Measuring What Works to Achieve Health Equity: Metrics for the Determinants of Health

Prepared for the
Robert Wood Johnson Foundation

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Prevention Institute
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www.preventioninstitute.org

In spring 2014, the Robert Wood Johnson Foundation (RWJF) commissioned Prevention Institute to develop a set of metrics to inform its broader set of metrics for its Culture of Health. In its original form, this document served as a background document for RWJF staff to inform discussion around disparity metrics for the Foundation and the nation. This version has been slightly modified for broader dissemination, including adding an executive summary.

Prevention Institute is a nonprofit, national center dedicated to improving community health and wellbeing by building momentum for effective primary prevention. Primary prevention means taking action to build resilience and to prevent problems before they occur. The Institute's work is characterized by a strong commitment to community participation and promotion of equitable health outcomes among all social and economic groups. Since its founding in 1997, the organization has focused on community prevention, injury and violence prevention, health equity, healthy eating and active living, positive youth development, health system transformation and mental health and wellbeing.

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INTRODUCTION

The Robert Wood Johnson Foundation (RWJF) has laid out a bold and ambitious agenda of achieving a Culture of Health in the U.S. RWJF's new vision of a Culture of Health requires that the Foundation become more explicit about the need to expand the opportunity for good health for all. As such, RWJF has adopted health disparities[i] as a major priority. RWJF recognizes that persistent health disparities linked with disadvantages experienced by particular populations undercut our nation's founding principle of equal opportunity to life, liberty, and the pursuit of happiness. The Foundation has set an ambitious goal of measurably reducing health disadvantages and disparities.

In spring 2014, RWJF commissioned Prevention Institute to develop a set metrics to inform its broader set of metrics for its Culture of Health. This paper is the outcome of that work. It provides a framework for understanding how disparities in health outcomes are produced and how health equity can be achieved, particularly by addressing the determinants of health. It lays out the determinants of health – structural drivers, community determinants, and healthcare – that must be improved to achieve health equity. It also describes the methods and criteria that Prevention Institute applied to identify health equity metrics. Finally, the paper delineates a set of metrics that could reflect progress toward achieving health equity.

We count what matters. Metrics that measure and track our progress on the determinants of health can help set priorities and inform necessary actions to keep *all* Americans healthy, lower the cost of healthcare, increase productivity, improve quality of life, and ensure that everyone has an equal opportunity to prosper and achieve his or her full potential.

We count what matters. Metrics that measure and track our progress on the determinants of health can help set priorities and inform necessary actions to keep all Americans healthy, lower the cost of healthcare, increase productivity, improve quality of life, and ensure that everyone has an equal opportunity to prosper and achieve his or her full potential.

UNDERSTANDING HEALTH INEQUITY AND HEALTH EQUITY

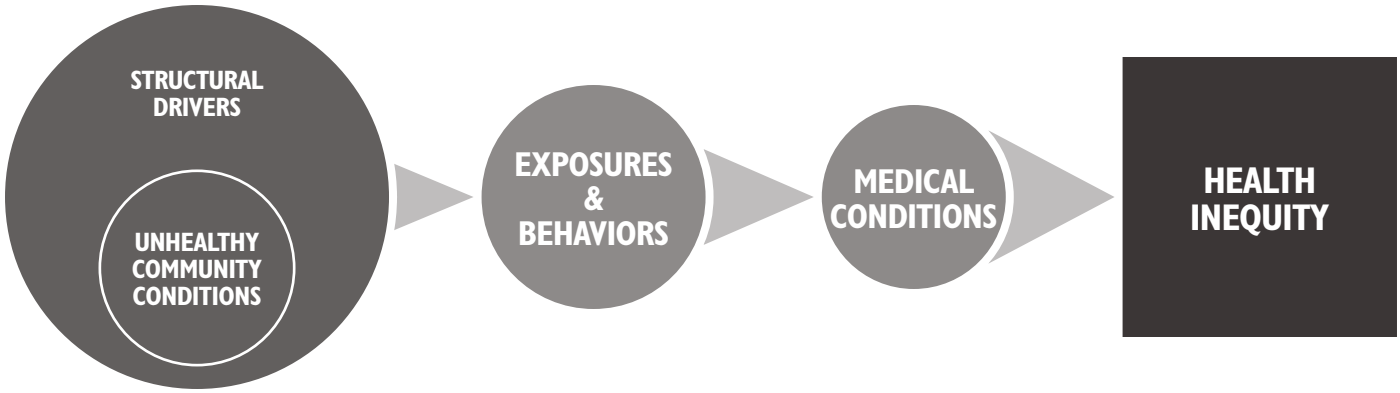
Good health is precious. It enables us to enjoy our lives and focus on what is important to us—our families, friends, and communities. It fosters productivity and learning, and it allows us to capitalize on opportunities. However, good health is not experienced evenly across society. Health inequity is related both to a legacy of overt discriminatory actions on the part of government and the larger society, as well as present day practices and policies of public and private institutions that continue to perpetuate a system of diminished opportunity for certain populations.

The Trajectory of Health Inequity (Diagram A) depicts how inequity in health outcomes are produced. It shows the relationships between structural drivers and unhealthy community conditions (community determinants), exposures and behaviors, medical conditions and health inequity. Structural drivers and community determinants generate inequity, which are exacerbated by exposures and behaviors, and further exacerbated by how medical conditions are addressed in

i At the time of the final production of this paper the RWJF Eliminating Health Disparities team has changed its name to the Achieving Health Equity team. This paper reflects the language in use at the time of the project.

healthcare. The accumulation of inequity across the trajectory is represented by the increasing size of the arrows moving from left to right, indicating that inequity in health outcomes increase at each stage. The diminishing size of the circles from left to right indicates a diminishing contribution to health inequity. The determinants of health have the biggest impact on inequities in health outcomes.

Diagram A: Trajectory of Health Inequity



The Trajectory of Health Inequity (Diagram A) reflects Prevention Institute's Two Steps to Prevention methodology, which traces a pathway from medical conditions to the behaviors and exposures that led to them, and then to the structural drivers and community determinants that are at the root of the behaviors and exposures. Prevention Institute's analysis started with identifying leading medical conditions that reflect health inequity and are leading causes of death, illness and injury. The first step of the Two Steps approach is from examining these leading medical conditions to identifying exposures and behaviors associated with them. Limiting unhealthy exposures and behaviors enhances health and reduces the likelihood and severity of disease. Through an analysis of the factors contributing to medical conditions that cause people to seek care, researchers have identified a set of nine behaviors and exposures strongly linked to the major causes of death: tobacco, diet and activity patterns, alcohol, microbial agents, toxic agents, firearms, sexual behavior, motor vehicles, and inappropriate drug use.[1] These behaviors and exposures are linked to multiple medical diagnoses and addressing them can improve health broadly.

The Trajectory of Health Inequity reflects Prevention Institute's Two Steps to Prevention methodology, which traces a pathway from medical conditions to the behaviors and exposures that led to them, and then to the structural drivers and community determinants that are at the root of the behaviors and exposures.

Exposures and behaviors are determined or shaped by the environments in which they are present. The second step is from the exposures and behaviors to the environment, identified here as the determinants of health (structural drivers, community determinants, and healthcare). Taking the second step from exposures and behaviors to the environment presents a tremendous opportunity to reduce health inequities by preventing illness and injury before their onset. In analyzing the social determinants of health and health inequities, the World Health Organization (WHO) has identified structural drivers—the inequitable distribution of power, money, opportunity and resources—as a key determinant of inequity in health and safety outcomes.[2] Poverty, racism, and lack of educational and economic opportunities are among the fundamental determinants of poor health, lack of safety, and health inequity, contributing to chronic stress and building upon one another to create a weathering effect, whereby health greatly reflects cumulative experience rather than chronological or developmental age.[3]

Structural drivers deeply shape community conditions – the places where people live, learn, work and play. [4] On the whole, a person's zip code is a better predictor of his/her health status and life expectancy than his/her genetic code.[5] Prevention Institute's THRIVE (Tool for Health and Resilience in Vulnerable Environments) framework delineates community determinants that fall into three interrelated clusters: the social-cultural environment (people cluster), the physical/built environment (place cluster), and the economic environment (equitable opportunity cluster). These community determinants fundamentally impact health and health inequity and represent an important place for action to achieve health equality.

Access to quality healthcare services is also an important determinant of health. People want and need high-quality medical care, including good medical, mental health, and dental services, and access to quality, culturally and linguistically appropriate medical and dental care, and emergency medical responses.

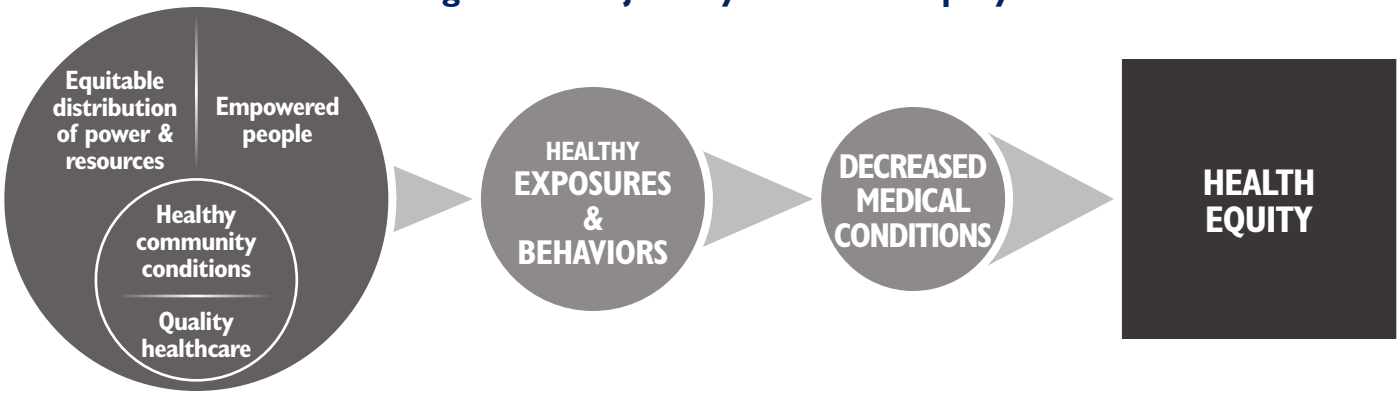
Table A shows the determinants of health, the related sample behaviors and exposures, and the medical conditions. Community determinants are organized into three interrelated clusters: the social-cultural environment (people cluster), the physical/built enviornment (the place cluster), and the economic environment (equitable opportunity cluster).

