

Addressing Perinatal Health Disparities: Another Place for a Paradigm Shift

Vijaya K. Hogan, DrPH

There are persistent racial and ethnic disparities in infant mortality in the state of North Carolina that are preventable and unjust by all standards of social justice. The five-year infant mortality rate (1998-2002) for African American infants was 15.4 compared to 6.3 for white infants—a greater than two-fold excess mortality risk for African American infants.¹

Prematurity/low-birth weight is the leading contributor to neonatal mortality in the United States,² and the leading cause of overall infant mortality in many states including North Carolina.³ Preterm birth has been the leading cause of death for black infants for more than a decade and is the greatest contributor to the excess mortality experienced by black compared to white infants in this state.

One of the *Healthy People 2010*[†] goals is to eliminate health disparities.⁴ Among this goal's objectives is to address the racial and ethnic disparities in all aspects of perinatal health, including prematurity. The *Healthy People 2010* objective is to reduce the rate of preterm births to 7.6 by 2010. Yet, the preterm birth rate continues to increase, both among multiple and singleton deliveries. There has been little progress over time in reducing the rates of preterm births and similarly little sustained progress in reducing the disparity.⁵ If we are to begin to make progress toward the 2010 objective, it is critical to step back and assess why we have not made more aggressive progress in eliminating the excess risk of infant mortality and preterm birth experienced by African American infants.

“Preterm birth has been the leading cause of death for black infants for more than a decade...”

Barriers to Reducing Perinatal Health Disparities

One problem lies in the fact that little progress has been made in understanding the etiology of preterm birth. Another problem is the failure to define effective mechanisms to address known risk factors. These problems affect women of all ethnicities, but most acutely, African American women. The third problem—which uniquely affects women of color—rests in a failure to correctly conceptualize the causes of health disparities, and approach their elimination in a logical and scientific way. While discussion and action are needed to address all three of these problems, this paper attempts to focus attention on the latter in order to spur discussion and action toward the needed paradigm shift in disparity elimination.

The existence of a national objective to eliminate health disparities as specified in the *Healthy People 2010* goal effectively charges all of public health and medicine with a responsibility to actively work toward the elimination of these disparities. Receipt of federal funding, such as Title V, often requires that states include strategies for monitoring and addressing health disparities, and states may often additionally require local accountability and plans to address disparities. There is no doubt that the existence of the *Healthy People 2010* objective has elevated the issue of health disparities and their elimination to a higher level of national and state priority. But despite this, there does not appear to be a systematic process for understanding and addressing health disparities.

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[†] *Healthy People 2010* is a set of national health objectives for the first decade of 2000. *Healthy People 2010* builds on initiatives pursued over the past two decades. The 1979 Surgeon General's Report, *Healthy People*, and *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* both established national health objectives and served as the basis for the development of state and community plans.

Indicators of the Existing Paradigm's Failure to Reduce Disparities

First, the current approach assumes that everyone in medicine and public health is scientifically prepared to conduct planning and research around health disparities. Second, there is a predominant notion that to address the disparity, one simply needs to target "evidence-based" interventions specifically to African American (or other vulnerable) populations. Neither of these assumptions is necessarily correct.

Not everyone is scientifically prepared to conduct planning and research around health disparities. It would be hard to imagine someone addressing diabetes without having some training in the subject area, yet most in public health and medicine do not have any preparation for addressing health disparities. The curricula of schools of medicine, nursing, or public health do not routinely require study of health disparities.

One of the fundamental components of a prevention approach to any disease is to know its contributing factors and then act to reduce the effects of these factors.⁷ Yet, most people either do not know what factors contribute to health disparities or do not act on them. Factors cited in literature as affecting disparities overall include: healthcare, behavior, culture/acclimation, social factors, psychosocial factors, environmental factors, racism, stress, genetic factors, economic factors, socioeconomic position, neighborhood factors, national, state or local policies, historic and life course exposures, weathering, and other intergenerational factors as contributors.⁸⁻¹¹ Currently, there is little empirical data to define the relative contribution of each of these factors to any specific disparity, but for perinatal outcomes, individual studies have shown a persistence of a disparity when behavioral, healthcare, and, in some cases, socio-economic status factors are considered.¹² Genetic factors are unlikely to be a major contributor to health disparities.¹³ In fact, in the summer of 2000, the acting director of the National Institutes of Health stated before the US Senate Subcommittee on Public Health that:

