Life Span and Legal/Policy Research as Dual Focuses for Identifying and Implementing Opportunities to Realize Health Equity

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Our perspective is grounded in the proposition that health equity should be central or more significant than any other concern, principle, criterion, or value when prioritizing a national scientific agenda, setting care goals, organizing research and evaluation, and formulating practice advisories and policy. The lens of how a given topic or task relates to health equity or lack thereof should be front and center.

Overarching Framework
Use of this framework has the potential to advance health equity as a priority for our nation and entails not simply favoring diversity of samples, attending to epidemiological variations, and mounting good faith efforts for greater access to care for those with fewer resources, but encompasses the integration of health equity as fundamental in formulating specific scientific questions as well as framing the overall research agenda. Viewing health equity as a core concept of social justice includes tending to all aspects of scientific inquiry, including research designs and methods and the organizing, interpreting, and evaluating of scientific findings. We do not suggest that ideas presented here are novel, as we are not the first to argue for this approach (Moy et al., 2005; NRC, 2004; Sen, 2009; Smedley, Stith, & Nelson, 2002). Nor do we claim to provide detailed comprehensive arguments addressing the numerous issues that arise in privileging this perspective over other frameworks that have emerged to address health equity and justice. With this disclaimer, we begin our discussion outlining the foundation, implications, and some key features of and basis for our position noted here, and will delve into a few of the primary ensuing implications.

Dual Tracks of Research for Creating Health Equity
To advance our efforts to reduce health disparities through the elevation of health equity and justice, we suggest that two major tracks of scholarship serve as basic avenues of study: (1) application of highest quality research from a life span developmental approach in studying causes, modifiers, trajectories, and outcomes related to health and disease; and (2) empirical study and systematic policy analyses of regulations and laws and related procedures, criminal and civil, that affect health equity. This includes those that may in intention or practice impede health equity but also a vigorous search for identifying those that promote health equity. We contend that the parallel pursuit and connection between these two tracks would be advantageous so that health equity is central within biomedical and human development science and in the policy and laws affecting health opportunities and care. Additionally, this will help decrease the disparities based on ethnic group and economic class currently evident in health status, health opportunities, health services, and health outcomes.

These two tracks, research through a developmental lens and policy analysis, are rudimentary and limited instruments of knowledge development. Yet despite their insufficiencies, they are appropriate tools for pro-
moting the production of sound information to help mitigate this national crisis. In addition, this framework allows for the inclusion of multiple influences of health over the life span. Our thesis holds that in refining our understanding of how equity can be realized, or even how it is more aptly considered for guiding health policy, these twin pursuits of scholarship represent the most reliable pathways through the thickets of opinion, prejudice, disinterest, and haste that encumber alternative frameworks. Further, pursuit along these two lines of inquiry holds promise for the evolution of sound knowledge and true progress to health equity.

A second major proposition of this paper is to shift the formulation and evaluation of scientific work away from how research findings clarify disparities, toward an initial identification of how an issue or theory is formulated. This would advance knowledge about ways to facilitate health equity or minimize injustice and, in this instance, disparities. Clearly, having more detailed information about the actual mechanisms through which disparities in susceptibility to disease are linked to access to resources, treatment quality and availability, and life course trajectories are critical for recognizing the extent of the inequity. Such knowledge can inform and guide approaches and strategies to increase health equity and in turn promote justice.

Yet, beyond extensive documentation of these issues, there are numerous limitations to this approach. First, it can only imply need and potentially valuable actions in relation to current differences in inequity. Second, tracking and documenting history and risk patterns can inform but may provide little illumination about how risk patterns can be changed, prevented, shifted, and undone. We suggest, therefore, that at this juncture there is great advantage to giving preference to descriptive and experimental studies that illuminate how equity can be realized and the role of justice in this endeavor.

While perhaps appearing to reflect, simply, a grammatical “sleight of hand” or the other side of highlighting patterns and contributors to inequity, the impact of asking basic questions about how equity is or can be realized is the potential to bring new approaches to our understanding of health equity and justice—what is studied, how populations are identified and organized, how hypotheses are formulated, and what analyses are intended to reveal. The benefit of this approach is that what may seem a nuanced definitional refinement of health equity and justice can be profound, particularly in how the accumulated science is interpreted, and directs practice, policy, and next steps in scholarship.

