commission on Social Determinants of Health. Geneva: World Health Organization; 2010. Also available from: URL: http://www.who.int/social_determinants/themes/prioritypublichealthconditions/en/index.html [cited 2013 Jul 8].

PPHCKN = Priority Public Health Conditions Knowledge Network

disease burden across high,- middle-, and low-income countries. CVD and its risk factors were originally more common in upper socioeconomic groups in the developed world, but CVD and a major risk factor, high blood pressure, have gradually become more common in lower socioeconomic groups during the past 50 years. The same shift is now being replicated in lower- and middle-income countries, just at a faster pace. The inverse association between SES and CVD is strongest in the mortality and incidence of stroke, with low socioeconomic groups showing lower survival and higher stroke incidence occurring in many populations in high-income countries.

Concerning pathways, SES can influence cardiovascular health differently along life stages. In childhood, poor living conditions and the parents' social class have a strong impact on cardiovascular health status. In middle age, smoking, physical inactivity, unhealthy diet, obesity, hypertension, raised cholesterol, and diabetes increase the risk of CVD. Addressing interventions, these social determinants may be counteracted by material and environmental conditions that make healthy behaviors affordable and facilitate health information seeking and education. In later life, access to medical care reflecting needs, social and family support, and a sense of control over life and health have a positive

impact on cardiovascular health. For each of the five levels, the most relevant social determinants of CVD and pathways, main entry points, and actions are summarized in Figure 3.

Finally, programs also identified where knowledge is incomplete, or where better data collection and evaluation would advance developing and refining interventions. A research node also produced empirical case studies in 13 countries on the following types of implementation processes—going to scale, managing policy change, managing intersectoral processes, adjusting design, and ensuring sustainability.[27] Implementing continuous learning is, therefore, a fifth step toward reducing health inequities as part of applying an SDH approach.

CONCLUSIONS

Global evidence and experience show that explicit political commitment to implementing policies that reduce health inequities, combined with current knowledge, can yield improvements.[8,19] Synthesizing research, observational evidence, and evaluated innovations by researchers and other practitioners, including nongovernmental organizations, can document what can be done to reduce health inequities.[30,31] In the absence of evidence on effective action, knowledge of the pathways between SDH and health inequities and of alternative theories of change underpinning different approaches can also help entities to think through what might work, where action should be targeted, and who should be involved.[32] Even in areas where much is known about the causal pathways of disease, the empirical evidence must continually be refined, including the availability of enhanced disaggregation of population health data,[33] to support monitoring and evaluating policies and interventions, proposing new policy options,[34] and gauging the impact on the distribution of health across the whole population.

Action to support these efforts can occur at household, community, regional, national, and global levels. For example, the 62nd WHO Regional Committee for Europe adopted "Health 2020—The European Policy Framework for Health and Well-being" in September 2012. The Health 2020 policy framework and strategy builds on and extends the work done by the Commission and supports action across government and society for health and well-being, with health equity as an underpinning value.[35] A European-wide commitment to targets aligned to the Health 2020 policy

Figure 3. Summary of the PPHCKN cardiovascular disease analysis:[a] determinants, entry points, and interventions

Level of analysis	*Social determinants and pathways*	*Main entry points*	*Interventions*
Socioeconomic context and position	• Social status • Education • Occupation • Poverty • Parents' social class • Aging of populations • Poor governance	• Define, institutionalize, protect, and enforce human rights to education, employment, living conditions, and health • Redistribute power and resources in populations	• Universal primary education • Tax-financed public services, including education and health • Multifaceted poverty-reduction strategies at the country level, including employment opportunities
Differential exposure	• Poor living conditions in childhood • Community structures • Control over life and work • Attitudes toward health • Marketing • Television exposure • Psychosocial and work stress • Unemployment • High-deprivation neighborhoods • Availability of preventive health services • Health-related behaviors • Urban vs. rural residence	• Strengthen positive and counteract negative health effects of modernization • Develop community infrastructure • Reduce affordability of harmful products • Increase availability of and access to healthy foods	• Create international trade agreements that promote the availability and affordability of healthy foods • Institute international agreements on marketing of food to children • Use tobacco tax to promote the health of the population • Develop urban infrastructures to facilitate physical activity • Leverage government legislation and regulation (e.g., tobacco advertising and pricing) • Set up a voluntary agreement with industry (e.g., on transfats and salt in processed food and on user-friendly labeling to help customers make healthy food choices)

continued on p. 18

Figure 3 (continued). Summary of the PPHCKN cardiovascular disease analysis:[a] determinants, entry points, and interventions

Level of analysis	*Social determinants and pathways*	*Main entry points*	*Interventions*
Differential vulnerability	• Access to education and comorbidity • Lack of social support • Access to welfare assistance • Health care-seeking behaviors • Accessibility of health services • Undernutrition • Physical inactivity • Access to health education • Gender	• Subsidize healthy items to make healthy choices easy choices • Compensate for lack of opportunities • Empower people	• Provide healthy meals free or subsidized to schoolchildren • Subsidize fruit and vegetables in worksite canteens and restaurants • Facilitate a prices structure of food commodities to promote health (e.g., lower the price of lowfat milk) • Improve early case detection of individuals with diabetes and hypertension by targeting vulnerable groups (e.g., deprived neighborhoods and slum dwellers) • Improve population access to health promotion by targeting vulnerable groups in health education programs • Combine poverty-reduction strategies with incentives for using preventive services (e.g., conditional cash transfers and vouchers) • Provide social insurance and fee exemptions for basic preventive and curative health interventions • Create education and employment opportunities for women
Differential health-care outcome	• Cost of appropriate care • Differential use by patients • Prescription practices not based on evidence • Poor adherence • Discriminating services • Poor access to essential medicines • Frequent recurrences and hospitalizations • Life stress and social isolation • Lack of education • Comorbidity	• Medical procedures • Provider practices • Compensation for differential outcome	• Increase awareness among providers of ethical norms and patient rights • Provide universal access to a package of essential cerebrovascular disease interventions through a primary health-care approach • Provide incentives within public and private health systems to increase equity in outcomes (e.g., fees and bonuses for disadvantaged groups) • Provide dedicated services for particular groups (e.g., smoking cessation programs for people in deprived neighborhoods)
Differential consequences	• Lower survival and worse outcomes • Loss of employment • Social and financial consequences • Lack of access to welfare assistance • Heavy health expenditure • Lack of safety net	• Social and physical access	• Create policies and environments in worksites to reduce differential consequences • Increase access of service for people with specific health conditions (e.g., cardiac rehabilitation) • Improve referral links to social welfare and health education services

[a]Source: extracted from Mendis S, Banerjee A. Cardiovascular disease: equity and social determinants. In: Blas E, Sivasankara A, editors. Equity, social determinants and public health programmes. Geneva: World Health Organization; 2010. p. 31-48.

PPHCKN = Priority Public Health Conditions Knowledge Network

and time frame includes reducing health inequities. Although data are collected at the country level (53 countries), monitoring progress at the regional level provides an accountability framework that fosters solidarity across the European region irrespective of their starting points.[35]

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