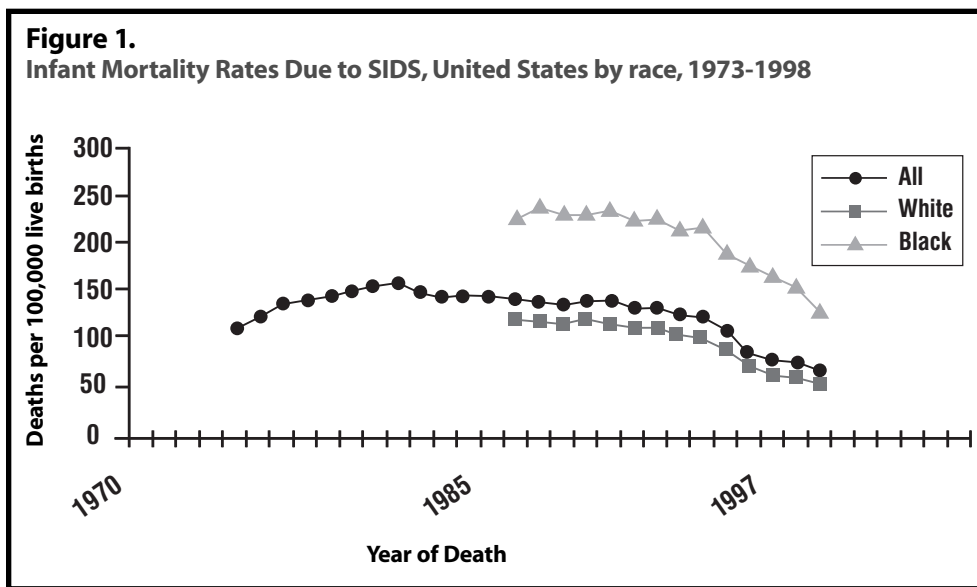
"The causes of health disparities are multiple. They include poverty, level of education, inadequate access to medical care, lack of health insurance, societal discrimination and lack of complete knowledge of the causes, treatment and prevention of serious diseases affecting different populations. The causes (of health disparities) are not genetic, except in rare diseases like sickle cell... The elimination of health disparities will require a cross-cutting effort, involving not only various components of the Federal

Government, but the private sector as well..."¹⁴

Additionally, a highly touted national Institute of Medicine (IOM) report reviewing evidence on healthcare inequities recognized that:

"...racial and ethnic disparities in health status largely reflect differences in social, socioeconomic, behavioral risk factors and environmental living conditions. Healthcare is therefore necessary, but insufficient, in and of itself to redress racial and ethnic disparities in health status. A broad and intensive strategy to address social-economic inequality, concentrated poverty, inequitable and segregated housing and education... individual risk behaviors as well as disparate access to medical care is needed to seriously address racial and ethnic disparities in health status"¹⁵

Yet, recent trends in research and intervention focus on healthcare factors, genetic research, and downstream clinical factors. The language used, and the implicit approaches to disparity elimination, reflect a certain naiveté (or maybe denial) about what it takes to truly eliminate disparities. For example, it is not unusual to hear public health and medical professionals interchange the use of the terms "health disparity" and "healthcare disparity." They are two distinct phenomena, with disparities in healthcare being only one contributing factor to overall health status disparities. Understanding the distinction is not unimportant as it is reflected in subsequent actions to eliminate health disparities. While healthcare factors are estimated to cause 10-30% of the morbidity disparities,¹⁶ we spend 90% of



our resources on this one contributor. Some of this spending should be reallocated to address the social determinants of health and to the pertinent research issues that will generate new knowledge to fuel progress toward eliminating disparities.