**Defining Health Equity and Health Disparities**

The framework proposed and the emphases highlighted emanate from the juxtaposition of several conceptual elements that are prominent in the scientific and policy literature about health disparities and the aspiration of health equity (Braveman, 2006). Although one can find numerous definitions with different connotations of equity and how that relates to resource distribution (see Seidel, Tolan, Murry & Diaz, 2016), an operational definition has emerged that seems to specify what is meant by the term and what is not encompassed within that term. Health disparities refer to systematic health differences related to group membership (e.g., socioeconomic status, gender, ethnic identity) and access to resources (knowledge, care, practices) that are avoidable or malleable, and are primarily socially determined (Braveman, 2006; Whitehead, 1992). Thus, it is not just a matter of documenting health risk, status, use, or effect differences between groups or identifying individual instances of these but is reserved for systematic differences between groups that are related to social and associated political power and affect access to health opportunities, resources, and outcomes. A critical implication of this definition is that it proposes that systematic differences between groups can be affected or eliminated because they are representative of social and politically based inequities. Moreover, this perspective assumes, though not readily acknowledged, that these differences are essentially malleable. Further, an important corollary of this definition is that health equity is considered fundamental to social and civic justice and is based in the ethics of human rights (Daniels et al., 2009; Sen, 1999). This statement implies that because health equity is a fundamental right, all humans have the right to pursue of life, and no one should have advantage over others by dint of position, historical legacy associated with ethnicity, gender, or social class in order to have access to health care services to be healthy and live out their natural life span (Bobinski, 2003). These perspectives are foundational in our pursuit of equity, justice, and human rights; values that our nation should uphold and actuate to eliminate disparities.
Health equity is as essential a form of justice as equity in criminal and civil legal protections. To raise the visibility of health equity as a matter of justice and ensure that all social groups have equal opportunity to reach their full potential as healthy as possible over their life span, there is need to reduce and eliminate systematic differences in the health of groups and communities whose poor health status is often due to social class and social positions in society (Garcia Coll et al., 1996.) From this perspective, the standard or benchmark for health equity is the status enjoyed by those with substantial (above-average) privilege and/or access to resources, support, and care for health. This benchmark denotes what is plausible with adequate nurture, care, support, and health promotion. As such, this benchmarking can be contrasted to a view that merely seeks to lessen gaps based on presumptions of differences in resource distribution or a view that seeks a lower level because it is presumed that increasing health status of those with lower status and economic capability will mean compromising health capabilities of those with greater privilege (Braveman 2006; Seidel, et al., 2016). Apart from or controlling for personal disposition and choices and practices and familial-biological contributions, all persons, regardless of color, social class, social position, or physical/mental abilities, should enjoy the same quality of life, mortality probability, and opportunities for care, support, prevention, and promotive health care as others in our society (Commission on Social Determinants of Health, 2008). For example, in its 2004 report, Eliminating Health Disparities: Measurement and Needs, the National Research Council noted that the infant mortality rate for African Americans was over twice that for European Americans (14.4/1,000 vs. 5.7/1,000) but this difference could not be explained by differences in medical or nonsocial risk factors. To reduce this disparity, we suggest that identifying and instituting actions and policies that would reduce the infant mortality rate for African Americans so that they are similar to patterns occurring for European Americans should be the goal and focus for health equity in this area. Braveman (2006, 2014) notes that the consideration of health equity grounded in fundamental human rights and establishing the benchmarks of those with considerable resources direct efforts toward identifying needs of those with lesser status and meeting those needs as a primary strategy for health equity. This approach is distinguished from a strategy of simply spreading access to resources as organized for and about those with privileged status. This approach should shift research, practice, funding, legal, and policy efforts away from merely ensuring that essentials are not inaccessible to identifying needs to attain equity, addressing systematic inequities for resource allocation, and benchmarking progress toward status for all, instead of continuing to reserve those resources for the most socially privileged.

