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Contract No. HHSA-290-2006-00009-C

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ASSESSING THE COSTS OF RACIAL AND ETHNIC HEALTH DISPARITIES: STATE EXPERIENCE

June 24, 2011

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Introduction

State Offices of Minority Health and health and public health departments employ a variety of approaches to document racial and ethnic health disparities to help advance health equity. In the current fiscal climate, states continue to face budget deficits, and as a result, they are increasingly focusing on identifying and reducing costs, including those associated with health disparities. The U.S. Department of Health and Human Services' Office of Minority Health defines these as "health differences…closely linked with social or economic disadvantage."[1]

This issue brief describes state[2] efforts to quantify the human and financial costs associated with racial and ethnic disparities in health status and health care. It highlights how states measure these costs, some of the challenges states may encounter in doing so, potential strategies to address these challenges, and new state publications in Rhode Island and Virginia about the costs of disparities. Finally, this issue brief offers several tools and resources for those interested in further learning on this topic.

Background

A recent Agency for Healthcare Research and Quality (AHRQ) report authored by the National Academy for State Health Policy (NASHP) summarizes lessons from several states' experiences in documenting racial and ethnic disparities in health and health care, and also subsequently using the documents to inform and spur improvement efforts.[3] Based on review of state publications and conversations with publication authors, this issue brief focuses and expands on one topic raised in the AHRQ report: states' increased interest in analyzing and documenting the impact of disparities.

National research demonstrates the potential value of such an approach by states. The Joint Center for Political and Economic Studies estimates racial and ethnic disparities to have cost this nation $1.24 trillion between 2003 and 2006: $229.4 billion for direct medical care expenditures associated with health disparities and another $1 trillion for the indirect costs of disparities.[4] Among the findings in the recent *CDC Health Disparities and Inequalities Report* is that, if non-Hispanic Blacks had had the same

[1] U.S. Department of Health and Human Services. "Health Equity and Disparities – National Partnership for Action." http://www.minorityhealth.hhs.gov/npa/templates/browse.aspx?lvl=1&lvlid=34
[2] Throughout this issue brief, "state" refers to offices of minority health, health departments, public health departments and other state agencies that produce data-driven disparities reports.
[3] Hanlon C, Rosenthal J, and Hinkle L. *State Documentation of Racial and Ethnic Disparities to Inform Strategic Action.* Online March X, 2011, p 23. U.S. Agency for Healthcare Research and Quality (AHRQ). Available: http://www.hcup-us.ahrq.gov/reports.jsp.
[4] Thomas A. LaVeist, Darrell J. Gaskin, Patrick Richard, "The Economic Burden of Health Inequalities in the United States," (The Joint Center for Political and Economic Studies: September 2009), 4-5. Available online:
http://www.jointcenter.org/publications_recent_publications/health/the_economic_burden_of_health_inequalities_in_the_united_states.

adjusted rate of preventable hospitalizations as non-Hispanic Whites from 2004 to 2007, it would have resulted in about 430,000 fewer hospitalizations for non-Hispanic Blacks and $3.4 billion in savings.[5]

According to officials from states included in the AHRQ report, understanding and documenting information about the costs of disparities are important for several reasons:

- **Improving quality and containing costs**: States can use this work to improve quality of care for affected populations while containing costs. By documenting populations with the poorest outcomes and least value for the expenditures state agencies can begin to target resources and interventions for quality improvement and cost savings. As previously noted, most states currently face budget constraints and are looking for ways to create efficiencies by improving the value of health care expenditures.

- **Engaging stakeholders in minority health initiatives**: Several state Offices of Minority Health believe that framing disparities as an issue of costs may offer a new way to engage key stakeholders in minority health initiatives. Otherwise health disparities may be considered a special interest to address only when there is additional money in the budget. States believe it is easier for stakeholders, such as state and local policymakers and payers, to see value in immediately addressing health disparities if they understand that failing to take action results in continued excess costs, spending and lost lives.