Another limitation of the current paradigm for disparity elimination is a sole reliance on targeting evidence-based interventions for the disease as a strategy to reduce disparities. Targeting evidence-based interventions as a disparity elimination strategy assumes that reducing specific risk factors for the disease

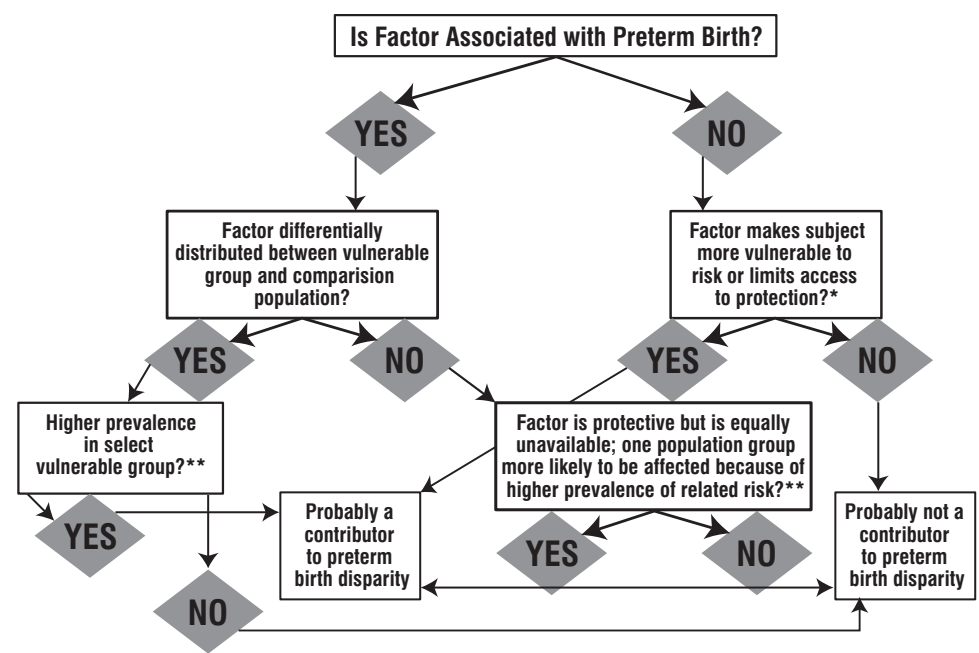
in vulnerable populations is all that is needed to reduce the disparity. Factors that cause the disease are not necessarily the same as those that cause the disparity. Efforts to reduce the disparity may require interventions above and beyond those that reduce the disease. Take for example the decline in Sudden Infant Death Syndrome (SIDS) rates (Figure 1).

The significant declines over the past several years are widely attributed to the impact of one “evidence-based intervention” (i.e., the Back To Sleep campaign). However, these declines occurred among all population groups, including African Americans; yet the magnitude of the *disparity* between African American and white populations remained unchanged. This indicates that something more than the standard evidence-based interventions targeted to vulnerable populations may be necessary. Additional attention needs to be paid to the factors that make some populations more vulnerable to specific health threats. That is, strategies to reduce/eliminate disparities must target the risk factors for the disease as well as risk factors for the disparity. It will take more than business as usual to really get at the causes of the disparity.

Logic Model: Determining Contributors to Preterm Birth Disparity

If we want to address the disparity as well as see continued declines in all groups in troublesome perinatal outcomes, we have to take a more strategic, logical, and scientific approach. First, we have to improve the knowledge base within public health, medicine, and society as a whole with respect to what causes, and how we could eliminate, health inequities. Second, we need to focus research more strategically toward the issues that will bring more bang for the buck—that is, to support and conduct research that sheds light on how we can more effectively address social determinants of health, as these factors are acknowledged to be the strongest contributors to the disparities in health status. Third, we need to take a more logical approach with the use of existing knowledge to define strategies, and in defining what the priority research issues should be.

Figure 2.
Logic Model: Determining Contributors to Preterm Birth Disparity



* The factor may be an “upstream” contributor that has not been directly associated with preterm birth, but has been associated with increased prevalence of other more proximal risk factors for preterm birth. One example might be “racism.”

