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**INNOVATION, HEALTH, AND EQUITY:
TAKING A SYSTEMS APPROACH TO HEALTH AND
ECONOMIC VITALITY**

Toward Health Equity – The Costs of U.S. Health Disparities

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I. Introduction

Health – both the absence of illness and the presence of a high quality of life – is arguably the most basic measure of a country’s performance and its fundamental source of value. Preventable illness and loss of life compromise Americans’ quality of life and our productivity as a nation.¹ Despite improvements in overall life expectancy and reductions in overall rates of some chronic diseases, not all groups within the United States have equal access to opportunities to be healthy. The facts are startling. For example:

- People with middle incomes are less healthy and can expect to live shorter lives than those with higher incomes – even when they are insured.²
- American college graduates can expect to live at least 5 years longer than Americans who have not completed high school.³
- Compared with a baby born to a White mother, a baby born to a Black mother is more than twice as likely, and infant baby born to an American Indian or Alaska Native mother almost 1½ times as likely, to die before reaching his or her first birthday.⁴
- Along one line of the Washington DC subway system, a 20 year gap exists between the life expectancy of poor Blacks at one end in South East Washington and rich Whites at the other end in Montgomery County. For each mile traveled toward Montgomery County, life expectancy rises a year and a half.⁵
- Disparities in many cases are actually widening⁶ – research shows little change or actual decline in life expectancy for people with low levels of education between 1981-2000 despite increases for people with high levels of education⁷; increases in the Black/White gaps in life expectancy since the mid-1980’s⁸; and a narrowing then widening of Black/White gaps in infant mortality since the mid-1960’s⁹.

Several key questions arise. What do we need to know to address health disparities – defined as avoidable or unjust differences in health determinants, opportunities, and outcomes – within these challenging economic times? How do we identify and address the strong external forces that are creating short-term temporal changes (e.g., shrinking then widening gaps) in disparities? How can a better understanding of the costs and potential costs savings related to health disparities help stakeholders “make the case” and maximize investments to reduce barriers and create opportunities for good health?

This article attempts to address these questions by first defining key concepts and providing context for the need to address health disparities. It next reviews key studies exploring the costs of health disparities and highlight several effective, rigorously-evaluated interventions shown to have financial impacts. Then, the article outlines a research agenda to address the identified need for metrics and tools; evidence to make the business case; and access to existing research, best practices, and lessons learned. Finally, the article ends with a discussion of potential steps for translating the research agenda into practice.

II. Defining the Concepts

The concepts of “health disparities,” “health inequalities,” and “health equity” are defined in various – and inconsistent – ways. Yet definitions – and the measures that guide them – have significant practical consequences in relation to monitoring and accountability, resource allocation, and policy development, particularly when resources are scarce.¹⁰ Braveman’s 2006 article provides the most comprehensive discussion to date of the quest to define these terms within international and domestic literature and the accompanying implications for measurement and accountability. Several key themes emerge:

- The importance of qualifying the nature of the difference and who may be affected – which is often framed as avoidable, unfair, or unjust,
- The comparison of more and less advantaged social groups – which has often focused on socioeconomic status in international arenas and on racial/ethnic status in the United States (although socioeconomic status and gender are increasingly being considered),
- The broad definition of health to include quality of life, disability, morbidity, and mortality – and the influences beyond health care to include where people live, work, and play, and
- A focus on human rights – including the right to health and the right to experience nondiscriminatory treatment.¹¹

This article does not aim to revisit this debate, but to draw upon it to guide discussion. We use the following definitions:

- **Health disparities and health inequities** (used interchangeably): Differences exist in health determinants, opportunities, and outcomes. Some differences are based on clinical appropriateness and need and patient preferences, while others are avoidable and unfair and can be defined as inequitable.^{12,13,14} Fortunately, there are significant levers for change within health and social services, social and economic conditions, physical environment, and individual capacity and behavior that can help address inequities.
- **Health equity:** The fair distribution of health – or health equity – requires a systems-based approach to removing barriers and creating opportunities within the health care arena and beyond to both improve health and reduce health inequities for socially and economically disadvantaged groups.