- **Tracking progress in reducing disparities**: States continue to develop processes for evaluating progress in improving health equity. Cost or impact estimates are one way states plan to evaluate their progress in implementing improvement initiatives or interventions for the most vulnerable constituents.

States' Approaches to Measuring Costs

States in the AHRQ report calculate costs of disparities in three ways: in financial terms of excess health care utilization and expense (e.g., excess hospitalization); in terms of excess deaths or human life lost; and in terms of lost productivity (i.e., days of work).

- **Excess health care expenses**: Using hospital discharge data, some states determine the number of "excess" admissions among the racial or ethnic minority population(s) with a higher rate of admissions compared to the population with the lowest rate of admissions (typically Whites). States then analyze the data to determine how much money would have been saved if a minority population with a higher admission rate had the same admission rate as the White population. States might examine all admissions and/or only admissions for specific

[5] Centers for Disease Control and Prevention. CDC Health Disparities and Inequalities Report. MMWR 2011;60(Suppl): 82. Available online: http://www.cdc.gov/mmwr/pdf/other/su6001.pdf

diagnoses or conditions, such as diabetes, childhood asthma, or tooth pain, for which hospitalization is generally avoidable with appropriate preventive care (i.e., ambulatory care sensitive conditions (ACSCs)). States also analyze admissions by payer, which enables them to show costs to Medicaid programs.

- **Excess deaths and human life lost**: States calculate human costs in two ways. The first approach is similar to excess expenses (above). States assess excess deaths by determining the number of deaths that would not have occurred if one racial or ethnic minority population had the same rate as another (e.g., White). For example, Connecticut has used the following formula: Excess deaths (or events) = Number of deaths (or events) x [1 – (1 / relative risk)].[6] The result is a calculation of costs in terms of human lives lost. States may use the Centers for Disease Control and Prevention (CDC)'s Wide-ranging Online Data for Epidemiologic Research (WONDER) databases.[7] CDC WONDER databases contain public health data about topics such as births, cancer, AIDS, and mortality.

  A second way states assess human costs is through years of potential life lost (YPLL), which describes premature mortality by analyzing mortality data. YPLL sums the years of life not lived to a certain point (e.g., YPLL-65 would be years of life not lived up to age 65). As Virginia points out in a 2008 report, for YPLL-65, a death at age 20 adds 45 years to YPLL, whereas a death at age 64 adds one year to YPLL. [8] States also calculate YPLL rates to show relative magnitude by dividing the total years of YPLL for a population by the population under the defined age limit (e.g., 65). States then compare YPLL rates across racial groups.

- **Days away from work**: States also can show costs in terms of lost productivity. Using occupational health statistics, states can compare rates or numbers of work-related injuries/illnesses by racial or ethnic minority population that result in excess days away from work.

Measurement challenges and lessons

Through their experiences analyzing and publishing cost of disparities data using the above approaches, featured states have encountered a few challenges, devised strategies to cope with them, and learned helpful lessons about measurement.

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[6] A. Stratton, M. Hynes, and A. Nepaul. *The 2009 Connecticut Health Disparities Report*, Hartford, CT: Connecticut Department of Public Health, 2009, 173. Available online: http://www.ct.gov/dph/lib/dph/hisr/pdf/2009ct_healthdisparitiesreport.pdf.
[7] The databases are available online at http://wonder.cdc.gov/.
[8] Virginia Department of Health Division of Health Statistics Office of Minority Health and Public Health Policy. *Unequal Health Across the Commonwealth: A Snapshot. 2008 Virginia Health Equity Report*. Richmond, VA: Virginia Department of Health, 2008, 6. Available online: http://www.vdh.state.va.us/healthpolicy/documents/health-equity-report-08.pdf.