Table A: Determinants of Health, Related Behaviors and Exposures, and Medical Conditions

Determinants of Health	Behaviors and Exposures	Medical Conditions
STRUCTURAL DRIVERS ■ Inequitable distribution of power, money, opportunity and resources ■ Disempowered people **COMMUNITY DETERMINANTS** **Social-cultural environment (people cluster)** ■ Social networks & trust ■ Participation & willingness to act for the common good ■ Norms & culture **Physical/built environment (place cluster)** ■ What's sold & how it's promoted ■ Look, feel & safety ■ Parks & open space ■ Getting around ■ Housing ■ Air, water & soil ■ Arts & cultural expression **Economic environment (equitable opportunity cluster)** ■ Education ■ Living wages & local wealth **QUALITY HEALTHCARE**	Tobacco/smoking Excessive alcohol Diet/Nutrition Physical activity Chemical exposures and air pollution Sexual behaviors Infections pollens, dust Automobiles Falls Poisoning Weapons Violence Drug use and abuse Trauma and adverse experiences	Heart Disease Cerebrovascular Diabetes Mellitus Malignant Neoplasms Chronic Lower Respiratory Disease Unintentional Injury Suicide Homicide HIV Infant mortality Liver disease Nephritis Mental health conditions and trauma Occupational exposures Drug/substance use and abuse

The Trajectory of Health Equity (Diagram B) shows how improving the determinants of health will generate health equity. Improving structural drivers focuses on equitable distribution of power and resources and empowered people. Improving community determinants leads to healthy community conditions. Healthcare is also determinant of health. Improving this determinant results in quality healthcare. The Trajectory of Health Equity reflects that improving the determinants of health contribute to healthy exposures and behaviors, and decreased medical conditions. The contributions to greater health equity across the trajectory are represented by the increasing size of the arrows moving from left to right.

Diagram B: Trajectory of Health Equity



METRICS FOR HEALTH EQUITY

Altering the determinants of health (structural drivers, community determinants and healthcare) supports health equity. Therefore, the recommended health equality metrics are focused on the determinants of health. Metrics that capture the determinants of health can account for inequity across multiple dimensions including not only race/ethnicity and socio-economics but also geography-, gender-, sexual orientation- and disability-based inequity.

Building on the understanding of health inequity, and the determinants that need to be improved to achieve health equity, Prevention Institute developed a set of metrics. In May and June of 2014, Prevention Institute reviewed existing metrics and measurement projects, particularly for social determinants of health, and interviewed 17 people, including academics, people implementing place-based strategies, researchers who have or are developing metrics and indicator sets, and experts in specific topical areas. Prevention Institute considered health equity principles, terminology used in association with measurements, and criteria to assess individual metrics as well as the composite set of metrics. Numerous considerations were taken into account, including the strengths and limitations of indicators, indexes, and composite measures, the distribution of metrics across the determinants of health, and the need to frame the metrics in a manner that illuminates potential solutions.

Terminology

There are many terms used in association with measurements, including index, measures, metrics, and indicators. For the purpose of this paper, the following terminology is used:

- ***Indicator:*** An indicator is a single measurement.
- ***Index:*** An index is a measurement that includes multiple indicators and is in use by others – particularly for research purposes.
- ***Composite measure:*** A composite measure includes multiple indicators and is not necessarily in use by others but includes specific indicators that correlate strongly with health outcomes.

A set of health equity principles provided guidance and informed the criteria for the selection of the recommended metrics, including, but not limited to, understanding historical forces that have left a legacy of racism and segregation and the acknowledgment of the cumulative impact of stressful experiences and environments. Criteria were developed and applied to evaluate and prioritize potential individual metrics as well as the composite set of metrics. The criteria used to evaluate and prioritize individual metrics consisted of, but was not limited to, such factors as feasibility, measurability, and validity. The criteria used to evaluate and prioritize the set of metrics consisted of, but was not limited to, such factors as whether they align with a Culture of Health metrics and are grounded in health equity principles.

Consideration was given to the strengths and limitations of indicators, indexes, and composite measures. For example, indicators can be straightforward in what they express and can convey direction for policy and action. However, because they are single measures, they don't necessarily reflect complexity. Because indexes include multiple indicators, they are able to account for more complexity than a set of single indicators; yet at face value, they may not appear as actionable as single indicators. Composite measures can account for complexity and fill a gap in the field, but also may not appear as actionable as single indicators. The recommended metrics reflect a mix that maximizes the strengths and minimizes the limitations of indicators, indexes, and composite measures. It is recommended that additional composite measures be developed to fill gaps in the field. For example, a composite measure is recommended to address the strong relationship between community safety and health inequity in a manner that accounts for the complexity of community safety.

Metrics are important both as a tool for measurement of health inequity for the country as well as for clarifying the sources of inequity and fostering understanding of solutions. The recommended metrics also consider the need for effective framing that communicates clear direction and spurs action.

Determining how to distribute the metrics across the determinants (structural drivers, community determinants, and healthcare) is important. The recommended metrics reflect the overall set of determinants while giving balanced consideration to the distribution: about one-third of the set of metrics reflect the structural drivers, about one-half of the set of metrics reflect community determinants, and one-sixth of the set of metrics reflect healthcare. The recommended metrics for structural drivers include attention to: 1) the equitable/inequitable distribution of resources, power, money and opportunity; and, 2) empowered/disempowered people. The recommended metrics for community determinants include: 1) the social-cultural environment (people factors); 2) the physical/built environment (place factors); and, 3) the economic environment (equitable opportunity factors). The recommended metrics for healthcare include attention to access.

Metrics are important both as a tool for measurement of health inequity for the country as well as for clarifying the sources of inequity and fostering understanding of solutions. The recommended metrics also consider the need for effective framing that communicates clear direction and spurs action.

The following recommended health equity metrics reflect the determinants of health (structural drivers, community determinants, and healthcare).

STRUCTURAL DRIVERS

1. Neighborhood Disinvestment Index (index)
2. Gini Index[6] (index)
3. Index of Dissimilarity[7] (indicator)
4. Rates of incarceration by race/ethnicity (indicator)
5. Percent of residents from traditionally marginalized communities in positions of influence (indicator)
6. Geographic distribution of health: life expectancy by zip code (indicator)
7. Community Trauma (composite measure)
8. Community Readiness (composite measure)
9. Number of communities with indicator projects (indicator)

COMMUNITY DETERMINANTS

Social-cultural environment

10. Collective efficacy[8] (index)
11. Civic engagement (composite measure)

Physical/built environment

12. Physical activity environment[9] (index)
13. Retail Food Environment Index (index)
14. Food Marketing to Kids Group (index)
15. Housing Index[10] (index)
16. Affordability of Transportation and Housing[11] (index)
17. Pollution Burden Score[12] (index)
18. Mobility and Transportation[13] (index)
19. Opportunities for engagement with arts, music and culture[14] (index)
20. Per capita dollars spent for park space per city/neighborhood (indicator)
21. Safe place to walk within 10 minutes of home (indicator)
22. Alcohol outlet density (indicator)
23. Number of comprehensive smoke-free policies in places that prohibit smoking in all indoor areas of work-sites and public places (indicator)
24. Community Safety Scorecard[15] (index)
25. Number of cities with a comprehensive, multi-sector violence prevention plan (indicator)

Economic environment

26. Number of living wage policies in place (indicator)
27. Academic achievement (composite measure)
28. Local wealth (composite measure)
29. Complete and livable communities[16] (index)
30. School Environment[17] (index)
31. Percent of families who say it's hard to find the child care they need (indicator)
32. Workplace safety (composite measure)

HEALTHCARE SERVICES

33. Percent of patients that can access a place they call their "medical care home" within two weeks' time (indicator)
34. Patient satisfaction with medical encounters as a measure of culturally and linguistically appropriate care (indicator)
35. Number of medical schools that integrate healthcare disparities and community learning throughout entire curriculum and training (indicator)

A BOLD NEW VISION FOR AMERICA

The Robert Wood Johnson Foundation (RWJF) has laid out a bold and ambitious agenda of achieving a Culture of Health in the U.S. RWJF's new vision of a culture of health requires that the Foundation become more explicit about the need to expand the opportunity for good health for all. As such, RWJF has adopted health disparities[1] as a major priority, acknowledging the need for the Foundation to become a leading voice and a powerful driver in the movement to minimize the barriers that continue to compromise the health of so many in our society. RWJF recognizes that persistent health disparities linked with disadvantages experienced by particular populations undercut our nation's founding principle of equal opportunity to life, liberty, and the pursuit of happiness. The Foundation has set an ambitious goal of measurably reducing health disadvantages and disparities. Metrics will help inform the Foundation and the nation of its progress.

This paper describes Prevention Institute's health equity framework, including an analysis of the trajectories that produce either health inequity or equity, and the determinants of health (structural drivers, community determinants, as well as healthcare) that must be improved to achieve health equity. It also describes the methods and criteria that were applied to identify a set of recommended health equity metrics. Finally, the paper identifies a set of metrics that could reflect progress toward achieving health equity.

DISPARITIES: DEFINITIONS AND DIMENSIONS

The Foundation has noted that a number of organizations generally define health disparities as differences in health that negatively affect groups of people who have systematically experienced greater social or economic obstacles to health. These obstacles stem from characteristics historically linked to discrimination or exclusion, e.g., race or ethnicity, religion, socioeconomic status, gender, mental health, sexual orientation, or geographic location. "Health equity" occurs when all people have the opportunity to attain their full health potential and no one is disadvantaged from achieving this potential because of social position or other socially determined circumstances.

Health disparities in the U.S. occur across many dimensions. Given changing and projected racial/ethnic demographics and the growing wealth divide in this country, racial/ethnic and socio-economic disparities are predominantly considered in the selection of metrics. Further, both dimensions are conflated with geographic disparities – including rural and urban disparities and disparities in the Southern region of the US – and therefore, consideration of geographic disparities is also strongly emphasized.

