



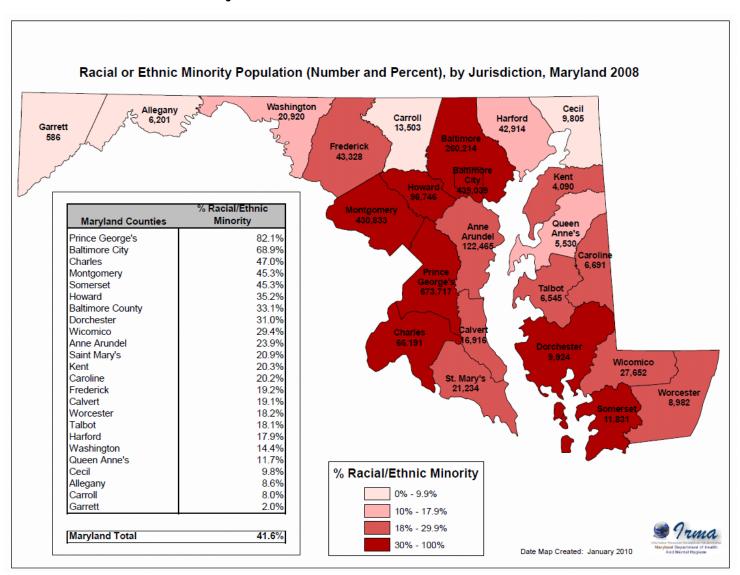


# Health Care Disparities Policy Report Card January 2010

Prepared By

# Maryland Office of Minority Health and Health Disparities and

# **Maryland Health Care Commission**



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# I. Racial and Ethnic Distribution of Maryland Physicians, Compared to the Racial and Ethnic Distribution of the Maryland Population

The table below [1] compares the percentage of Maryland active physicians who self-identify as having some heritage in the listed racial or ethnic group, to the distribution of those racial and ethnic groups in the Maryland population.

Comparison of racial/ethnic distribution of physicians and population, Maryland, 2007

| Comparison of radial/carino distribution of physicians and population, maryland, 2007 |                           |               |                     |                      |  |  |
|---|---------------------------|---------------|---------------------|----------------------|--|--|
|   | Physicians reporting some |               | % of population     | compared to the      |  |  |
|   | heritage of the specified | % reporting   | in the specified    | % of population,     |  |  |
| Race or Ethnicity   | race or ethnicity*        | some heritage | race or ethnicity** | % of physicians is   |  |  |
|   |                           |               |                     |                      |  |  |
| White   | 9023                      | 62.3%         | 58.7%               | Similar              |  |  |
|   |                           |               |                     |                      |  |  |
| Black or  | 1634                      | 11.3%         | 30.0%               | Lower                |  |  |
| African American  |                           |               |                     |                      |  |  |
|   |                           |               |                     |                      |  |  |
| Hispanic or Latino  | 469                       | 3.2%          | 6.3%                | Lower                |  |  |
|   |                           |               |                     |                      |  |  |
| Asian or  | 2822                      | 19.5%         | 5.3%                | Higher               |  |  |
| Pacific Islander  |                           |               |                     |                      |  |  |
|   |                           |               |                     |                      |  |  |
| American Indian or  | 61                        | 0.4%          | 0.4% to 0.8% *      | Similar or Lower *** |  |  |
| Alaska Native   |                           |               |                     |                      |  |  |
|   |                           |               |                     |                      |  |  |
| Other   | 747                       | 5.2%          |                     | (N/A)                |  |  |
|   |                           |               |                     |                      |  |  |

<sup>\*\*\*</sup> American Indian or Alaska Native population is given as 0.4% by Maryland Vital Statistics Administration. If American Indian or Alaska Native alone or in combination is considered, that would be 0.8%

Sources: Maryland Health Care Commission analysis of Maryland Board of Physicians data (physician data) [1], and Maryland Vital Statistics Annual Report 2007 (population data) [2]

From this table it is apparent that:

- Whites are represented in the physician workforce in approximate proportion to their representation in the population.
- Asians or Pacific Islanders are represented in the physician workforce to a greater degree than their representation in the population.
- Blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives are underrepresented in the physician workforce.

Solving the underrepresentation of Blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives in the physician workforce will require increasing theirs numbers among the graduates of medical schools. The following table shows graduates from Maryland medical schools by race and ethnicity for 2005 and 2008 [3], [4].