** Caution is advised in ruling out factors by this criterion. Even if prevalence of a single risk factor is lower, the prevalence of co-existing risks (with which this factor may interact) may be higher and interactive effects may contribute to disparity. For a hypothetical example, smoking prevalence may be lower among African Americans, but a higher percentage of African American smokers may have other co-occurring risks, increasing the risk of disease outcome.

One logic model for determining if a factor is a potential cause for perinatal disparities is proposed in Figure 2. To begin with, we have to determine if a factor is a contributor to the disparity in preterm birth, and if so, include this on the list of factors that need to be addressed (Figure 2). This model is most useful for including additional factors that may not be otherwise considered. To be defined as a contributing factor to the disparity, the variable in question should be a risk factor for preterm birth or affect the distribution of a known risk factor. It should also be more prevalent in the vulnerable group. For example; maternal infection (e.g. bacterial vaginosis) is associated with preterm birth (YES), is differentially distributed between African Americans and whites (YES), and with higher prevalence among African Americans (YES). Therefore, it is very likely a contributor to the disparity. In contrast, smoking is associated with preterm birth (YES), is differentially distributed between these two groups (YES), but the prevalence is higher among whites (NO); therefore, it is probably not a major contributor to the disparity. This does not mean, however, that smoking cessation should not be included in an intervention strategy. Since smoking is a risk factor for preterm birth and other serious diseases, it should be included. Genetic factors are another example. These may be associated with preterm birth, but are not shown to be differentially distributed, and therefore are not likely to be a contributor to the disparity.

Logic Model: Planning Strategies to Eliminate Preterm Birth Disparities

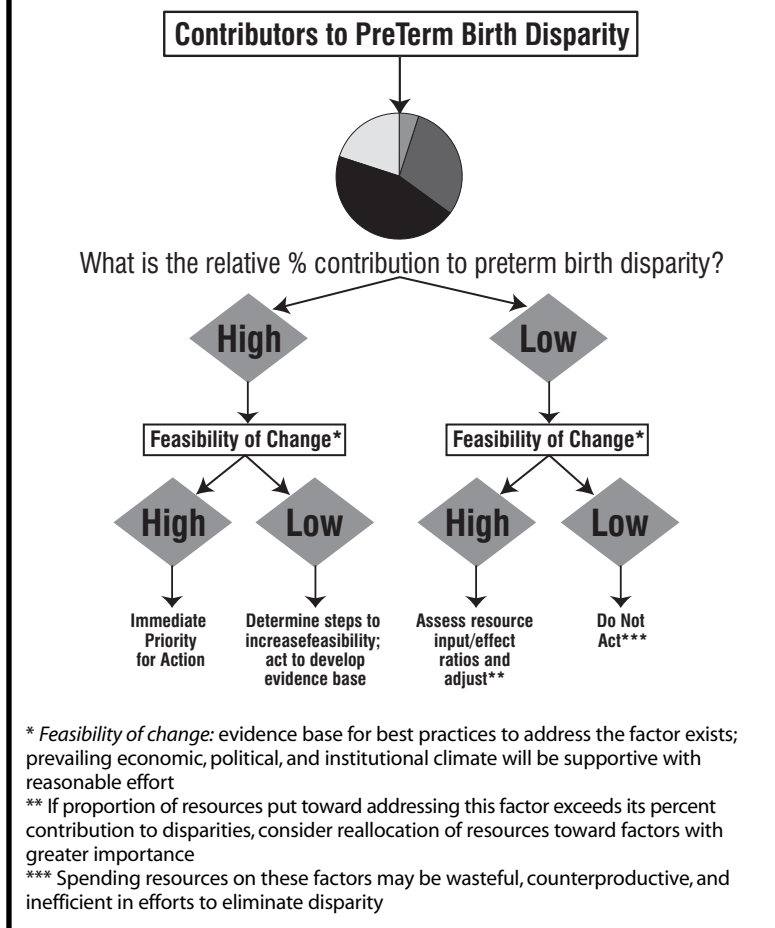
Once a set of factors is determined to be associated with the preterm birth disparity, the factors can then be prioritized to determine where to place resources more effectively. Figure 3 offers a model that can be used to determine intervention priorities. In the model, if prenatal healthcare factors contribute little to the disparity (LOW), but the feasibility of improving the quantity or quality of care was high (HIGH), then one needs to reassess the amount of resources placed on this factor and consider reallocation to a degree proportionate to the relative impact. Maternal infection is considered a strong contributor to preterm birth disparity, with estimates of up to 30% of disparity attributed to this cause (HIGH). The feasibility of mediating this risk is minimal at this time because of the conflicting nature of results from existing treatment trials (LOW). This does not, however, suggest that one should do nothing. In fact, since it is a strong contributor, even more action is needed to develop the evidence base for effective intervention strategies.