WE COUNT WHAT MATTERS

The decision to establish a set of metrics for RWJF and the nation reflects the importance of addressing health disparities. Good health is precious. It enables us to enjoy our lives and focus on what is important to us—our families, friends, and communities. It

1 At the time of the final production of this paper the RWJF Eliminating Health Disparities team has changed its name to the Achieving Health Equity team. This paper reflects the language in use at the time of the project.

fosters productivity and learning, and it allows us to capitalize on opportunities. However, good health is not experienced evenly across society. Heart disease, cancer, diabetes, stroke, injury, and violence occur in higher frequency, earlier, and with greater severity among low-income people and communities of color—especially, African Americans, Native Americans, Native Hawaiians, certain Asian groups, and Latinos.

Health inequity is related both to a legacy of overt discriminatory actions on the part of government and the larger society, as well as present day practices and policies of public and private institutions that continue to perpetuate a system of diminished opportunity for certain populations. Historically, African Americans, Native Americans, Alaska Natives, and Native Hawaiians, in particular, have to varying extents had their culture, traditions, and land forcibly taken from them. It is not a mere coincidence that these populations suffer from the most profound health inequity and shortened life expectancies.

...the idea of equity is based on core American values of fairness and justice – the moral imperative to ensure everyone has an equal opportunity to prosper and achieve his or her full potential.

In many of the low income and racially segregated places where health inequity abounds, a collective despair and sense of hopelessness is pervasive and social isolation is rampant. Individual and community-level despair fuels chronic stress, encourages short-term decision making and increases the inclination towards immediate gratification which may include tobacco use, substance abuse, high fat, salt, and caloric intake, and physical inactivity. And continued exposure to racism and discrimination may in and of itself exert a great toll on both physical and mental health.[18] Poverty, racism, and lack of educational and economic opportunities are among the fundamental determinants of poor health, lack of safety, and health inequities, contributing to chronic stress and building upon one another to create a weathering effect, whereby health greatly reflects cumulative experience rather than chronological or developmental age.[19] Inequities in the distribution of a core set of health protective resources also continue to create and maintain clear patterns of poor health throughout the U.S.

Health equity is everyone's issue, and finding solutions will significantly benefit us all. As the U.S. population becomes increasingly diverse, achieving a healthy, productive nation will depend even more on keeping *all* Americans healthy. An equitable system can drastically lower the cost of healthcare for all, increase productivity, and reduce the spread of infectious diseases, thus improving our collective quality of life, and physical and mental well-being. Lastly, and most importantly, the idea of equity is based on core American values of fairness and justice – the moral imperative to ensure everyone has an equal opportunity to prosper and achieve his or her full potential.

Establishing metrics not only underscores the importance of addressing health disparities, it directs the Foundation and the country to a set of priorities and actions that can and will make a difference in the health and well-being of those populations in the U.S. who are most at risk for poor health and safety outcomes. If something is important, we note it, count it, measure it, and track it. RWJF's commitment to metrics reflects the Foundation's commitment to achieving health equity.

DETERMINANTS OF HEALTH: A FRAMEWORK TO INFORM HEALTH EQUITY METRICS

The determinants of health that must be improved to achieve health equity include: 1) structural drivers; 2) community determinants; and, 3) healthcare. This section lays out Prevention Institute's Two Steps framework, to identify these key determinants.

TWO STEPS TO PREVENTION — THE DETERMINANTS OF HEALTH

RWJF has long acknowledged the influence of the places that people live, learn, work and play on health. Similarly, Prevention Institute has focused on the impact of community environments on health, safety and health equity, and developed a methodology – Two Steps to Prevention. Two Steps to Prevention was developed as a tool to analyze the underlying causes of illness and injury and health inequities and identify the key opportunities for intervention and prevention. Two Steps to Prevention presents a systematic way of first looking at medical conditions, then at the exposures and behaviors that affect illness and injury, and then at the underlying determinants that shape patterns of exposure and behavior or directly influence the onset of medical conditions. To inform the development of metrics most closely associated with inequity across major health problems, Prevention Institute applied this methodology in recommending health equity metrics for RWJF.

Starting with Medical Conditions

The Centers for Disease Control and Prevention has identified the Leading Causes of Death by Age Group for the US (see Appendix A[2]).[20] By looking at leading causes of death across the lifespan, a more complete set of medical conditions that reflect inequity is revealed. For example, African Americans experience significant disparities in infant mortality, HIV and homicide. Yet none of these conditions is reflected in the top 10 leading causes of death in the US annually. In addition to focusing on medical conditions associated with the leading causes of death across the lifespan, several key medical conditions for which inequity abounds – mental health conditions/trauma, occupational hazards and substance abuse – were included. The overall set of key medical conditions that are leading causes of death and ill-health is shown in Table 1.

Table 1: Medical Conditions
Heart Disease
Cerebrovascular
Diabetes Mellitus
Malignant Neoplasms
Chronic Lower Respiratory Disease
Unintentional Injury
Suicide
Homicide
HIV
Infant mortality
Liver disease
Nephritis
Mental health conditions and trauma
Occupational exposures
Drug/substance use and abuse

Take a Step: From Medical Conditions to Exposures and Behaviors

The first step of the Two Steps approach is from examining medical conditions to identifying exposures and behaviors. Limiting unhealthy exposures and behaviors enhances health and reduces the likelihood and severity of disease. Through an analysis of the factors contributing to medical conditions that cause people to seek care, researchers have identified a set of nine behaviors and exposures strongly linked to the major causes of death:

2 The most current complete data set at the time of the development of this paper was for 2010. Preliminary data from 2011 available at the time revealed few overall differences in leading causes of death in the US.

tobacco, diet and activity patterns, alcohol, microbial agents, toxic agents, firearms, sexual behavior, motor vehicles, and inappropriate drug use.[21] These behaviors and exposures are linked to multiple medical diagnoses and addressing them can improve health broadly. For example, tobacco is associated with a number of health problems including lung cancer, asthma, emphysema, and heart disease. Diet and activity patterns are associated with cardiovascular and heart disease, certain cancers, and diabetes, among other illnesses. Table 2 shows a brief sample of behaviors and exposures associated with the leading causes of death/medical conditions.

Table 2: Sample of Behaviors and Exposures and Associated Medical Conditions

Behaviors and Exposures	Medical Conditions
Tobacco/smoking	Heart Disease
Excessive alcohol consumption	Cerebrovascular
Diet/Nutrition	Diabetes Mellitus
Physical activity	Malignant Neoplasms
Chemical exposures and air pollution	Chronic Lower Respiratory Disease
Sexual behaviors	Unintentional Injury
Infections, pollens, dust	Suicide
Automobiles	Homicide
Falls	HIV
Poisoning	Infant mortality
Weapons	Liver disease
Violence	Nephritis
Drug use and abuse	Mental health conditions and trauma
Trauma and adverse experiences	Occupational exposures
	Drug/substance use and abuse

Take a Second Step: From Exposures and Behaviors to the Determinants of Health

The second step is from understanding the exposures and behaviors to identifying the determinants of health. Our collective knowledge of how underlying factors influence health, safety, and health equity has deepened significantly over the past decade, to include structural drivers and community determinants, as well as healthcare. The determinants of health are interrelated. Altering the determinants of health supports health equity. Therefore, the recommended metrics are focused on the determinants of health. Metrics that capture the determinants of health can account for inequity across multiple dimensions including not only race/ethnicity and socio-economics but also geography-, gender-, sexual orientation- and disability-based inequity.

THE DETERMINANTS OF HEALTH

The determinants of health include structural drivers, community determinants, and healthcare services.

Structural Drivers

In analyzing the social determinants of health and health inequities, the World Health Organization (WHO) has identified structural drivers—the inequitable distribution of power, money, opportunity and resources—as a key determinant of inequity in health and safety outcomes.[22] At a fundamental level, inequity in health outcomes can

be understood as a disparity in power. Groups with less power tend to suffer worse health outcomes. Further, for those without power, money and resources, the stressors can directly impact health in a negative way, as is increasingly understood. Poverty, racism, and lack of educational and economic opportunities are among the fundamental determinants of poor health, lack of safety, and health inequuity. These factors contribute to chronic stress and build upon one another to create a weathering effect, whereby health greatly reflects cumulative experience rather than chronological or developmental age.[23]

Poverty, racism, and lack of educational and economic opportunities are among the fundamental determinants of poor health, lack of safety, and health inequity.

Community Determinants: the Social-Cultural, Physical/Built, and Economic Environment

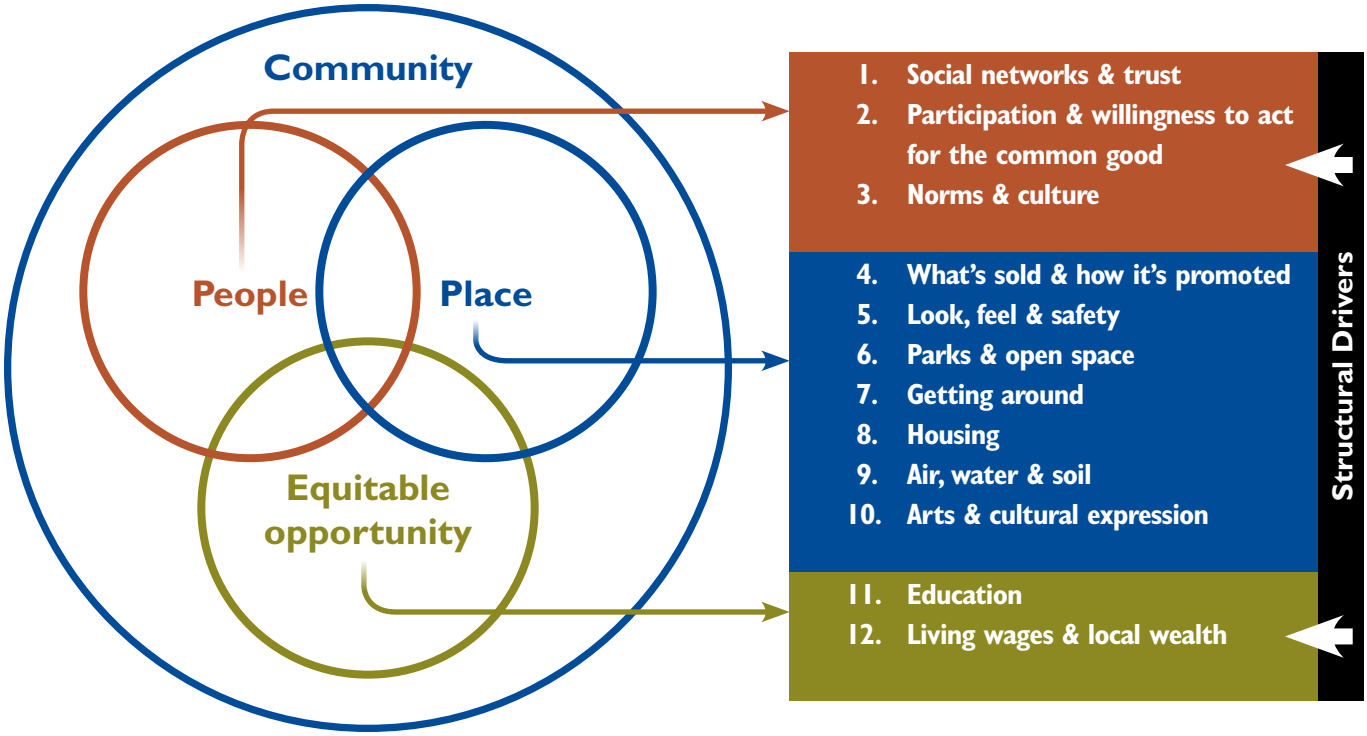
Another way that structural drivers influence health outcomes is by shaping the circumstances in which people are born, and grow, live, work, and age. WHO also identified community environments as a key contributor to inequity in health outcomes.[24] Drivers such as structural racism and socio-economic inequity, for example, play out at the community level to deeply impact community conditions. On the whole, a person's zip code is a better predictor of his/her health status and life expectancy than his/her genetic code. Research has now shown that after adjusting for individual risk factors, there are neighborhood differences in health and safety outcomes.[25] Thus, community environments fundamentally impact health and inequity and represent an important place for action to achieve health equity.