#### Graduates from Maryland Medical Schools, by Race and Ethnicity, 2005 and 2008

| Year        | Asian or<br>Pacific<br>Islander | Black or<br>African<br>American | Hispanic or Latino | American<br>Indian or<br>Alaska<br>Native | White   | International | Other/<br>Unknown | Under-<br>Represented<br>Minority | Total |
|-------------|---------------------------------|---------------------------------|--------------------|---|---------|---------------|-------------------|-----------------------------------|-------|
| 2005        | 96                              | 22                              | 11                 | 1   | 289     | 3             | 5                 | 34                                | 427   |
|             | (22.5%)                         | (5.2%)                          | (2.6%)             | (0.2%)                                    | (67.7%) | (0.7%)        | (1.2%)            | (8.0%)                            |       |
|             |                                 |                                 |                    |   |         |               |                   |                                   |       |
| 2008        | 92                              | 27                              | 11                 | 3   | 272     | 8             | 3                 | 41                                | 404   |
|             | (22.8%)                         | (6.7%)                          | (2.7%)             | (0.7%)                                    | (67.3%) | (2.0%)        | (0.7%)            | (10.1%)                           |       |
|             |                                 |                                 | <u> </u>           | <u> </u>                                  |         |               |                   |                                   |       |
| %<br>Change | -4.2%                           | 22.7%                           | 0.0%               | 200.0%                                    | -5.9%   | 166.7%        | -40.0%            | 20.6%                             | -5.4% |

Source: Association of American Medical Colleges [3], [4]

In both 2005 and 2008, Blacks or African Americans, Hispanics or Latinos, and American Indians and Alaska Natives were underrepresented in the graduating classes from Maryland medical schools.

Between 2005 and 2008 the number of graduates from Maryland Medical Schools among underrepresented minorities increased by

- 20.6% for all underrepresented minorities
- 22.7% for Blacks or African Americans
- 200% for American Indians or Alaska Natives
- No increase for Hispanics or Latinos.

Between 2005 and 2008, the number of graduates from Maryland Medical Schools among populations that are not underrepresented decreased by

- 5.9% for Whites
- 4.2% for Asians or Pacific Islanders

# **Policy Implications:**

Efforts must be made to increase the representation of Blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives in the Maryland Physician workforce.

The strategies to affect this outcome are:

- Improve the math and science education for these underrepresented groups in middle and high school to produce a pipeline of qualified minority applicants to medical schools,
- Promote mentoring programs in middle and high schools to interest minority students in medical careers,
- Adjust admission process to appropriately identify the achievement of minority applicants who have had academic success despite disadvantaged backgrounds,
- Provide adequate financial aid to allow qualified minority students to afford medical education, and
- Provide mentoring programs and academic support programs to assist minority students while in medical school.

The Office of Minority Health and Health Disparities (MHHD), under a grant from the Federal Office of Minority Health, is working with the medical, nursing, dental and pharmacy schools in Maryland to increase the enrollment and graduation of underrepresented minority students.

In addition, MHHD is working with the health professions boards in Maryland to promote cultural competency training in the health workforce. All of Maryland's health professionals need to improve their capabilities to meet the needs of all of the members of our diverse population.

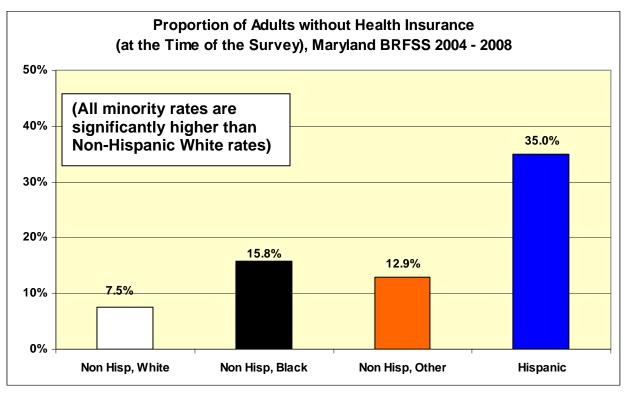
# II. Rates of Uninsurance by Race and Ethnicity

# Disparities in Health Insurance Coverage

Combining data from the 2004 through 2008 Behavioral Risk Factor Surveillance System (BRFSS) survey, Maryland adults of all racial and ethnic minority groups were more likely to be without health insurance (at the time of the survey) than were Non-Hispanic White adults.