III. Setting the Stage for Addressing Health Disparities

What do we need to understand about health disparities during these challenging economic times? The literature highlights several key issues.

Health disparities affect everyone. Workforce productivity; longevity; and reduced levels of mortality, disability, chronic disease, and pain are all valuable to individuals, communities, and the country. As the Institute of Medicine (IOM) found in 2002 during its comprehensive analysis of disparities in health care, “All members of a community are affected by the poor health status of its least healthy members.”¹⁵ IOM suggested that a comprehensive strategy to reduce health care disparities also would improve the efficiency

and equity of care for all patients. The recently formed Robert Wood Johnson Foundation Commission to Build a Healthier America found a similar conclusion in its attempt to find solutions outside of the medical care system for advancing the Nation’s health. The Commission found that, “Health disparities among Americans who differ by social or economic status are keeping America from being as healthy as it should be.”¹⁶ It is also important to note that dominant approach to measuring health disparities relies on a comparative approach, for example, comparing minorities to Whites or low SES groups to high SES groups. Yet all Americans could be doing better in terms of health. Using a national benchmark for good health for Americans, the RWJ Commission found that in White Americans the college educated failed to meet the benchmark in every State.¹⁷

The causes and effects of health disparities reach beyond health care. Research increasingly highlights the fact that health is more than health care and therefore requires attention to the “upstream” determinants of health. For example, inadequate education contributes to social differences in health and makes workers less competitive for employment.¹⁸ Emerging research focuses on how and where people live, learn, work, and play¹⁹ – and reiterates the powerful impact of the social, economic, and physical environment; genetics and epigenetics; and individual capacity and behavior on a person’s health and likelihood of becoming sick and dying prematurely. The complexity and persistence of health disparities requires an approach grounded in public and political will combined with cross-system collaboration.

The costs and potential cost savings related to health disparities are difficult to document. Policies, laws, and programs to address health disparities require broad support – yet communicating the value of addressing disparities to stakeholders continues to be a challenge. As Lurie et. al note, the key challenge is that “Even once the disparities in quality are documented, we lack the tools to reliably estimate what it takes to reduce them.”²⁰ Policymakers need help in understanding the magnitude of the problem (in terms of burden and cost), the effectiveness and the cost of the proposed solution, and if the health benefits match up to the cost in order to effectively use limited resources and maximize the impact of investments.²¹

IV. Examining the Costs of Health Disparities

Some argue that efforts to address health disparities are too costly within this difficult economic climate, perceiving that such efforts require significant cost expenditures without measureable cost savings. Yet evidence increasingly illustrates how lack of attention to the root causes of disparities adversely affects the bottom line. Monetary estimates capture only part of the full value of better health and longer life. Yet giving a dollar value on issues such as improved health, preventable illness, and premature death provides policy-makers with the tools they need to make informed decisions about resource allocations for improving health.²²

If all adult Americans experienced the level of illness and mortality of college graduates, the annual economic benefit would amount to at least \$1 trillion.¹⁷

However, researchers lack a well-developed view of cost or consensus on the standard indicators that would need to be used to measure cost. Methodological issues exist, as cost studies are often complex and resource intensive and rigorous evaluation designs are difficult to find. Issues related to scope also exist. In order to “operationalize” an expanded definition of “health,” interventions within and outside of the health care system must be assessed in

relation to cost. Yet evaluations of the health care system typically exclude non-health impacts. And few evaluations of social interventions – related to housing, neighborhood conditions, transportation, and the like – consider the health consequences.²⁴ How can we capitalize on these missed opportunities? How can this knowledge be used to influence policy, programs, and resource allocation?

Below we highlight examples of studies (rather than present a comprehensive review of the literature) addressing the issue of cost within and outside of health care. All use standard economic approaches to assess changes in a variety of intermediate outcomes (e.g., education, attainment, and disability) with subsequent direct impacts on workforce capacity and earnings. Some explicitly address health disparities, while others address broader issues and demonstrate the kinds of analyses that could be done to show the benefits of advancing an equity agenda. All stress the need for policy makers to make informed resource decisions related to prevention and wellness; patient safety and quality of care; health care coverage; and health care professional training, compensation, and evaluation.