A Life Span Development Framework for Health Research

Much of the health equity research to date has focused on documenting patterns of differences between groups in outcomes, exposure to risk factors, or differences in social and economic conditions that are thought to correspond to differences in health opportunities and resources. Although much of this work is consistent with a life course perspective, the relation often has been implied or incidental. Our perspective is that a framework should be infused into the research agenda that identifies factors and processes that contribute to health promotion, with specific consideration given to identifying pathways to disease occurrence and preventive interventions—ones that offer health delivery services on a continuum ranging from promotion to prevention to treatment to maintenance. Further information advancing our understanding of variability in access to health-supporting care and resources is also needed. Similarly, this perspective can be informative in understanding how injustice and inequities in areas such as criminal justice, education, housing, employment, and political standing can influence health of groups. This would allow for a holistic, life span approach in our efforts to eradicate contributors to health inequities; thereby improving conditions that may hinder efforts to reduce and eventually eliminate health inequities (Braveman and Barclay, 2009).

The life course perspective, as articulated here, focuses on longitudinal tracking over age and the connection of health contributors for a given person across time, and provides a systematic basis for understanding and explaining how prior life experiences and human development influence subsequent potentialities. The overarching assumption is that, to a great extent, early experiences have more profoundly shaping influence than later experiences, although not fully
determining of later life course (Halfon and Hochstein, 2002; Lerner, 2006). Thus, one’s health status is not only influenced by prior experiences from conception onward (and preconception genetic contributions, as well) but also is influenced by and manifested within a developmental ecology of social, environmental, and economic systems (Shanahan & Boardman, 2009). In turn, these affect one’s social position regarding access to resources, exposure to impediments, and differential potentialities for healthier pathways that profoundly affect health equity (Bronfenbrenner and Morris, 2006).

The life course framework maps out and describes the processes through which social structures impact individual lives, including biomedical, interpersonal, community, economic, legal, and political systems. It maps, describes, and explains the synchronic and diachronic distribution of individuals into social positions across their lifetime. This approach permits systematic scientific epidemiological studies that examine the linkages among microbiological aspects of health over time, within determinable typical or healthy processes to person-level behaviors and indicators that vary by demographic and economic groups. Further, this framework allows for the integration of social factors to explain disparities in opportunities for health; health-promoting influences; risk exposure and susceptibility; health orientation; health care access, quality, use, and attitudes; and likely pathways and outcomes of health practices, problems, and diseases. Using a comprehensive orientation to explain health also provides informative understanding of the links between accumulated risk across generations and systematic inequities due to a shared characteristic, such as how shared gender, ethnicity, or social class relates to advantage or disadvantage. Braveman (2014), for example, provides a detailed contrast between the lives of a young, impoverished, African American mother and a middle-income European American mother, to illustrate a cascade of interdependent differences in opportunities, risks, control over health resources, and life circumstances that, in confluence, lead to quite divergent health status outcomes for the two women and their children. Braveman notes the difference in opportunity for prenatal care, advice and support for best neonatal parenting, likelihood of exposure to toxic chemicals during early childhood, safety of the neighborhood, economic stress during parenting years, quality of schools, and a cascade of differing environmental circumstances that culminate in substantial differences in morbidity and perhaps in life span. As one informative illustration, Braveman (2014) shows that, irrespective of particular interest, topic, or focus, a life course perspective locates health research and actions within the transacting interdependent influences across biological, psychological, social, and societal systems. By doing so, oversimplifying the prioritization of one level of explanation over another is avoided, while multiple opportunities to affect inequities are identified. This approach keeps the malleability of health equity front and center.