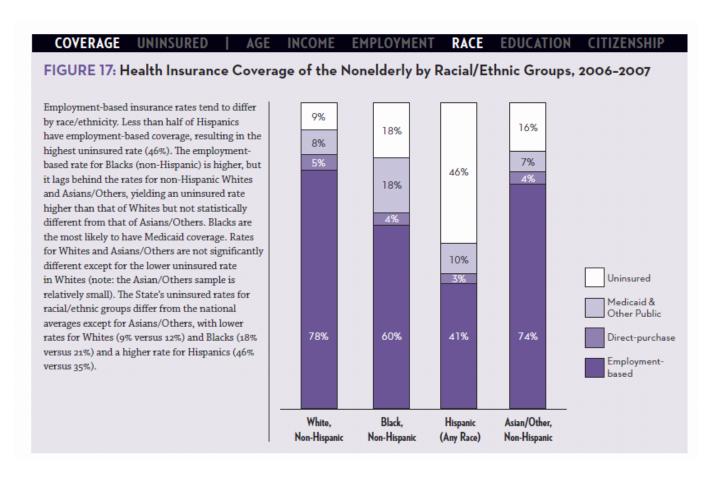
For the period 2004 to 2008, compared to Non-Hispanic Whites, the proportion of Maryland adults reporting no health insurance at the time of the survey was

- Over 2 times higher for Non-Hispanic Blacks or African Americans,
- About 4.7 times higher for Hispanics or Latinos, and
- About 1.7 times higher for other Non-Hispanic minorities combined (Asian or Pacific Islander predominantly, also including American Indian or Alaska Native, and "other" race).



Source: Maryland BRFSS Data 2004 to 2008 [5]

The following figure is a chart from the Maryland Health Care Commission (MHCC) publication *Health Insurance Coverage in Maryland Through 2007* [6].



The MHCC figure above essentially mirrors, for the non-elderly (non Medicare) population, the finding seen in the BRFSS data (page 5 of this report card): that the highest uninsurance rates are seen for Hispanics or Latinos (for the non-elderly, 5 times higher than for Non-Hispanic Whites), and that uninsurance is twice as high for Non-Hispanic Blacks and Non-Hispanic Asian/other) compared to Non-Hispanic Whites.

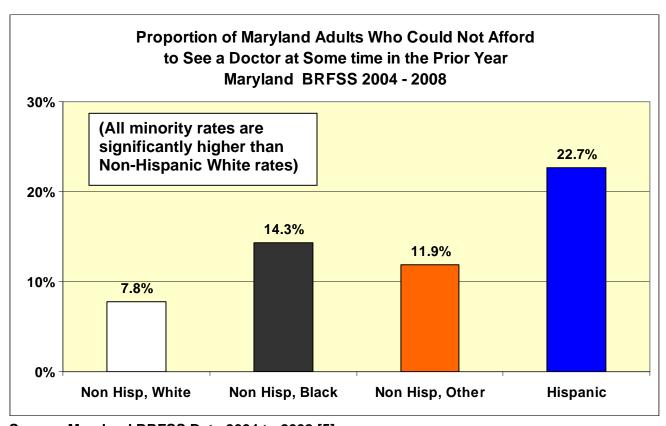
# **Disparities in Health Care Utilization**

#### **Inability to Afford Care**

Combining data from the 2004 to 2008 BRFSS survey [5], Maryland adults of all racial and ethnic minority groups were more likely to be unable to afford to see a doctor (at some time in the prior year) than were Non-Hispanic White adults.

For the period 2004 to 2008, compared to Non-Hispanic Whites, the proportion of Maryland adults reporting an instance of being unable to afford care in the prior year was

- About 1.8 times higher for Non-Hispanic Blacks or African Americans,
- About 2.9 times higher for Hispanics or Latinos, and
- About 1.5 times higher for other Non-Hispanic minorities combined (Asian or Pacific Islander predominantly, also including American Indian or Alaska Native, and "other" race).

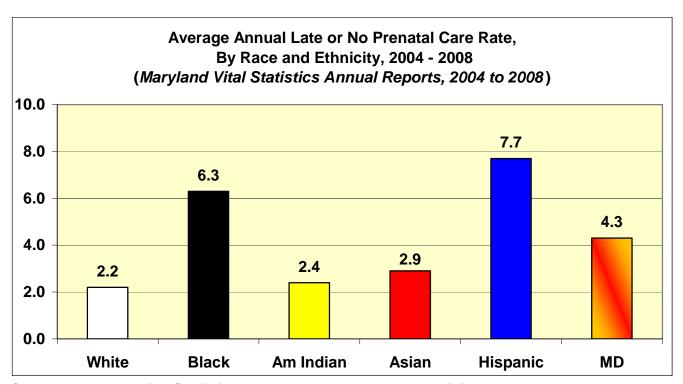


Source: Maryland BRFSS Data 2004 to 2008 [5]