Potential costs related to excess deaths. While they do not explicitly examine the costs to society, communities, or individuals, a series of studies have been conducted to examine the excess deaths related to health disparities and the potential impact of closing the Black-White mortality gap since 1985.^{25,26} A recent study in 2001 by Levine et al. used historical data from the National Center for Health Statistics and the Census Bureau to predict future trends in relative mortality and life expectancy. The study found “no sustained decrease in Black-White disparities in either age-adjusted mortality or overall life expectancy at birth at the national level since the end of World War II, despite decades of funding for social, health-related, and other programs designed to reduce racial disparities.” The study estimated that **96,000 excess deaths per year occurred among African Americans** and could be eliminated by closing the Black-White mortality gap.²⁷ This research highlights the need for new approaches to understanding and addressing health disparities. And the potential exists to add dollar value for each of the excess lives in future research.

Table 1 presents national data on survival differences between blacks and whites. It shows that there are large differences by race, especially among males, in the loss of life during the productive pre-retirement years. For example, **for every 100,000 persons born alive almost 16,000 fewer African American males live to age 65 compared to their white counterparts.** Among women, 10,400 fewer blacks live to see their 65th birthday.

Table 1: Survival to Age 25, 45, 65, 85 by Race, 2004
Number of Persons Surviving for Every 100,000 Persons Born Alive

| Age | Male | | | Female | | |
|-----|--------|--------|------------|--------|--------|------------|
| | White | Black | Difference | White | Black | Difference |
| 25 | 98,020 | 96,415 | 1,605 | 98,849 | 97,865 | 984 |
| 45 | 94,617 | 90,366 | 4,251 | 97,047 | 94,347 | 2,700 |
| 65 | 72,531 | 56,723 | 15,808 | 82,206 | 71,774 | 10,432 |
| 85 | 31,324 | 20,021 | 11,303 | 46,175 | 35,600 | 10,575 |

Arias, 2007, NVSS (NCHS).

Costs and potential savings related to productivity. Several studies look at the impact of economic and social conditions on productivity. While the estimates included in the studies may not account for all of the social costs and benefits, they provide useful metrics for policy makers to compare the costs of health disparities in relation to other social issues competing for attention. Using data from the 5% public use microdata sample (PUMS) of the 1990 U.S. Census, a nationally representative sample of the U.S. population, a recent study found that among all groups, those reporting a health problem that limited their work were dramatically less likely to be working than were similarly educated individuals without such limitations. Among those who were working, *people with health limitations typically earned between 20 and 40% less than did people without such limitations. Blacks and Native Americans had worse labor market outcomes, worse health, and lower educational attainment than did their White counterparts.*²⁸

Another study analyzed national data to measure the number of deaths associated with lower education among working-aged adults by race or ethnicity. The findings suggest that potentially avoidable factors associated with lower educational status account for almost half of all deaths among working-aged adults in the U.S. *Nearly half (48%) of all deaths among men aged 25–64 years (white, black, and Hispanic), and 38% of all deaths in women would not have occurred in this age range if all segments of the population experienced the death rates of college graduates.*²⁹

A study commissioned as part of the RWJ Commission to Build a Healthier America took its analysis one step further to estimate the potential monetary benefits of improving the health of low SES groups in the United States. Two economists from the University of California Berkley and the University of Michigan (William Dow and Bob Schoeni respectively) used primary and secondary data to inform a simulation model to estimate the potential benefits of improving the health of low SES groups in the United States. One key finding of the study was that *if all adult Americans experienced the level of illness and mortality of college graduates, the annual economic benefit would amount to at least \$1 trillion.*³⁰