A risk factor that is a strong contributor should have higher priority compared to one that is a lesser contributor. If a risk factor is a strong contributor and is relatively easy to change, this should be included in a disparity elimination strategy. If it is not easy to change (e.g., racism), then instead of passing over it, we need to focus attention on increasing the feasibility of change and support the research needed to develop an “evidence base” for successfully mediating these risks. Conversely, if a factor is a small contributor, whether easy or difficult to change, we need to reassess our efforts and the resources spent on these factors. An example might be genetic factors, which are not likely to be strong contributors to the disparity, have a low feasibility of change, thus resources (research and other) would be better placed toward addressing stronger contributors.

Conclusion

Health disparities have not been approached with the same scientific rigor that we use for addressing other health conditions. Before defining strategies to eliminate health disparities, professionals should be required to study or understand the underlying contributors. Assumptions and personal biases about causality also need to be critically examined. The probability of success in eliminating disparities will be affected by the depth

Figure 3.
Logic Model: Planning Strategies to Eliminate Preterm Birth Disparities



of healthcare professionals' knowledge of the causes of health disparity. The responsibility for eliminating health inequities lies with all of society. Thus, it is important for all to have a strong conceptual understanding of: why it is important for the health of all that disparities be addressed, what contributors affect health inequities, how much certain risk factors contribute, and how they exert their effects. This understanding can increase the probability that efforts to eliminate health disparities are realistic and holistic, have a strong conceptual basis, are reasonably keyed to the true causes, and thus have greater probability of successfully reducing inequities. It is important to avoid spending considerable resources on a strategy or intervention that addresses a minor contributor at the expense of large ones, all the while promising to eliminate overall health inequities. In the current political climate, the price of failure to make progress could significantly reduce future prioritization of funding to address health inequities. **NCMJ**

North Carolina Efforts to Address Perinatal Health Disparities

Belinda Pettiford, MPH

The NC Office of Minority Health and Health Disparities (OMHHD), within the Department of Health and Human Services (DHHS), released its health disparities' report in January 2003. In this report, the state received a "D" in perinatal health disparities, specifically infant mortality. As part of the follow-up to this report, the DHHS has made eliminating health disparities a higher priority.

In its ongoing efforts to address perinatal health disparities, the Women's and Children's Health Section (WCHS) of the NC Division of Public Health, DHHS, has implemented several programs within the last 5-10 years.

The state's Minority Infant Mortality Reduction Program, Healthy Beginnings, is a collaborative effort between WCHS and OMHHD. This program provides \$50,000 yearly to 13 community-based organizations, faith entities, health departments, and health centers. These organizations provide outreach to bring people into care, education for parents, and support services to primarily African American women, infants, and families within certain geographic areas (one project focuses on American Indian families).

North Carolina's federally funded Healthy Start Program, Baby Love Plus, is also designed to address perinatal health disparities. This program has covered 14 counties with a primary focus on improving birth outcomes in African American and American Indian communities. Services include community consortia development, case management from prenatal to two years post-partum for mother and child, health education, outreach, and perinatal depression screening.

All of these efforts emphasize strong community, family, faith, and health provider relationships, along with a key focus on community leadership development. Due to funding cuts with both programs and other budgetary limitations, WCHS continues to look for resources to expand these efforts as part of the overall DHHS's disparity plan.

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