Another way that structural drivers influence health outcomes is by shaping the circumstances in which people are born, and grow, live, work and age. ...community environments fundamentally impact health and health inequity and represent an important place for action to achieve health equity.

For this analysis, Prevention Institute utilized its THRIVE (Tool for Health and Resilience in Vulnerable Environments) framework to delineate key community determinants that impact health, safety and health inequity. THRIVE emerged from an iterative process conducted from July 2002 to March 2003. The development team scanned peer-reviewed literature and relevant reports and conducted interviews with practitioners and academics. It also performed an internal analysis, which included brainstorming, clustering of concepts and information, and searching for supportive evidence as the analysis progressed. The literature scan began with *Healthy People 2010 Leading Health Indicators* (a forecast of indicators that Surgeon General Satcher identified as having a role in eliminating health disparities[26]) and with the "actual causes" of death identified by McGinnis and Foege.[27] Reviewers then gathered and evaluated subsequent information linking the *Leading Health Indicators* with social, behavioral, and environmental elements.[28]

The resulting set of 12 community factors fell into interrelated clusters, reflecting the social/cultural (people cluster), physical/built (place cluster), and economic environments (equitable opportunity cluster). THRIVE's national expert panel reviewed and ratified the factors and clusters, incorporating them into a tool that was pilot tested. The THRIVE research was updated in 2011–2012, and this included a review of new literature in the field of social determinants of health. The updated research also reviewed multiple social determinants of health frameworks, which revealed remarkable consistency across local, regional, state, national, and international models. The research that supports the connection between these clusters and factors and health, safety and health equity has also been provided to Foundation staff in a document entitled, *Community Clusters and Factors related to Health, Safety and Health Equity*. The 3 clusters and 12 community factors are depicted in Diagram 1: THRIVE Clusters and Factors — Community Determinants.

Diagram 1: THRIVE Clusters and Factors — Community Determinants



Healthcare Services

Access to quality healthcare services is also an important determinant of health. People want and need high-quality medical care, including good medical, mental health, and dental services. As a starting point, people need to be able to obtain quality medical and dental care, which means people need adequate and affordable health insurance. To help maintain health, people need preventive care and chronic disease management. In crisis situations, people need reliable, immediate, and qualified emergency medical responses. When people suffer from acute or chronic conditions, they need quality medical care to treat or cure their conditions, or help manage them. For all of these services, culturally and linguistically appropriate patient care is critical for communicating with patients and addressing health concerns within the cultural context of the patient.

The Determinants of Health, Related Behaviors and Exposures, and Medical Conditions

Table 3 shows the determinants of health, the related sample behaviors and exposures, and the medical conditions. (Refer to Appendix B for a list of specific factors within each cluster of community determinants associated with behaviors and exposures and medical conditions).

Table 3: Determinants of Health, Related Behaviors and Exposures, and Medical Conditions

Determinants of Health	Behaviors and Exposures	Medical Conditions
STRUCTURAL DRIVERS ■ Inequitable distribution of power, money, opportunity and resources ■ Disempowered people **COMMUNITY DETERMINANTS** **Social-cultural environment (people cluster)** ■ Social networks & trust ■ Participation & willingness to act for the common good ■ Norms & culture **Physical/built environment (place cluster)** ■ What's sold & how it's promoted ■ Look, feel & safety ■ Parks & open space ■ Getting around ■ Housing ■ Air, water & soil ■ Arts & cultural expression **Economic environment (equitable opportunity cluster)** ■ Education ■ Living wages & local wealth **QUALITY HEALTHCARE**	Tobacco/smoking Excessive alcohol Diet/Nutrition Physical activity Chemical exposures and air pollution Sexual behaviors Infections pollens, dust Automobiles Falls Poisoning Weapons Violence Drug use and abuse Trauma and adverse experiences	Heart Disease Cerebrovascular Diabetes Mellitus Malignant Neoplasms Chronic Lower Respiratory Disease Unintentional Injury Suicide Homicide HIV Infant mortality Liver disease Nephritis Mental health conditions and trauma Occupational exposures Drug/substance use and abuse

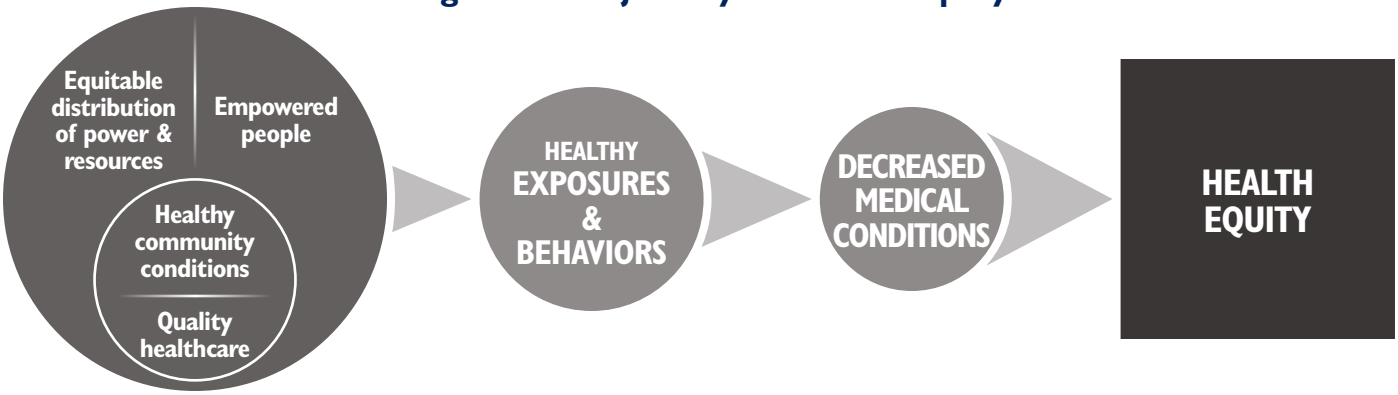
THE TRAJECTORIES OF HEALTH INEQUITY AND HEALTH EQUITY

Another way to understand Two Steps to Prevention and the determinants of health is to examine Prevention Institute's trajectories of health inequity and health equity. Diagram 2, the Trajectory of Health Inequity, shows the relationships between structural drivers and unhealthy community conditions (community determinants), exposures and behaviors, medical conditions and health inequity. Structural drivers and community determinants generate inequity, which are exacerbated by exposures and behaviors, and further exacerbated by how medical conditions are addressed in healthcare. The accumulation of inequity across the trajectory is represented by the increasing size of the arrows moving from left to right.

Diagram 2: Trajectory of Health Inequity

Diagram 3, the Trajectory of Health Equity, shows how improving the determinants of health will contribute to health equity. Improving structural drivers focuses on equitable distribution of power and resources and empowered people. Improving community determinants leads to healthy community conditions. Efforts to improve the determinant of healthcare focus on quality healthcare. The trajectory shows that improved structural drivers and community determinants and quality healthcare contribute to healthy exposures and behaviors, and decreased medical conditions. The contributions to greater health equity across the trajectory are represented by the increasing size of the arrows moving from left to right.

Diagram 3: Trajectory of Health Equity



HEALTH EQUITY METRICS DISCUSSION

Though the timeline for the development of recommended metrics was significantly expedited, Prevention Institute engaged several methods and applied disparity metrics criteria to identify a set of recommended metrics. This section describes the methodology and criteria, and the recommended set of metrics.

METHODS

In May and June of 2014, Prevention Institute reviewed existing metrics, related to social determinants of health. This included measurements in the literature as well as indicator and measurement efforts at the national, state, regional and local levels. Between May 15 and June 9, Prevention Institute reviewed existing metrics, particularly for social determinants of health. This

included measurements in the literature as well as indicator and measurement efforts at the national, state, regional and local levels. We identified and considered over 37 indicators, 24 indexes, and 39 composite measures and categorized them across the determinants of health (structural drivers, community determinants, and healthcare). In addition, Prevention Institute also interviewed 17 people (see Acknowledgments, page 3), including academics, people implementing place-based strategies, researchers who have or are developing metrics and indicator sets, and experts in specific topical areas. The interviews informed and affirmed the overall approach, principles and metrics criteria; revealed additional metric projects and indicators; and contributed to shaping the considerations, recommendations and metrics included here.

HEALTH EQUITY METRICS CRITERIA

Prevention Institute considered health equity principles, terminology used in association with measurements, criteria to assess individual metrics as well as the composite set of metrics, and other concerns, in order to identify a set of recommended metrics.

Principles[3]

The following principles provide guidance in addressing health inequity and informed the criteria for the selection of the recommended metrics:

Prevention Institute considered health equity principles, terminology used in association with measurements, criteria to assess individual metrics as well as the composite set of metrics, and other concerns, in order to identify a set of recommended metrics.