Economic benefits of addressing disparities compared to the cost if they remain unaddressed. Although limitations within the data and statistical methods exist, policymakers need guidance and tools to judge whether current efforts are best for the population. Several studies help to quantify the impact of health disparities on the health of the entire population – and begin to get at the potential cost-savings to be gained through prevention. For one study, researchers sought to answer the question, “Does society save more lives by enhancing the technology of care or by resolving disparities?” The researchers conducted a “thought experiment” using obtained mortality data for 1991 to 2000 from the National Center for Health Statistics to estimate the maximum number of deaths averted by improving the technology of care and the number of avoidable deaths had African Americans experienced the age-adjusted mortality rates of Whites. The found that *resolving the causes of higher mortality rates among African Americans can save more lives than perfecting the technology of care – a 5-fold difference in averted deaths.*³¹

Another approach is to estimate the proportion of the deaths or years of life lost in the whole population that might be prevented if a cause of mortality were totally eliminated. A recent study sought to quantify the burden of disease associated with being African American in the United States and the contribution of socio-economic status (SES) to that burden. Using national data sets to examine health related quality of life (HRQL), mortality risks, and

morality estimates, the study found that *the “Population Attributable Risk (PAR)” for total years of life lost found a socioeconomic status (SES) effect of about 11 million years of life lost; race/ethnicity alone accounted for another 1.1 million.*³²

V. Identifying Potential Solutions

A coherent strategy for achieving health equity is desperately needed. Fortunately, there are significant levers for change within health and social services, social and economic conditions, physical environment, and individual capacity and behavior that can help address inequities.

Below we highlight examples of studies (rather than present a comprehensive review of the literature) that show positive results and demonstrate effective techniques for quantifying outcomes and costs savings. Many of the examples discussed below are health care interventions that define health broadly in terms of addressing the health and social needs of individuals, families, and communities.

Early childhood development programs. Policymakers, parents, and the general public are increasingly recognizing that the first few years of a child’s life are a time of great opportunity and vulnerability. Early childhood development programs (ECD) focus on creating protective factors to compensate for various risk factors. Many programs have been evaluated and demonstrate great success. For example, high-quality ECD programs have been linked with greater likelihood of high school completion for participating children overall.^{33,34} Most of the following estimates are based on projections about health differences between high school graduates and non-graduates.

The High/Scope Perry Preschool study examined the lives of 123 African Americans born in poverty and at high risk of failing in school. From 1962–1967, at ages 3 and 4, the subjects were randomly divided into a program group that received a high-quality preschool program based on High/Scope’s participatory learning approach and a comparison group who received no preschool program. In the study’s most recent phase, 97% of the study participants still living were interviewed at age 40. Additional data were gathered from the subjects’ school, social services, and arrest records. *Participants at age 40, compared with control group, had better academic achievement, higher SES, and lower lifetime rates of crime and welfare dependence. There was a \$17 return to society for every dollar invested in early education.*³⁵ Another study looked more broadly at preschool programs and concluded that *the lifetime health savings of students who improve their educational attainment in preschool programs like Perry Preschool and Chicago Child-Parent centers are estimated at roughly \$170,000 per student.*³⁶

Researchers conducted cost-benefit analysis of the use of public resources to compare the public costs of raising high school completion with the public benefits of doing so. The study involved constructing models of interventions, estimating their costs and improvements in educational outcomes, and estimating the benefits of those enhanced outcomes. Authors Levin and Muennig found that *each additional high school graduate would “save approximately \$40,500 in government health insurance expenditures over the lifetime of the expected graduate.”*³⁷

WIC's impact on birth outcomes. The Special Supplemental Food Program for Women, Infants, and Children (WIC) provides supplemental food, nutrition and health education, and social services referral to pregnant, breastfeeding, and post-partum women and their infants and young children who are both low-income and at nutritional risk. The subject of a variety of studies conducted by the Food and Nutrition Service and other non-government entities, WIC is considered to be one of the nation's most successful and cost-effective nutrition intervention programs.

A number of statistically controlled evaluations have found that WIC participants are less likely to give birth to low birth weight infants, which translates into lower health care costs associated with both short- and longer-term health complications related to low birth weight. These costs are a particularly large financial burden for Medicaid.