First, the size of the minority population can influence the confidence of estimated calculations. The data may be unreliable for states in which the number or percentage of people who are members of racial and ethnic minority groups is small, or in populations for which there is insufficient data. One approach states take to cope with small numbers is to aggregate data over several years to increase sample size.

In addition, it is not uncommon for states to see high numbers of hospital admissions where the patient's race/ethnicity is either unknown or undocumented. For these reasons, states often choose measures generated from less suspect race/ethnicity data such as excess death to describe Black mortality in relation to White mortality. States also consistently work in tandem with hospital associations and communities to improve the collection of race/ethnicity data by implementing or reinforcing collection standards and increasing community awareness of the value of self-reporting race/ethnicity information to health care providers.

Finally, in its data chart book, Maryland emphasizes the distinction between disparities in the frequency of hospital admission and disparities in the *severity* of admission (e.g., length of hospital stay), which carry quality of care and cost implications.[9] The approach to calculating excess health care expenses described above always captures the excess cost due to higher minority admission frequency. If the excess number of minority admissions is multiplied by the average cost of minority admissions, then the method will also capture the excess cost due to higher severity within the excess admissions. An additional computation is needed to capture the cost of higher minority severity within the non-excess minority admissions: the non-excess minority admission count must be multiplied by the difference between average minority and average White costs per admission. Maryland will pursue the severity concept in future reports and analyses.

Profiles of Two State Approaches

Rhode Island and Virginia, two states referenced in the aforementioned AHRQ report on documentation of racial and ethnic health disparities to inform strategic action, have undertaken new reports that include a greater emphasis on the costs of disparities in health and health care. This section provides information about these states' innovative publications, which can serve as examples for other states interested in compiling and disseminating similar data for policymakers and the public.

Rhode Island is preparing to publish *Series on the Cost of Health Disparities in Rhode Island - A Focus on Health Determinants, Life Course, and Equity*. In this document, the state explores excess morbidity, mortality, and unnecessary hospitalization for several conditions, including HIV/AIDS, diabetes, cardiovascular disease, sexually transmitted

[9] D. Mann, T. Fatogun, and C. Hussein. *Maryland Chartbook of Minority Health and Minority Health Disparities Data: With Sections on Gender-specific Health and Jurisdiction-specific Health*, Maryland Office of Minority Health and Health Disparities, Maryland Department of Health and Mental Hygiene, December 2009, 3. Available online: http://www.dhmh.maryland.gov/hd/pdf/2010/Chartbook_2nd_Ed_Final_2010_04_28.pdf

diseases (particularly chlamydia, gonorrhea, and infectious syphilis), and overweight/obesity. The report presents these data by population: minority group, place (core city or non-core-city), gender, age, insurance, and education/income. Rhode Island underscores the importance of "place" in addition to population, noting that health problems, poor outcomes and lack of access to care often are determined by location as much as by race/ethnicity or insurance status.

The cost report is intended for the general public. However, state officials hope that, in particular, policymakers responsible for allocating resources will find the report to be useful and informative. This is the state's first foray into reporting exclusively on the costs of health disparities, but state officials plan to continue building on the report as new data resources are developed, such as an all-payer claims database. The state aims to update the report every few years; related future plans include analysis of healthy days and lost productivity at work.

Virginia will soon release the *2011 Health Equity Report*, an update to a 2008 report.[10] The 2008 report included some financial and human cost estimates, specifically hospital discharge costs by zip code and YPLL. After determining that costs are an issue of great public interest, Virginia has included a greater focus on the topic in the updated report, which will be published in the summer of 2011.

For the 2011 report, Virginia has contracted with the Department of Economics at Virginia Polytechnic Institute and State University (Virginia Tech) for detailed cost estimates. The updated report includes several comparisons; among these are African-Americans to Whites, urban to rural, and different levels of education. The state Office of Minority Health and Health Equity (OMHHE) is examining excess costs for different outcomes as well as several conditions, including heart disease, cancer, unintentional injuries, and low birth weight. To determine costs in the new report, the state OMHHE calculates three different measures: medical costs for hospital discharges, morbidity costs, and costs of premature mortality. Financial costs are staggering, according to the findings. For example, health disparities cost the capital city of Richmond several million dollars in one year.