- Understand and account for the *historical forces* that have left a legacy of racism and segregation, as well as structural and institutional factors. This is key to enacting positive structural changes.
- Acknowledge the *cumulative impact of stressful experiences and environments*. For some families, poverty lasts a lifetime and even crosses generations, leaving its family members with few opportunities to make healthful decisions. Further, continued exposure to racism and discrimination may in and of itself exert a great toll on both physical and mental health.[29]
- Recognize the *role of privilege* in contributing to inequity in health outcomes and acknowledge that policies have afforded privilege to some groups at the expense of others.
- *Encourage meaningful public participation* with attention to outreach, follow-through, language, inclusion, and cultural understanding. Government and private funding agencies should actively support efforts to build resident capacity to engage. Foster civic engagement.
- Adopt an overall approach that recognizes the cumulative impact of multiple stressors and focuses on *changing community determinants,* not blaming individuals or groups for their disadvantaged status.
- Strengthen the *social fabric of neighborhoods*. Residents need to be connected and supported and to feel empowered to improve the safety and well-being of their families. All residents need a sense of belonging, dignity, and hope.
- Promote equity solutions that address urgent survival issues for low-income people and people of color, while simultaneously responding to *national and international concerns*, such as the global economy, climate change, U.S. foreign policy, and immigration reform.
- Address the developmental needs and transitions of *all age groups*. While infants, children, youth, adults, and elderly require age-appropriate strategies, the largest investments should be in early childhood, which establishes the foundation for adult health.

3 Adapted from Alameda County Public Health Department's *Life and Death From Unnatural Causes: Health and Social Inequity in Alameda County* (2008) and featured in Prevention Institute's *A Time of Opportunity: Local Solutions to Reduce Inequities in Health and Safety* (2009), commissioned by the Institute of Medicine's Roundtable on the Promotion of Health Equity and the Elimination of Health Disparities.

- *Work across multiple sectors* of government and society in order to make the necessary structural changes. Such work should be in partnership with community advocacy groups that continue to pursue a more equitable society.
- *Measure and monitor the impact of social policy* on health and safety to ensure equity goals are being accomplished. Institute systems to track governmental spending by neighborhood. Monitor changes in health equity over time and place to help identify the impact of adverse policies and practices.
- *Enable groups heavily impacted by inequities to have a voice* in identifying helpful policies and in holding government accountable for implementing them.
- Recognize that eliminating inequities provides a huge *opportunity to invest in community.* Inequity among us is not acceptable, and we all stand to gain by eliminating it.
- Efforts should build on the *strengths and assets* of communities, recognizing that communities are resilient and have a strong history of making change.

Terminology

There are many terms used in association with measurements, including index, measures, metrics, and indicators. For the purpose of this paper, the following terminology is used:

- ***Indicator:*** An indicator is a single measurement. *Example: Number of suspensions and expulsions from school.*
- ***Index:*** An index is a measurement that includes multiple indicators and is in use by others – particularly for research purposes. Some are validated and/or weighted. Others are groupings of indicators related to the index title. *Example:* The Virginia Health Equity Report 2012 Education Index[30] is comprised of 2 factors: attainment and enrollment, both of which are comprised of several sub-factors.
- ***Composite measure:*** A composite measure includes multiple indicators and is not necessarily in use by others but includes specific indicators that correlate strongly with health outcomes. *Example: For education: high school graduation rates, 3rd grade literacy levels and number of suspensions and expulsions.*

Individual and Composite Metrics Criteria

Criteria were developed and applied to evaluate and prioritize potential individual as well as the composite set of metrics.

Individual Metrics Criteria

The criteria used to evaluate and prioritize individual metrics are:

- **Be feasible,** capitalizing on existing data or utilizing data that can be collected in a timely manner.
- **Be measurable**, emphasizing the quantifiable and the ability to track over time.
- **Have face validity,** characterizing or reflecting the concept(s) they intend to measure.
- **Be cross-categorical,** capturing multiple categories or domains of inequity.
- **Be based on the best available evidence,** reflecting the best available evidence including research, contextual and experiential evidence.[31][4]
- **Foster an understanding of the problem and solutions,** clarifying sources of inequity in a way that will point the way towards solutions.

- **Be actionable and inform policy,** informing community-level action and key policies/policy arenas that address health inequity.
- **Foster public engagement and engage multiple sectors,** elucidating opportunities for community change across multiple sectors and informing the roles and contributions of multiple sectors and the public in addressing health inequity.
- **Elevate health for all and the opportunity for health for all,** focusing on key health disparity considerations to inform actions that will support health and well-being for groups that experience the greatest inequity.

Composite Criteria

The criteria used to evaluate and prioritize the set of metrics are:

- **Align with Culture of Health metrics,** building off of key findings and themes identified in the process of developing a broader set of Culture of Health metrics, as appropriate.
- **Be grounded in Health Equity Principles,** reflecting a core set of principles that recognize the history and legacy, as well as the structural and institutional factors behind disparities and the kinds of practices and policies that are needed moving forward (see Principles, page 19).
- **Be a mix of risk and resilience-based measures,** featuring risk-based measures that are associated with factors or conditions that increase the risk of poor health and safety outcomes in low-income communities and communities of color and/or increase health inequity between these groups and the general population. It will also feature resilience-based measures that are associated with factors or conditions which are protective of health and safety outcomes in low-income communities and communities of color even in the presence of risk factors, and/or reduce health inequity between these groups and the general population. Resilience-based measures will also incorporate community assets.
- **Be a mix of quantitative and qualitative,** primarily utilizing measurements that can be expressed as a number (quantitative); however, some data, particularly for seminal sites may not be expressed as numbers (qualitative).
- **Account for multiple kinds of inequity,** primarily focusing on racial/ethnic, socio-economic, and geographic inequity (e.g. rural, urban and regional inequity).
- **Consider implications across the lifespan,** recognizing that needs and solutions vary from birth, through childhood, adolescence young adulthood, middle age, and older age and that different age groups experience different health disparities.
- **Account for what's contributing to health inequity and how such determinants play out at the community level, within services and, institutions and through policy, while pointing to solutions,** reflecting an understanding of the causes of inequity in order to inform a set of solutions and actions.
- **Account for the social and physical environments in which people live, work and play,** reflecting key elements in the community environment that impact inequity in health outcomes.
- **Inform collaborative processes among the multiple sectors that impact health and health inequity**, informing how change can be made among all government sectors as well as private sectors (e.g., community health organizations, businesses, and education).
- **Include healthcare measures,** recognizing the important role that access to quality, affordable and culturally/linguistically appropriate healthcare plays in reducing health inequity.
- **Reinforce understanding that health disparities are interdependent and mutually reinforcing across society,** reflecting the interconnected nature between underlying determinants of health inequity, the cumulative impact of multiple determinants and nature of how these elements are mutually reinforced.
- **Gain the attention of the public**, being designed not only as a measurement tool but also as a communications tool to help inform the public about health inequity and what will reduce it.

- **Frame in a manner that population groups experiencing inequity in health outcomes are not blamed for them**, reinforcing the influence of environmental factors rather than individual responsibility, behavior and choice.

Considerations

To develop a set of metrics, numerous considerations were taken into account. These include: the strengths and limitations of indicators, indexes, and composite measures, the distribution of metrics across the determinants of health, and the need to frame the metrics in a manner that illuminates potential solutions.

Level of Measurement

Indicators, indexes, and composite measures each have strengths and limitations in terms of their contributions to a set of metrics.

- **Indicators** (single measurements):
  - **Strengths***:* Indicators can be straightforward in what they express and can convey direction for policy and action. Indicators are also specific, and progress can be measured accurately over time, providing an important tool for advocates.
  - **Limitations**: Because indicators are single measures, they don't necessarily reflect the complexity of health inequity. Further, a complete set of metrics with only individual indicators may not adequately reflect an accurate overall understanding of the challenges and shortcomings of our country's "system of health" or the actions and policies needed to address health inequity.

- **Indexes** (include multiple indicators and are in use, particularly for research purposes)**:**
  - **Strengths***:* Because indexes include multiple indicators, they are able to account for complexity and a wider range of conditions than a set of single indicators. Many indexes are already validated and widely used in research and/or metrics projects. Utilizing indexes builds on these existing efforts. Selecting and utilizing accepted and/or validated indexes could leverage current investments of RWJF, lend credibility to existing efforts, and further scalability by increasing the use of existing indexes.
  - **Limitations**: Because indexes account for multiple, interrelated factors, at face value, they may not appear as actionable as single indicators.

- **Composite Measures** (include specific indicators, not necessarily in use by others, that correlate strongly with health outcomes):
  - **Strengths**: Like indexes, composite measures can account for complexity and for a wider range of conditions than single indicators. Composite measures provide the ability to include indicators that most closely align with health outcomes and health inequity. They also provide an opportunity for innovations that could advance the field of health equity.
  - **Limitations:** Like indexes, composite measures account for multiple, interrelated factors and, therefore, may not appear as actionable as single indicators. Unlike indexes, composite measures are not validated or weighted and would likely require development to ensure that they accurately reflect what they are intended to reflect.

    Given the strengths and weakness of indicators, indexes, and composite measures, the recommended metrics (see Recommended Health Equity Metrics, page 23) include a balanced mix of the three

that maximizes the strengths of each and minimizes the limitations. Prevention Institute recommends that 2-4 composite measures be developed to fill a gap in the field. For example, most measures of community safety include crime rates but don't account for the complexity of community safety, nor do they inform action. Given the strong relationship between community safety and health inequity, this is an area in which it is recommended that a composite measure be developed.

Balance across the Determinants of Health

The determinants of health (see Determinants of Health, page 14) are complex and interrelated. Determining how to distribute the metrics across the determinants (structural drivers, community determinants, and healthcare) is important. Across interviewees, there were calls for both an emphasis largely on structural drivers as major drivers of health inequity and on community factors because of the strong correlation between place and health, as well as the notion that community-level conditions are very actionable. The goal is to both reflect the overall set of determinants while giving balanced consideration to the distribution. To achieve a balance, Prevention Institute recommended that about one-third of the set of metrics reflect the structural drivers, about one-half of the set of metrics reflect community determinants, and one-sixth of the set of metrics reflect healthcare.