A meta-analysis of these studies found a 25% reduction in low birth weight rates and a 44% reduction in very low birth weights. Using this data, *prenatal WIC enrollment was estimated to have reduced first-year medical costs for infants by \$1.19 billion in 1992.*³⁸ Another study (including Florida, Minnesota, North and South Carolina, and Texas) found that prenatal WIC participation is associated with substantial savings in Medicaid costs during the first 60 days after birth: ranging from \$277 in Minnesota to \$598 in North Carolina in hospital costs. *For every dollar spent on the prenatal WIC program in five States, the estimated savings in Medicaid costs for infants during their first 60 days of life ranged from \$1.77 to \$3.13.*³⁹

A 1992 U.S. GAO study estimates that providing WIC services to pregnant women who delivered their babies in 1990 cost the Federal government \$296 million, but could save more than \$1 billion in Federal, State, local, and private funds over the next 18 years (with most of the savings expected within 1 year of providing WIC services). The GAO report estimated that *expected net savings from WIC for pregnant women are almost \$740 million.* These projected savings reflect the impact of improvements in low birth weight rates on costs of initial hospitalization, outpatient care, rehospitalization, special education, and supplemental income for disabled children.⁴⁰

Nurse-family partnership (NFP) program. The NFP program – an intensive, comprehensive, and evidence-based intervention – provides yet another example of positive outcomes and rigorous evaluation methods. Since 1977, the NFP program has worked to improve the early health and development of low-income mothers and children and their future life trajectories with prenatal and infancy home visiting by nurses. The program has been tested in three separate large-scale randomized controlled trials with White, African American, and Hispanic families in New York, Tennessee, and Colorado. Benefits of the program included improvements in prenatal health-related behaviors, pregnancy outcomes, reduced rates of child abuse and neglect, increased maternal employment, and fewer months of using welfare and food stamps. *Cost-benefit analysis of the NFP showed a \$17,000 return to society for each family served.* Benefits of the program were calculated based on impact on societal outcomes including crime, substance abuse, teen pregnancy, child abuse and neglect, and domestic violence.⁴¹

Additional Income. Policies that provide additional income have also been proven to be effective in improving health. While the studies described below do not specifically quantify cost savings, they do highlight societal impacts that could potentially be translated to societal

costs in future studies. Two natural experiments have been conducted to explore the impact of income changes associated with the legalization and institution of Class III (casino) gambling in American Indian communities. The first, The Great Smoky Mountain Study was a quasi-experimental, longitudinal study to test the role of social selection versus social causation of childhood psychopathology. Children aged 9 to 13 were given annual psychiatric assessments for 8 years. One quarter of the sample participants were American Indian, while the remaining were predominantly White. Halfway through the study, a casino opened on the reservation and provided American Indians an income supplement. The study found that children in families receiving supplemental income from the casino had declining levels rates of deviant and aggressive behavior. ***By the 4th year of program, the children had levels of psychiatric symptoms comparable to those of children who were never poor.***⁴²

In a second study, a two-stage multiple regression analysis strategy was built using data on tribal gaming, health access, and individual health and socio-economic characteristics. The study provided estimates of the effect of the presence of gaming on individual American Indian health, health related behaviors, cash income, and poverty outcomes. The results suggest that the presence of Class III gaming leads to higher income and better health and access to health care (with the exception of obesity and related illnesses and certain risky behaviors). ***More income appears to lead to a decrease in smoking, a decrease in poor and fair health, a decrease in hypertension, asthma and disability, a decrease in the probability of foregoing needed health care, and an improvement in terms of fewer days of reported anxiety.***⁴³

Conditional cash transfer programs in Latin America – a model of social safety-nets – have been subject to rigorous evaluations of their effectiveness using experimental or quasi-experimental methods. Evaluation results provided policymakers with empirical evidence on efficiency and effectiveness and allow for expansion of programs and implementation of policy design adjustment. Many programs are showing positive results. For example, the cash transfer program in Ecuador has shown evidence of positive effects on physical, cognitive, and socioemotional development of children; effects were substantially larger for poorer children.⁴⁴ The Mexican PROGRESA Program has shown evidence of decrease in stunting, decrease in body mass index, lower prevalence of being overweight, and other positive benefits.⁴⁵ ***Many of the programs show evidence of increasing enrollment rates, improving preventive health care, and raising household consumption.*** Some questions remain about the ability of the programs to function well under different conditions, to address a broader range of challenges among poor and vulnerable populations, and prevent the intergenerational transmission of poverty (in part because the money is focused on the child rather than the family). There also is a need for continued improvements related to evaluation, including econometric modeling, results-based monitoring and evaluation systems, and cross-program evaluations.^{46,47}