For state officials in Virginia, the most useful way to illustrate human costs of disparities is in terms of life expectancy, as this measure is most familiar to the general public. Virginia has found it most powerful and most easily understood to say that a neighborhood has an average life expectancy of X years against the state average of Z years. Like Rhode Island, Virginia includes a spatial analysis of cost, which OMHHE hopes will make the 2011 report even more appealing to local policy makers.

General lessons from these two states include:

- **Determine up front what story you want the data to tell and to whom.** Different stakeholders respond to cost estimates for different reasons, so be

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[10] Virginia Department of Health Division of Health Statistics Office of Minority Health and Public Health Policy. *Unequal Health Across the Commonwealth: A Snapshot. 2008 Virginia Health Equity Report.*

clear about the purpose of the cost report and the intended audience. Include this information in the final product for readers to help them understand the significance and potential uses of the cost information.

- **Consider the importance of "place" on disparities**. Racial and ethnic health disparities exist, yet states are discovering that location and environmental factors contribute to and may exacerbate disparities across populations. States use geomapping and geo spatial analyses to analyze and present cost estimates by geographic location to show variation in disparities by community and pinpoint neighborhoods with greatest need.

Tools & Resources for States

In addition to documents previously cited in this issue brief, existing state and federal resources may prove beneficial to state policymakers interested in analyzing and documenting the costs of health disparities. Methods used and information presented in these resources may inform disparities reduction and cost containment activities in additional states.

Citation	Relevant Information
Agency for Health Care Research and Quality (AHRQ). *2010 National Healthcare Disparities Report.* (U.S. Department of Health and Human Services: 2011). http://www.ahrq.gov/qual/qrdr10.htm	This report shows the cost-effectiveness of screening measures for various conditions. If the screening rates of minority populations can be brought up to the level of Whites, then the country will save millions in costs associated with conditions such as cancer and diabetes.
Bay Area Regional Health Inequities Initiative. *Health Inequities in the Bay Area*. (Oakland, CA: 2008). http://tinyurl.com/438tz2z	This report uses maps and graphs to illustrate human costs and the impact of disparities on communities.
Paul A. Buescher, J. Timothy Whitmire, and Barbara Pullen Smith. "Medical Care Costs for Diabetes Associated With Health Disparities Among Adult Medicaid Enrollees in North Carolina," *North Carolina Medical Journal* 71 (4) (2010): 319-324. http://tinyurl.com/4224dl4.	This article estimates that $225 million in diabetes-related expenditures could be saved each year by North Carolina's Medicaid program if both racial and economic disparities in the diabetes prevalence were eliminated.
Colorado Department of Public Health and Environment Office of Health Disparities. *Racial and Ethnic Disparities in Colorado 2005.* (Denver, CO: Colorado Department of Public Health and Environment, 2005, 48-51). http://tinyurl.com/3sn882a.	This section of the state's report describes the potential cost savings associated with eliminating health disparities by examining the additional costs of diabetes, obesity, and HIV/AIDS due to disparities.

Conclusion

As reports from states such as Rhode Island and Virginia demonstrate, quantifying and disseminating information about the financial and human costs associated with health and health care disparities can be an effective method of calling attention to the dramatic impact of these disparities. It can help states begin to target resources most efficiently and effectively to improve the value of care, engage and involve stakeholders in issues of minority and multicultural health, and assess state progress in achieving health equity. Although there are measurement challenges associated with small sample sizes and missing data, states continue to improve methods of making this information available to the public and to policymakers. Lessons from these states and information from their disparities reports can serve as resources to other states seeking to rein in health care spending and meet the health needs of diverse populations.