Framing the Need to Address Disparity

Metrics are important both as a tool for measurement of health inequity for the country as well as for communicating what's needed to improve health equity. Metrics benefit from being framed or contextualized in a way that communicates solutions. As such it may be helpful to identify policies and/or sectors associated with specific metrics. For example, the Index of Dissimilarity[32] reflects residential segregation, which is highly correlative with disparities in health outcomes. The co-efficient represents the percentage of people who would need to move from the community to achieve a demographic distribution equal to the whole population. A more useful framing may be around housing mobility and fair housing policies that ensure, for example, that people using Section 8 Housing Vouchers have true choice and real options in terms of where they live.

Further, as a core set of priority metrics emerged, Prevention Institute looked to lift up metrics that are cross-categorical, capturing multiple categories or domains of inequity. As an example, Seattle/King County's metric of salmon spawning reflects economic health and environmental health. While this is a very local metric not easily transferable across the country, appropriate cross-categorical metrics can be identified. Finally, framing considerations also included the extent to which disparities are explicit or implicit in the presentation of metrics. For example, the California Department of Health utilizes a Place-Based Equity Composite (100 X Σ Count of indicators with significant difference between the highest and lowest quintiles of census tracts/number of indicators).[33]

RECOMMENDED HEALTH EQUITY METRICS

The recommended metrics reflect a balance across the determinants of health (structural drivers, community determinants and healthcare) and are a mix of indicators, indexes and composite measures, with consideration given to framing that communicates clear direction and spurs action. The recommended metrics for structural drivers include attention to: 1) the equitable/inequitable distribution of resources, power, money and opportunity; and, 2) empowered/dis-empowered people. The recommended metrics for community determinants include attention to: 1) the social-cultural environment (people factors); 2) the physical/built environment (place factors); and, 3) the economic environment (equitable opportunity factors). The recommended metrics for healthcare include attention to access. See Appendix C for the rationale for including each metric and the status of each metric. For a select number of metrics, brief text related to framing, policy or investment implications, and/or various sectors that have a role in solutions has also been included in Appendix C.

The following recommended health equity metrics reflect the determinants of health (structural drivers, community determinants, and healthcare).

STRUCTURAL DRIVERS

1. Neighborhood Disinvestment Index (index)
2. Gini Index[6] (index)
3. Index of Dissimilarity[7] (indicator)
4. Rates of incarceration by race/ethnicity (indicator)
5. Percent of residents from traditionally marginalized communities in positions of influence (indicator)
6. Geographic distribution of health: life expectancy by zip code (indicator)
7. Community Trauma (composite measure)
8. Community Readiness (composite measure)
9. Number of communities with indicator projects (indicator)

COMMUNITY DETERMINANTS

Social-cultural environment

10. Collective efficacy[8] (index)
11. Civic engagement (composite measure)

Physical/built environment

12. Physical activity environment[9] (index)
13. Retail Food Environment Index (index)
14. Food Marketing to Kids Group (index)
15. Housing Index[10] (index)
16. Affordability of Transportation and Housing[11] (index)
17. Pollution Burden Score[12] (index)
18. Mobility and Transportation[13] (index)
19. Opportunities for engagement with arts, music and culture[14] (index)
20. Per capita dollars spent for park space per city/neighborhood (indicator)
21. Safe place to walk within 10 minutes of home (indicator)
22. Alcohol outlet density (indicator)
23. Number of comprehensive smoke-free policies in places that prohibit smoking in all indoor areas of work-sites and public places (indicator)
24. Community Safety Scorecard[15] (index)
25. Number of cities with a comprehensive, multi-sector violence prevention plan (indicator)

Economic environment

26. Number of living wage policies in place (indicator)
27. Academic achievement (composite measure)
28. Local wealth (composite measure)
29. Complete and livable communities[16] (index)
30. School Environment[17] (index)
31. Percent of families who say it's hard to find the child care they need (indicator)
32. Workplace safety (composite measure)

HEALTHCARE SERVICES

33. Percent of patients that can access a place they call their "medical care home" within two weeks' time (indicator)
34. Patient satisfaction with medical encounters as a measure of culturally and linguistically appropriate care (indicator)
35. Number of medical schools that integrate healthcare disparities and community learning throughout entire curriculum and training (indicator)

Appendix A: 10 leading causes of death by age group, US – 2010

The 10 leading causes of death in 2010 by age group shown with color coding.

Age Groups	Rank	1	2	3	4	5	6	7	8	9	10
	Less than 1	Congenital Anomalies 5,107	Short Gestation 4,148	SIDS 2,063	Maternal Pregnancy Comp. 1,561	Unintentional Injury 1,110	Placenta Cord. Membranes 1,030	Bacterial Sepsis 583	Respiratory Distress 514	Circulatory System Disease 507	Necrotizing Enterocoliyis 472
	1 - 4	Unintentional Injury 1,394	Congenital Anomalies 507	Homicide 385	Malignant Neoplasms 346	Heart Disease 159	Influenza & Pneumonia 91	Septicemia 62	Benign Neoplasms 59	Perinatal Period 52	Chronic Low. Respiratory Disease 51
	5 - 9	Unintentional Injury 758	Malignant Neoplasms 439	Congenital Anomalies 163	Homicide 111	Heart Disease 68	Chronic Low. Respiratory Disease 60	Cerebrovascular 47	Benign Neoplasms 37	Influenza & Pneumonia 37	Septicemia 32
	10 - 14	Unintentional Injury 885	Malignant Neoplasms 477	Suicide 267	Homicide 150	Congenital Anomalies 135	Heart Disease 117	Chronic Low. Respiratory Disease 73	Benign Neoplasms 45	Cerebrovascular 43	Septicemia 35
	15 - 24	Unintentional Injury 12,341	Homicide 4,678	Suicide 4,600	Malignant Neoplasms 1,604	Heart Disease 1,028	Congenital Anomalies 412	Cerebrovascular 190	Influenza & Pneumonia 181	Diabetes Mellitus 165	Complicated Pregnancy 163
	25 - 34	Unintentional Injury 14,573	Suicide 5,735	Homicide 4,258	Malignant Neoplasms 3,619	Heart Disease 3,222	HIV 741	Diabetes Mellitus 606	Cerebrovascular 517	Liver Disease 487	Congenital Anomalies 397
	35 - 44	Unintentional Injury 14,792	Malignant Neoplasms 11,809	Heart Disease 10,594	Suicide 6,571	Homicide 2,473	Liver Disease 2,423	Cerebrovascular 1,904	HIV 1,898	Diabetes Mellitus 1,789	Influenza & Pneumonia 773
	45 - 54	Malignant Neoplasms 50,211	Heart Disease 36,729	Unintentional Injury 19,667	Suicide 8,799	Liver Disease 8,651	Cerebrovascular 5,910	Diabetes Mellitus 5,610	Chronic Low. Respiratory Disease 4,452	HIV 3,123	Viral Hepatitis 2,376
	55 - 64	Malignant Neoplasms 109,501	Heart Disease 68,077	Chronic Low. Respiratory Disease 14,242	Unintentional Injury 14,023	Diabetes Mellitus 11,677	Cerebrovascular 10,693	Liver Disease 9,764	Suicide 6,384	Nephritis 5,082	Septicemia 4,604
	65+	Heart Disease 477,338	Malignant Neoplasms 396,670	Chronic Low. Respiratory Disease 118,031	Cerebrovascular 109,990	Alzheimer's Disease 82,616	Diabetes Mellitus 49,191	Influenza & Pneumonia 42,846	Nephritis 41,994	Unintentional Injury 41,300	Septicemia 26,310
	Total	Heart Disease 597,689	Malignant Neoplasms 574,743	Chronic Low. Respiratory Disease 138,080	Cerebrovascular 129,476	Unintentional Injury 120,859	Alzheimer's Disease 83,494	Diabetes Mellitus 69,071	Nephritis 50,476	Influenza & Pneumonia 50,097	Suicide 38,364

Source: US Centers for Disease Control and Prevention.

http://www.cdc.gov/injury/wisqars/pdf/10LCID_All_Deaths_By_Age_Group_2010-a.pdf. Accessed June 7, 2014.

Appendix B: Take Two Steps to Prevention — Community Determinants

The table below shows that using the Two Steps to Prevention tool, the first step is from medical conditions to associated behaviors and exposures. The second step is from behaviors and exposures to determinants of health. (This table does not include structural drivers and healthcare, which are also determinants of health.)

		Heart Disease	Cerebro-vascular	Diabetes Mellitus	Malignant Neoplasms	Chronic Low. Respiratory Disease	Unintentional Injury	Suicide	Homicide
Medical conditions									
Behaviors and exposures		Smoking Excessive alcohol consumption Diet Activity Air pollution	Diet Activity Smoking	Diet Activity Smoking	Smoking Diet Chemicals Alcohol Sexual behaviors	Air pollution, Tobacco smoke, Factory fumes, Cleaning solvents, Infections Pollens, Dust, Chemicals	Alcohol Automobiles Falls Poisoning	Weapons Depression Life stressors Alcohol	Weapons Alcohol Trauma Stressors Violence
Community Determinants	Social-cultural (people)	Social networks & trust	Norms & culture	Norms & culture	Norms & culture	Norms & culture	Norms & culture	Social networks & trust	Social networks & trust Collective efficacy Norms & culture
	Physical/built (place)	What's sold & promoted Look, feel & safety Parks & open space Getting around Air, water, & soil	What's sold & promoted Look, feel & safety Parks & open space Getting around Arts & cultural expression	What's sold & promoted Look, feel & safety Parks & open space Getting around Arts & cultural expression	What's sold & promoted Look, feel & safety Parks & open space Getting around Housing Air, water, & soil	What's sold & promoted Look, feel & safety Parks & open space Getting around Housing Air, water, & soil Arts & cultural expression	What's sold & promoted Look, feel & safety Parks & open space Getting around Housing Air, water, & soil	What's sold & promoted Look, feel & safety Parks & open space Arts & cultural expression	What's sold & promoted promoted Look, feel & safety Parks & open space Arts & cultural expression
	Economic (equitable opportunity)	Education Living wages & local wealth	Education Living wages & local wealth	Education Living wages & local wealth	Education Living wages & local wealth	Education Living wages & local wealth	Education Living wages & local wealth	Education Living wages & local wealth	Education Living wages & local wealth

Appendix B: Take Two Steps to Prevention — Community Determinants *continued*

Medical conditions		**HIV**	**Infant mortality**	**Liver Disease**	**Nephritis**	**Mental health conditions Trauma**	**Occupational exposures**	**Drug use and abuse**
Behaviors and exposures		Alcohol Drug use Sexual behaviors	Alcohol Drug use Stressors Chemical exposure Nutrition/ diet	Alcohol Drug use Diet Activity	Medication	Stress Violence Loss Trauma	Chemicals Heat Biological agents, Adverse ergonomic conditions Allergens, Safety risks	Drug use Trauma Stressors
Community Determinants	**Social-cultural (people)**	Norms & culture	Social networks & trust	Norms & culture	Norms & culture	Social networks & trust	Participation & collective efficacy	Participation & collective efficacy
	Physical/built (place)	What's sold & promoted Look, feel & safety Parks & open space	What's sold & promoted	What's sold & promoted Look, feel & safety Parks & open space	What's sold & promoted	Arts & cultural expression	Air, water, & soil	What's sold & promoted Look, feel & safety Arts & cultural expression
	Economic (equitable opportunity)	Education Living wages & local wealth	Education Living wages & local wealth	Education Living wages & local wealth	Education Living wages & local wealth		Education Living wages & local wealth	Education Living wages & local wealth

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications

Appendix C delineates the list of 35 recommended health equity metrics, organized according to determinants of heath, with a description of the rationale for including the metric in the set, and a description of the status of the metric. For a select number of metrics, brief text related to framing, policy or investment implications, and/or various sectors that have a role in solutions are also included.