Civil rights legislation. A study of the civil rights legislation in the 1960s provides a groundbreaking example of an evaluation of a social intervention that had far-reaching impacts. Originally intended to influence the labor market, the benefits of civil rights legislation extended beyond the labor market and had a much greater impact than previously thought. Specifically, the 1964 Civil Rights Act mandated desegregation of southern hospitals. The study authors used data from the 1955-1975 publications of the Vital Statistics of the United States and individual-level electronic mortality data for the years 1960-1975 to

identify a reduction in Black-White gap in infant mortality in southern States. *The resulting benefits generated a welfare gain of more the \$7 billion for the 1965-1975 period and \$27 billion for the 1965-2000 period.*⁴⁸

VI. Pursuing Health Equity: Implementing a Research Agenda

The research clearly highlights the need for:

- Metrics and demonstration projects,
- More evidence to make the business and social case for addressing health disparities and creating health equity, and
- Increased access for stakeholders to existing research, best practices, and lessons learned.

Altarum Institute hopes to address these needs by developing an understanding of the roots of disparities with an eye toward designing policies and programs that eliminate persistent, systematic disparities in health opportunities and outcomes. The Institute’s broad research themes focus on the following:



Altarum seeks to advance a systems-based, “health in all policies” approach to addressing health disparities and creating health equity. Each of the research themes described below will lead to the development and application of tools to:

- Define key terms and measures,
- Systematically analyze and catalog existing research,
- Design, implement, and assess modeling and place-based projects,
- Convene stakeholders to share best practices and lessons learned, and
- Synthesize and translate findings.

(1) Exploring Measures of Health Equity

Measures – and the definitions that guide them – have significant practical consequences related to monitoring, resource allocation, and policy development, particularly when resources are scarce. While measures exist, they vary

Measurement: Key Research Questions

- Are we able to use existing measures more effectively? Are adjusted or new measures needed?
- Could we examine the costs of a specific disease related to health disparities versus the overall costs of the disease?
- How might measures for cost and costs savings related to health disparities be framed differently to reflect a commitment to health equity?

greatly in relation to definition of comparison populations, population subgroups, and areas of health; assessment of rates of experiencing versus avoiding outcomes; and use of absolute measures (rate differences) versus relative measures (rate ratios). This lack of consensus and consistent use of measures means that governments, States, communities, and programs have difficulty evaluating, quantifying, and addressing health disparities and health equity in a systematic way. In addition, little has been done to explore and support the policy change, financial resources or incentives, and political and public will that is required to support the implementation of measures of health equity.

There is a critical need for additional research to evaluate what interventions work. The Task Force on Community Preventative Services – an independent, non-governmental, volunteer body of public health and prevention experts, whose members are appointed by the Director of CDC – reviewed 200 community-based interventions that could improve health and reduce socioeconomic status and racial and economic disparities. Of the 200 interventions, the Task Force found sufficient evidence documenting effectiveness for only two interventions, which were related to early childhood development programs for low-income children and rental assistance programs for low-SES families.⁴⁹

(2) Exploring the Impact of Disparities on the Health Continuum

Disparities and inequities exist across the health continuum – and relate to quality of life as well as access to care, quality of care, patient compliance, severity of illness, level of impairment, progression of disease, death, etc. They are multi-faceted, occur at different stages of the disease process. Effective interventions at different stages of the disease process will require different intervention strategies. For example, African American women have a lower incidence rate of breast cancer than non-Hispanic white women, yet once diagnosed they tend to be at a later stage, are more likely to undergo treatment that is below national standards, and have poorer survival rates. The general public, providers, programs, and systems generally do not understand why differential disparities across the health continuum exist or how to tailor interventions to specific stages and populations. Current research typically focuses on only one or two of the States in the health continuum and often focuses on the continuum of disease at the expense of high level wellness or optimal health.