A distinct advantage of the life course perspective in explaining the systematic variations in individual and group health trajectories is that it provides opportunity to identify exceptions to overall patterns of inequity. It also allows for greater understanding of where equity is being realized or promoted, such as how, when, and where programs, practices, and policies are overcoming discriminatory practices, differential risk exposure, and constrained opportunity, and where opportunities exist to overcome or undercut inequity-promoting influences (Aaron and Chesley, 2003; Williams et al., 2013). For example, efforts to increase attention to implicit, cultural, and institutional racism in training of health providers have been shown to reduce inequities, in particular in the manner in which people of color are listened to and treated in health care service delivery systems (APHA, 2015). Similarly, by tracking the impact of access to better housing and neighborhoods with better educational and health resources, Acevedo-Garcia Osypuk, Werbel, Meara, Cutler & Berkman, 2004) found improved health status of persons of color from low-income communities, including lower rates of severe obesity and diabetes risk and higher rates of good mental health 10-15 years later (Ludwig, Sanbonmatsu, Gennetian, Adam, Duncan, Katz, McDade, 2011; Ludwig, Duncan, Gennetian, Katz, Kessler, Kling, Sanbonmatsu, 2012). Another example is the Nurse Home Visiting Program, which provides young, low-income, mostly minority mothers with visits during pregnancy and the early childhood period. This program has demonstrated reductions in smoking during pregnancy, a known cause of low birth rate, increased behavioral problems, and multiple other health risks. In addition, rates of child abuse and neglect were reduced and the mothers were more likely to engage in employment programs and had lower arrest rates (Olds et al., 1997). The program had long-term indirect
effects on the children over time, with lower arrest rates when they became adolescents. Thus, this program reduced health disparities in outcomes for these low-income mothers and their children. Another exemplar study was conducted by Tolan and colleagues (Tolan, Henry, Gorman-Smith, & Schoeny, 2016), who tested a program for inner-city families that promoted neighbor-to-neighbor connection of parents at the time their children entered first grade and supported parental school engagement as well as sharing of competencies in managing challenges of raising children in high-risk neighborhoods. The randomized controlled trial led to parents in the groups remaining involved in school while counterparts in the same schools and communities became less involved. When followed up 11 years later, the program benefits translated to lower violence and behavioral problems for their children at school, with related lower substance use and risky sexual practices.

In addition, Murry and colleagues (2005) conducted a randomized trial of a universal preventive intervention to deter adolescent risky sexual behavior, the Strong African American Families (SAAF) program, designed within the unique context of rural African American communities (Murry, Brody, McNair, Luo, Gibbons, Gerrard, Wills, 2005; Murry, McNair, Myers, Chen, Brody, 2014). The SAF randomized controlled trial (667 families with an 11-year-old child) has successfully delayed both sexual debut and substance use, 54 months post-intervention (Brody, Kogan, Chen, & Murry, 2008; Murry, Brody, Chen, Kogan, Brown, 2010), with sustaining HIV risk reduction patterns of increased condom use and fewer sexual partners among sexually active SAF youth 65 months post-intervention (Murry, Berkel, Chen, Brody, Gibbons, Gerrard, 2011; Murry, et al., 2012). In addition, SAF has demonstrated ripple effects on nontargeted areas, in particular, reduced depressive symptoms among parents, through the program’s enhancement of positive parenting behaviors (e.g., consistent discipline, youth monitoring, and open communication) which in turn evinced improvement in child behavior (e.g., reduced conduct problems, parent-child arguing, and deviant peer affiliation; Beach et al., 2008). These results support the link between reduced depressive symptoms and stronger family relationships, particularly the importance of enhanced parenting efficacy in alleviating depressive symptoms among parents residing in low-resource rural communities.

Finally, Aaron and Chesley (2003) report on the positive spillover effects of improving health care providers’ knowledge of the implications of lack of access to basic health care for maternal and child health for disparities in low birth weight between African American and European American clients, for which health care providers play a major role in their capacity to substantially reduce this gap. As these examples illustrate, these programs reduced health inequities by casting such efforts within a life span approach that connected personal development to ecological support and social structures. These are but a few examples of such efforts (see Williams et al., 2013, for a review of several more).

In bringing clarity about how disparities can be addressed and eliminated, it is important to note that, while there are clear and relatively consistent patterns of health advantages tied to economically and socially privileged ethnicities, there are many examples of poorer outcomes and more problematic pathways even for more advantaged groups (Braverman, 2014). The relation of social and economic privilege to health equity is not always uniform or straightforward. For example, males tend to have shorter life spans than females, and breast cancer rates are similar for non-Hispanic European American and African American women but much higher for these two groups than for Hispanic, Asian, or Native American women (Ward, Jemal, Cokkinides, Singh, Cardinez, Ghafoor, & Thun, 2004). This suggests that having privileged positions is not always protective and that the risk patterns are directly based on relative social status. The life course approach, particularly because it can track the equifinality of multiple causal pathways (how different pathways can lead to similar health status) and multifinality (how similar dispositions and life course experiences can lead to divergent outcomes), enables the disentanglement of more complicated patterns and uncovers opportunities for equity promotion (Braverman, 2006; Moy et al., 2005).