Determinant of Health: Structural Drivers

The metrics for structural drivers include attention to 1) the equitable/inequitable distribution of resources, power, money and opportunity and 2) empowered/dis-empowered people.

Metric (Type)	Rationale for inclusion	Metric Status	Sample framing, policy and/or investment implications	Relevant sectors
1. Neighborhood Disinvestment Index (index)	Conveys concentrated underinvestment utilizing 7 common indicators. 1. Percent of residents in poverty; 2. Percent of (male) unemployed residents; 3. Percent home ownership (or some other measure of residential stability such as average length of current residence); 4. Percent single parent/single income households; 5. Percent of residents with low educational attainment (and/or the reverse, percent residents with college degrees); 6. Percent of residents in management/professional occupations; sometimes the age structure and/or the racial/ethnic composition of the neighborhood are also included. This is well-accepted in research and utilizes standardly collected data. The name implies disinvestment rather than blaming individuals.	There are variations of this index, which is utilized in research. The indicators listed under the rationale are some of the most commonly used indicators of neighborhood disinvestment/neighborhood resources. These indicators are generally measured at the census tract level (for ease of data availability via the Census Bureau): Sometimes, the age structure and/or the racial/ethnic composition of the neighborhood are also included. The indicators within the index are standardly collected, but calculating the index itself is not necessarily widely done.		

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Structural Drivers *continued* The metrics for structural drivers include attention to 1) the equitable/inequitable distribution of resources, power, money and opportunity and 2) empowered/dis-empowered people.				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
2. Gini Index (index)	The Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution.[46] A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. While there is some controversy as to whether or not this is exactly the right metric to measure the wealth gap, particularly at a local or regional level, it is included as a placeholder for a metric to measure the gap. The U.S. has the world's largest gap between its wealthiest and poorest members - a gap which continues to grow -exacerbating health disparities and poor health outcomes.[47]	This is a validated index commonly used in global income inequality. It's applicability at the local level is not clear. The calculation of this specific co-efficient is based on widely available data as it reflects the proportion of the total income of the population that is cumulatively earned by the bottom % of the population.		
3. Index of Dissimilarity (indicator)	A demographic measure of the evenness with which two groups are distributed across the component geographic areas that makes up a larger area. [48] The index score can also be interpreted as the percentage of one of the two groups included in the calculation that would have to move to different geographic areas in order to produce a distribution that matches that of the larger area. The index of dissimilarity can also be used as a measure of inequality. This metric is a proxy for residential segregation, which is highly predictive of poor health and safety outcomes.	This is a validated index. It utilizes standardly collected data (via the Census). There are multiple methodologies accepted for measuring neighborhood segregation but this is the most commonly used one.	Fair housing policies that support choice and mobility.	Housing Economic development Education

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Structural Drivers *continued* The metrics for structural drivers include attention to 1) the equitable/inequitable distribution of resources, power, money and opportunity and 2) empowered/dis-empowered people.				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
4. Rates of incarceration by race/ethnicity (Indicator)	The criminal justice system – law enforcement, courts, detention and prison systems – disproportionately engage and detain males of color, particularly African American and Latino. The legacy of mass incarceration cycles has contributed to a breakdown in the social and economic fabric of these communities. Further, it has been increasingly documented that institutional policies and practices, such as mandatory sentencing and zero tolerance have contributed to disproportionate minority contact (DMC).	Derived from nationally collected data.		Education Courts Law enforcement Prisons Mental health Economic and workforce development Community development
5. Percent of residents from traditionally marginalized communities in positions of influence (indicator)	Community engagement and leadership in identifying and implementing solutions will be critical in shifting community determinants. Further, this metric is a proxy for power of community members because disparities are present when power is unequally distributed.	This is not standardly collected. It would be a new measurement.		
6. Geographic distribution of health: life expectancy by zip code (indicator)	This indicator can explicitly present the power of geography in determining health outcomes while implicitly conveying the unfair nature of the distribution of health. This will measure geographic disparities, reinforcing the value of place-based approaches to reducing inequities in health outcomes.	Derived from nationally collected data.	A person's zip code is more predictive of life expectancy than one's genetic code.	

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Structural Drivers *continued* The metrics for structural drivers include attention to 1) the equitable/inequitable distribution of resources, power, money and opportunity and 2) empowered/dis-empowered people.				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
7. Community Trauma (composite measure)	Though it's critical that communities be part of the solution, the legacy of institutional and governmental practices has left many communities dis-empowered and traumatized. Understanding this can help inform strategies and approaches for engaging and empowering communities for community changes. Indicators could reflect community exposures to *historical forces* that have left a legacy of racism and segregation, as well as structural and institutional factors that contribute to an inequitable distribution of power, resources, money and opportunity; as well as exposure to violence, loss, incarceration, and displacement.	This would be a new metric/ measure that would need development.		
8. Community Readiness (composite measure)	This metric is a more positive frame on community trauma. Developing this metric could guide investments in communities with the goal of reducing disparities. Indicators would reflect the level of readiness for a community to engage in solutions to promote health outcomes and reduce disparities in outcomes.	This would be a new metric/ measure that would need development.		
9. Number of communities with indicator projects (indicators)	The community-driven process of developing, tracking and working to improve prioritized conditions is a proven health equity strategy. It engages community members in defining and shaping their own community.	This would be a new metric/ measure that would need development.		Public health Community residents Private sector

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants social-cultural environment (people cluster)				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
10. Collective Efficacy (index)	Collective efficacy is a validated measurement that also accounts for social cohesion and trust- or willingness to act on behalf of the community.[49] Pages 4-6 of the Prevention Institute supplemental document, *Community Clusters and Factors Related to Health, Safety and Health Equity,* detail the research that connects these factors to health, safety and health equity. The index combines two related scales: The first is a five-item Likert-type scale of shared expectations for social control. Residents are asked about the likelihood that their neighbors could be counted on to take action if: children were skipping school and hanging out on a street corner, children were spray-painting graffiti on a local building, children were showing disrespect to an adult, a fight broke out in front of their house, and the fire station closest to home was threatened with budget cuts. Social cohesion/trust was measured by asking respondents how strongly they agreed that "People around here are willing to help their neighbors"; "This is a close-knit neighborhood"; "People in this neighborhood can be trusted"; "People in this neighborhood generally don't get along with each other"; and "People in this neighborhood do not share the same values". Social cohesion and informal social control are combined into a summary measure of the higher-order construct, 'collective efficacy'.	This is a validated index that has been used in research. The data is not widely collected.	Strong networks and trust Willingness to take action for the community's good	

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants *continued* **social-cultural environment (people cluster)**				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
11. Civic Engagement (composite measure)	Some interviewees noted that there is often a focus on community engagement without a focus on civic engagement. Within communities that experience the greatest disparities, people have been disenfranchised from the decision making processes and opportunities that influence their lives. Civic engagement is about an explicit focus on these processes and opportunities. Civic engagement includes: [50] Percent of adult population registered to vote; Percent of registered voters that voted in general elections; Percent of registered voters that voted in municipal elections); Adults and youth involved in decision-making roles in government and community-based organizations; and consideration of those not eligible to vote due to felony convictions or immigration status.	This is a metric that would need development. It includes some indicators that are widely available (e.g. % of registered voters, % voted, etc.) and includes measures that are not standardly collected (e.g. adults and youth involved in decision-making roles…).		

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants physical/built environment (place cluster)				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
12. Physical activity environment (index)	This index underscores the value of focusing on environmental factors to foster and support physical activity. Elements include: Joint/shared use of community facilities; Policies that promote physical activity and the built environment; Adult active transport by walking; Active commuting to school; Bicycling by adults; Recreational facility outlet density; Child and adolescent physical-activity related attitudes and perceptions; Non-school organized physical activity-related activities; Physical activity requirements for licensed child care.[51]	These indicators are not standardly collected. The Index comes from an Institute of Medicine publication so there is a lot of research and deliberation behind the selection of indicators.		Education/schools Planning/zoning Transportation and street design Transit Parks and recreation Community organizations
13. Retail Food Environment Index (index)	This index underscores the value of focusing on environmental factors to foster and support healthy eating. This food system measure accounts for the mix of healthy and unhealthy options by identifying the number of healthy and unhealthy food retailers in an area and presents the % that are healthy [e.g., number of fast-food restaurants and convenience stores/total number of supermarkets and produce vendors (produce stores and farmers markets)].	Derived from national data that is standardly collected by the CDC.		