Impact: Key Research Questions

- What can we learn from interventions that could potentially reduce disparities but have never systematically been evaluated?
- Is there an opportunity to evaluate policies that address economic fundamental well-being for potential health consequences (e.g. stimulus package, living wage laws, income tax credits)? How do we ensure this happens on an ongoing basis?

(3) Developing, Implementing, and Promoting Cross-Sector Strategies to Create Health Equity

While disparities in access to and quality of medical care are an important contributing factor to health disparities, growing evidence suggests that differences in living and working conditions that affect health play potentially bigger roles in health disparities, often determining who is healthy and who becomes sick.⁵⁰ A systematic, cross-sector strategy is required to address disparities and create health equity. For example, factors contributing to asthma disparities – housing conditions, indoor allergens, traffic air pollution, disparities in

treatment and access to care, and cigarette smoking – clearly demonstrate the need for collaboration among diverse sectors such as health care systems, schools, housing programs, and employers. Demonstrating the value of exploring an intervention’s impact on health and health care systems, a recent study found assessed efforts to reduce downtown traffic congestion in Atlanta during the Olympic Games in 1996. The study found a decrease in traffic density was associated with a prolonged reduction in ozone pollution and significantly lower rates of childhood asthma events.⁵¹ Unfortunately the childhood asthma events reached their usual numbers shortly after the Olympic Games ended.

A wide range of stakeholders are interested in having ready access to strategies that are proven to be effective, yet few mechanisms for translating best and promising practices exist.

VII. Potential Next Steps/Lever for Change

Continued research and the translation of research into practice are critical next steps for developing and implementing a systems-based, “health in all policies” approach to addressing health disparities and creating health equity. The following areas present significant opportunities for change.

Clearly defined and consistent use of measures for health disparities and health equity. Policymakers can play a critical role in helping to frame and translate a systematic approach to designing and implementing measures of health equity. Support is needed for research to explore existing measures, identify strategies for using these measures more effectively, and develop new or adjusted measures as appropriate. To use this research effectively, stakeholders also need the accessible, adaptable tools to help them create and sustain policy change, financial resources or incentives, and political and public will that is required for consistent use of measures.

Consistent use of research findings and best practices to guide policy development, resource allocation, and intervention design and implementation. Policy makers can also play a critical role in supporting research to better understand the nature, extent, and cost of disparities – and to translate this research. Support for research that includes the entire health continuum – including high level wellness/optimal health in addition to prevention, risk, onset, treatment, course and outcome – can help identify the different factors that produce disparities and where there are intervention opportunities. Research utilizing intensive and rigorous research designs to analyze cost and cost savings for disparities-reduction efforts and tools to translate this research to various audiences help stakeholders “make the case” for addressing disparities and maximizing investments. Efforts to increase minority participation in clinical trials and other research efforts will help to build clinical evidence that sufficiently incorporates disadvantaged groups and ensure that knowledge transfers to the clinical settings/providers that care for these populations.

Cross-Sector Strategies: Key Research Questions

- What is needed to implement a multi-sectoral approach to create “health in all policies”?
- How do we develop and implement appropriate policies, laws, and programs inside and outside of the health care arena that together improve health equity, reduce health care costs, and improve health and health care quality?
- How do we engage the various sectors and foster effective collaboration? What practical and methodological challenges do these sectors face?

Tools for adaptation and replication of effective cross-sector strategies to address disparities. Policymakers are in an opportune position to foster and sustain collaborative efforts. Research is critically needed to identify what works and what doesn't work to address health disparities and create health equity at various levels, within various systems, and across the health continuum. Efforts could include exploration of existing literature; assessment of existing interventions; and the design, implementation, and assessment of cross-sector models and pilot projects. The support of policymakers will be crucial in designing and implementing the policy, program, and budgetary changes that are necessary to support cross-sector strategies.

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