**Regulations, Laws, and Legal Practices Affecting Health Equities**

A second vector of great impact on health equity, in addition to sound life span as conceptualized by developmental science, comprises the regulations, policies, and laws regarding health rights, health access, and treatment and care (Rosenbaum et al., 2012). For instance, the linkages of discriminatory practices to
inequity in criminal and civil laws have been well documented. Although these laws are not directly about health care, they can affect health opportunities, risk, and likely course (Satcher, 2001). The latter includes how differential treatment within the criminal justice system, access to affordable and sound housing, and opportunity to reside in communities with protection from environmental toxins and imminent and unpredictable threat to safety can all affect health.

The realm of legal/regulatory practices and policies has been often examined apart from life course theory and biomedical research. There are a few instances in which legal and regulatory constraints or biases in practices are mentioned as contributing to health risk and disparities (Daniels, Saloner, & Gelpi, 2009; Sen, 2009). Conversely, the documentation of health disparity patterns has been the impetus for numerous reviews of how legal ambiguities affect and perpetuate those disparities (Bobinski, 2003). Grounded within practices emanating from the civil rights movement, inequities in the applications or procedural manifestations of laws can provide a basis for legal efforts to change the laws, thereby requiring adherence to prescribed remedies or opportunities for changes in regulations or laws that impact health and health outcomes. However, examination of the regulatory and legal realm’s role in health equity is relatively disconnected from the developmental and biomedical efforts that have been undertaken to address health disparities. Typically, the methods of analyses differ and do not readily translate across disciplines. That is, an integrative approach to address health equity that involves regulations and laws and biomedical and human development research is nonexistent.

Given that health disparities are both a life course developmental issue and a legal/civil rights issue, there is great need to bring attention to ways in which regulations and laws affect developmental influences on health equity as well as ways in which access to healthy environments, supportive developmental settings, nondiscriminatory educational, employment, housing, and criminal justice and civil legal systems, and health knowledge and care promote healthier development or greater morbidity. This awareness should be given increased attention by those engaged in biomedical and developmental trajectory research in model formulations and population variation explanations. This suggestion implies that new empirical paradigms of science are needed to better understand and explain the impact, variation, and implication of laws on the health of individuals and groups most negatively affected by those laws and how laws and regulations may benefit healthy development (protection from risk, access to care) of some groups (Matthew, 2015). Moreover, experiments to test policies that are designed to eliminate disparities in practice efforts through changing regulations and laws need to be rigorously evaluated, with particular consideration given to those who are responsible for their implementation and how the regulations are applied. This kind of information, often ignored in studies of health disparities, could be useful in our efforts to facilitate health equity. As several authors have noted, there is need for deeper and sounder understanding of how laws and regulations at federal, state, and local levels create and constrain opportunities for equity, how implementation of those laws and regulations directs procedures toward or away from equity, and the ways in which laws and regulations are integrated into health care management, patient education and empowerment, and training of practitioners toward equity, and how at patient-system contact these play out in affecting health disparities (Bobinski, 2003; Matthew, 2015). There are numerous opportunities to examine these inquiries empirically. For example, studies that have been conducted to examine the relation between regulations that promote health or impede health risk and health disparities (e.g., tobacco regulation), as well as those demonstrating differential effects by demographic and economic groups (Thomas et al., 2008), offer a model for our consideration.

In addition to aiding reconciliation of observations and conclusions from legal and scientific analyses, pursuit of empirical understanding of the impact of legal policies and procedures also can suggest opportunities for moving toward health equities (Moy et al., 2005; Matthew, 2015). For example, bias recognition training of health care providers may help reduce the difference in health care quality and use observed between minority and nonminority patients. Yet, economic and practice benchmarks such as patient satisfaction and relative reduction in overall health care costs may also promote this same outcome (Bobinski, 2003). Findings from these studies can then be interpreted with consideration of how results can be translated to address
life course variations in health. This approach may uncover nuanced variations in needs, depending on the health care issue and the population facing disparities (Satcher, 2001).