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants *continued* **physical/built environment (place cluster)**				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
14. Food Marketing to Kids Group (index)	This metric underscores the powerful and pervasive influence of marketing to children to influence food choices and patterns, including: The percent of food ads on children's English-language television programing that promote unhealthy foods, compared to that of Spanish-language children's television programming; The average number of television ads for unhealthy foods viewed by children, compared by race and ethnicity; Number of visible advertisements of unhealthy food and beverages within a school or school district; Number of billboards in a census tract displaying advertisements for unhealthy foods, alcohol, or tobacco products.	This metric would need development. TV advertising data could come from Nielsen's Ratings. The other data is not widely collected.	Restrict marketing to children	
15. Housing Index (index)	This index[52] includes a number of indicators that are indicative of stressors associated with housing and lack of adequate housing and therefore contribute to disparities. These include: Crowded Housing as a percent of total households; Gross rent as percent of household income; Number of subsidized housing units per 1000 local residents; Owner occupied housing as a percentage of total housing units; Percent of households paying over 30% of income for mortgages; Percent of households paying over 30% of income for rent; Percent of households that have moved in the last 5 Years; Rental vacancy rates as a percentage of rental units.	This index comes from the Connecticut Health Equity Index. The individual indicators are standardly collected and/or can be derived from census data.	Access to affordable housing	

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants *continued* **physical/built environment (place cluster)**				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
16. Affordability of Transportation and Housing (index)	The affordability indicator[53] is composed of three variables. (1) Housing cost, (2) transportation cost and (3) total income. Because this metric measures the proportion of income spent on housing and transportation, it is indicative of disparities in access to affordable housing and transportation. Access to quality housing and transportation both correlate with health, safety and health equity and good transportation also enables access to other resources associated with improved health outcomes (medical care, employment, grocery stores, etc.). For more on the links between housing and transportation and health, safety and equity, see pages 14–17 of Prevention Institute's supplemental document, *Community Clusters and Factors Related to Health, Safety and Health Equity*.	This index comes from the Virginia Health Opportunity Index. At this point, we are unsure if it is validated but believe the individual indicators are standardly collected.		
17. Pollution Burden Score (index)	This index accounts for the inherent "burdens" of living in low-income communities, communities of color and urban communities that are disproportionately burdened by pollution. This Score[54] represents the average % of six exposure indicators and four environmental effects indicators. The six exposure indicators include ozone, PM concentrations, diesel PM concentrations, pesticide use, toxic releases from facilities, and traffic density. The four environmental effects indicators include cleanup sites, impaired water bodies, ground water threats, and solid waste sites and facilities and hazardous waste facilities.	This includes a combination of standardly collected indicators and indicators that are not standardly collected.		Transportation design Transit Economic development Industry Employers

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants *continued* **physical/built environment (place cluster)**				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
18. Mobility and Transportation (index)	Getting around correlates with health, safety and health equity. See pages 14–15 of Prevention Institute's supplemental document, *Community Clusters and Factors Related to Health, Safety and Health Equity.* Often without access to a vehicle in a society that is designed expressly for automobiles, low-income communities suffer disproportionately in terms of access. This index includes:[55] Cost per commute; Proximity to express bus stops; Average transit fare; Percent of commuters who walk.	The data is not standardly collected.		Transportation design Transit Planning/zoning Economic development
19. Opportunities for engagement with arts, music and culture (index)	Arts and cultural expression support health, safety and health equity (see pages 13–14 of Prevention Institute's supplemental document, *Community Clusters and Factors Related to Health, Safety and Health Equity)*. This index[56] includes: Per capita revenue in nonprofit arts organizations; Percent of workers employed in artistic occupations.	Not yet validated. We believe the data is widely collected.		
20. Per capita dollars spent for park space per city/ neighborhood (indicator)	Parks and open space support health and safety outcomes (see pages 13–14 of Prevention Institute's supplemental document, *Community Clusters and Factors Related to Health, Safety and Health Equity*). However, park access, quality, availability, and programming, for example, are not distributed evenly across communities let alone in a way that prioritizes investment in marginalized communities to counter previous disinvestment. This metric would be a starting point to look at investment and then to be able to compare investments across jurisdictions.	Not widely collected.		
21. Safe place to walk within 10 minutes of home (indicator)	According to the Office of Minority Health, people who had a safe place to walk within 10 minutes of home were 40% more active than others. This metric is cross-categorical accounting for safety and access.	Not widely collected.		

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants *continued* **physical/built environment (place cluster)**				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
22. Alcohol Outlet Density (indicator)	Alcohol availability increases the likelihood of high-risk behaviors associated with violence, unintentional injury and sexually transmitted diseases. Long-term alcohol abuse is a risk factor for heart and liver disease. Alcohol density is more concentrated in low-income communities. Additionally, liquor stores in low-income neighborhoods often sell alcohol chilled in larger containers for immediate consumption which increases the likelihood of excessive drinking, public drunkenness, automobile crashes, and physical violence.[57] [58] [59]	Data is widely available.		
23. Number of comprehensive smoke-free policies in places that prohibit smoking in all indoor areas of work sites and public places, including restaurants and bars	The Centers for Disease Control and Prevention included this as a policy recommendation in its recent release: *A Practitioners Guidebook to Health Equity*.	This would need to be collected.	Prohibit smoking in all indoor areas of work sites and public places, including restaurants and bars.	

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants *continued* **physical/built environment (place cluster)**				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
24. Community Safety Scorecard (index)	Unlike other community safety indexes, the Scorecard[60] not only includes measures of violence but also of risk and protective factors in a specific area. This informs the development of strategies not only focused on enforcement and suppression but also on changing the underlying factors that increase or decrease the risk of violence. Further, the Scorecard was successfully used in L.A. to make the case for investments in specific communities that are high risk for violence rather than distributing resources evenly across all neighborhoods. The Scorecard could include violence rates as well as risk and resilience factors closely associated with rates of violence. Sample measures include: Rates of youth violence (e.g., youth arrests for violent crime, homicides involving youth victims, injuries and hospital visits, % of youth who report carrying weapons, fighting, or bullying); School achievement and engagement (e.g., high school and middle school Academic Performance Index, truancy rate, and high school graduation rate); Youth violence risk factors (e.g., youth arrests for alcohol and substance abuse, youth delinquency, % of families living in poverty, % unemployment); Youth violence protective factors (e.g., violence prevention services rate, % active voting population).	This would need to be developed by locale, utilizing available data. The LA Scorecard includes data available in LA, for example.	Comprehensive, multi-sector plans in place to prevent community violence.	

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants *continued* **physical/built environment (place cluster)**				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
25. Number of cities with a comprehensive, multi-sector violence prevention plan in place (indicator)	Cities that have the most collaboration and coordination across multiple sectors also have the lowest rates of violence.[61] Further, cities that are putting comprehensive, multi-sector plans in place and coordinating investments into neighborhoods most impacted by violence are experiencing trending success in reducing community violence.	This would need development.		Mayor's office Law enforcement Education Public health Public works Faith Economic and workforce development Parks and recreation Community groups Businesses Mental health

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants economic environment (equitable opportunity cluster)				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
26. Number of living wage policies in place (indicator)	Poverty, concentrated poverty and persistent poverty are all associated with poor health outcomes and health disparities. Living wage policies lift families out of poverty, reduce health disparities and increase an individual's ability access quality healthcare.	This would need development.	Number of living wage policies in place	
27. Academic Achievement (composite measure)	This measure includes: 3rd grade literacy; graduation rates; and suspensions and expulsions. Each of these measurements correlates closely with health outcomes and disparities that cross racial/ethnic and socio-economic lines.	This is not a validated composite. Though education data is widely collected, it is not necessarily standardized or available.		
28. Local Wealth (composite measure)	This metric would allow for a focus on economic development in specific areas with a goal of reducing health disparities associated with low socio-economic status. Indicators would include the % of homes and businesses owned by people who live in the community. Local wealth is associated with neighborhood stability which is predictive of social cohesion/ trust and efficacy, for example.	This would need development.		
29. Complete and livable communities (index)	Services and institutions provide access to goods and services that promote health and foster economic vitality. Such access can be limited in marginalized communities. This index includes Neighborhood Completeness Index (<½ mile radius for 8 out of 11 common public services and 9 of 12 common retail services).[62]	This index includes data that is not necessarily widely collected.		
30. School Environment (index)	Young people spend much of their time in school. This index includes measures that support health and well-being. It includes: Daily school physical education; School recess time; Availability of healthy food; School Breakfast Program in schools; Federal school meal standards.[63]	This includes data widely collected by school districts.		

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Community Determinants *continued* **economic environment (equitable opportunity cluster)**				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
31. Percent of families who say it's hard to find the child care they need (indicator)	Affordable and quality childcare fosters positive early development and allows a family to earn a living that is not significantly jeopardized by child care costs, leaving resources for food, housing, transportation and medical care, among others.	This is not widely collected or standardly available.	The soon to be released documentary, *The Raising of America*, by the makers of *Unnatural Causes*, may present an opportunity to elevate this metric to one of national significance.	
32. Workplace Safety (composite measure)	Low-income communities and individuals are disproportionately exposed to hazards in the work place. This measure combines Nonfatal Work-Related Injuries and Illnesses[64] and Fatal Work-Related Injuries, including:[65] Estimated number and percentage of workers employed in high-risk★ occupations, by selected characteristics; Estimated percentage of private sector wage and salary workers employed in six high-risk★ injury and illness occupations† (each with >1 million workers), by selected characteristics such as number and rate★ of fatal occupational injuries; Number and rate★ of homicide deaths.	This is derived from national data set that CDC collects	Safe working conditions for all	

Appendix C: Recommended health equity metrics, rationale, status, relevant sectors and implications, *continued*

Determinant of Health: Healthcare The following metrics for healthcare include attention to access.				
Metric (Type)	**Rationale for inclusion**	**Metric Status**	**Sample framing, policy and/or investment implications**	**Relevant sectors**
33. Percent of patients that can access a place they call their 'medical care home' within two weeks' time	Access to care is a critical determinant of health. This is the metric that the VA is now using. It includes the notion that people should have a medical home as well as time limits in accessing it.	Not widely or standardly collected.		Healthcare providers Insurers
34. Patient satisfaction with medical encounters as a measure of culturally and linguistically appropriate care	According to the IOM's *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, patient satisfaction is an important way to measure cultural and linguistic competency and appropriateness of care.	Not widely or standardly collected.		
35. Number of medical schools that integrate healthcare disparities and community learning throughout entire curriculum and training program	Currently, medical schools typically integrate a four week curriculum on health disparities into the entire medical school training/curriculum. Getting schools to include attention to health disparities throughout the curriculum could create a sea of change in outcomes. Further, service learning rotations in historically under served communities would enhance understanding and appropriate care within these communities.	Not widely or standardly collected.		Medical schools Accreditation bodies

ENDNOTES

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