As with life span-based developmental and biomedical research, there are examples from the literature that suggest points of opportunity to advance the health equity agenda (Smedley et al., 2002). For example, the National Conference of State Legislatures lists numerous laws that were enacted in 2014 to reduce disparities, including regulations targeting provider bias, finance inequities, and differential patterns of health risk by gender and ethnic group (http://www.ncsl.org/research/health/2014-health-disparities-legislation.asp). However, almost all the efforts undertaken are being launched without a true scientific evaluation of the effects necessary to be validated as soundly scientific. Given the transformative financing, access, and methods of regulating health care that are in the Affordable Care Act, careful scientific tracking of how these strategies and approaches affect disparities (and perhaps more miniexperiments to determine the most beneficial policy and practices within the act’s major tenets) seem likely to reveal important opportunities for major improvements regarding disparities.

In addition to an empirical focus on the impact of health systems-related laws and regulations on health equity, there is also the need for more robust and careful empirical delineation of indirect effects of other aspects of human life, such as housing, education, employment, and income on health and how these are impacted by legal policies and practices that also affect health functioning. Such information is needed because empirical documentation is often limited to showing that groups facing racial and sex discrimination or who are subjected to housing in locations with environmental toxins, or overincluded and more harshly treated in the criminal justice system, have greater health risk and poorer outcomes. In most instances, there are multiple contributors and solutions to inequities. However, without more specific scientific analysis, only general suggestions are plausible.

Significant characterization of differential impacts of specific actions or practices in relation to these legal issues affecting health equity is almost absent from the literature (see Smedley et al., 2002, and Williams et al., 2013, for a few examples that are exceptions). For example, how might improvements in legal protection provided to youth from lower economic and minority populations who are subjected to family violence affect their mental and physical health? Could consistent practices across all economic and ethnic groups reduce disparities? Systematic tracking, study of relation across variables, and sound experiments (randomized controlled trials or close variants) regarding legal system discriminatory laws and practices to formulate potential solutions for disparities are nonexistent. Policies and practices cascade through the lives of individuals and groups, having far-reaching impacts, without scientific study of the roles of laws and regulations in health equity to date. There is a grave need to document and understand how they impact health—this is an oversight in need of remediation.

Summary and Conclusions

In this paper we present suggested directions in response to the question: How central should health disparities/health inequities be in the areas of health research, evaluation of accumulated research, advisement about practices, and policy suggestions? We suggest that health equity should be paramount to such work. This contention is based on the notion that health equity is a fundamental form of justice emanating from basic human rights. Additionally, if it is not central in our efforts to address health disparities, it is very likely that, instead of expending effort to reduce inequities, attention will be focused on documenting the already-established fact that our society is grappling with large and serious disparities. Instead we propose a shift to analyze what can be discerned about what will reduce inequities and what corrective actions can be taken.

We suggest two lines of inquiry and a method of organizing information in order to advance the agenda away from problem identification toward identifying solutions to determine what is studied about health equity, and how what is studied about health equity is conceptualized, analyzed, interpreted, and integrated into the larger field of research and application. The first step in this systematic inquiry is to cast the central role of health equity within a life span framework. This framework explicitly links the micro- and basic biological processes to more complex person, group, and societal patterns. Understanding these patterns is fundamental to understanding and addressing disparities.
The second step is to apply the tools of scientific study to understanding the legal and political realm affecting disparities; both the laws, regulations, practices, and implementation patterns that directly impact health and health care as well as the civil and criminal laws that epidemiological studies have linked to disparities (e.g., discrimination in criminal justice processing, violence in communities, and environmental toxin exposure). In addition to applying these two lines of scientific inquiry, to move beyond repeated documentation of disparities, a paradigm shift is needed to a primary focus on organizing, reviewing, and valuing scientific work based on how it is promising for reducing disparities and for revealing mechanisms and other empirical evidence that will move us toward health equity. The latter approach holds promise for relatively greater reliability and objectivity than most other methods, which suggests that together these two foci may have substantial promise toward health equities.

**Background**

This discussion paper was stimulated by conversations at a meeting on May 11, 2015, convened by the Board on Children, Youth, and Families of the National Academies of Sciences, Engineering, and Medicine. A number of discussion papers arose from this meeting and will be published as NAM Perspectives throughout 2016. You can access the papers at nam.edu/Perspectives and sign up to the perspectives listserv at nam.edu/ListServSignUp. To watch the full recording of the May 11, 2015 meeting, please visit nam.edu/SocialJustice.
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