#### **Utilization of Pre-Natal Care**

For the period 2004 to 2008, compared to pregnant white women, the percent of pregnant minority women receiving late or no prenatal care was:

- Almost 3 times higher for Black or African American women,
- About 3.5 times higher for Hispanic or Latino women,
- About 1.3 times higher for Asian or Pacific Islander women, and
- About 1.1 times higher for American Indian or Alaska Native women [7]



Source: Maryland Vital Statistics Annual Reports 2004 to 2008 [7]

#### **Utilization of Mental Health Services**

Maryland's Behavioral Risk Factor Surveillance System (BRFSS) data [8], [9] demonstrates an underutilization of mental health services by minority populations. In each of the three major age groups, Non-Hispanic Whites are twice as likely as minority persons to report having ever seen a provider for a mental health problem, despite equal or greater burden of mental health disorders in the minority populations.

| Percent Reporting Ever Seeing a Provider for a Mental Health Problem |
|--|
| By Race and Ethnicity, Maryland BRFSS 2001 and 2002 Pooled           |

| <u>.</u>  | NH White | NH Black | NH Other | NH Multiracial | Hispanic |
|-----------|----------|----------|----------|----------------|----------|
| Age 18-44 | 24.8%    | 13.4%*   | 11.5%*   | DNS            | 14.7%*   |
| Age 45-64 | 24.7%    | 12.2%*   | 7.0%*    | DNS            | DNS      |
| Age 65 +  | 13.3%    | 5.5%*    | DNS      | DNS            | DNS      |

<sup>\*</sup> minority group is statistically significantly different from NH Whites

**DNS** = Data not sufficient to report a result

Source: Maryland BRFSS Data 2001 to 2002 [8]

Percent Reporting 30 days of Poor Mental Health in Previous Month By Race and Ethnicity, Maryland BRFSS 2003 to 2007 Pooled

|           | NH White | NH Black NH Oth |      | NH Multiracial | Hispanic |
|-----------|----------|-----------------|------|----------------|----------|
| Age 18-44 | 3.9%     | 5.7%*           | 3.6% | 6.2%           | 4.9%     |
| Age 45-64 | 4.7%     | 5.6%            | 6.0% | 13.1%*         | 5.4%     |
| Age 65 +  | 3.2%     | 3.8%            | 2.2% | DNS            | 3.5%     |

<sup>\*</sup> minority group is statistically significantly different from NH Whites

**DNS** = Data not sufficient to report a result

Source: Maryland BRFSS Data 2003 to 2007 [9]

# **Policy Implications:**

Regarding disparities in rates of health insurance coverage, policy strategies include:

- Expanding eligibility for safety net health insurance programs, so that the working poor have access to health insurance,
- Resolving the issues of chronic high unemployment in some minority populations, since employment remains a major vehicle for health insurance coverage in the United States, and
- Improving the proportion of employers who offer health insurance to their employees.

Regarding the disparities in utilization of health services, policy strategies include:

- Expanding the capacity of safety net health care providers, as a response to the disparities in health insurance coverage,
- Resolving the disparity in health insurance coverage,
- Resolving geographic disparities in physician and other health provider distribution, particularly the distribution of providers that participate in the insurance plans of which minority persons are enrollees,
- Improving the linguistic and cultural competency of health care providers and institutions, so that minority persons feel welcome and so that the health care encounter is maximally efficient and effective, and
- Providing educational outreach and patient support to minority populations
  to enhance their understanding of the importance of preventive and early
  illness health care services, the availability of safety net insurance and
  providers, and navigation through our very complex health care system.

# III. Summary of Health Disparities by Racial/Ethnic Group

### American Indian or Alaska Native Data

The Vital Statistics Administration of the Maryland Department of Health and Mental Hygiene estimates the American Indian or Alaska Native population of Maryland to have been 23,468 persons in 2008 [10], or 0.4% of the State's population.

About 60% of Maryland's American Indian and Alaska Native population report more than one race on Census Bureau surveys [11], [12]. The Vital Statistics estimate above uses a method designed to generate a population estimate that is compatible with data systems that do not report more than one race. If one considers the Maryland population reporting some American Indian or Alaska Native heritage (reporting that race alone or in combination with other races), in 2008 that is estimated to be about 47,000 persons, or 0.8% of the State's population.

(The differences between the Vital Statistics estimates and the alone or in combination estimates for other racial groups are not larger than 4% of the population of that racial group).

Health disparities for American Indians or Alaska Natives can be demonstrated in Maryland for the following issues:

- Infant mortality for American Indians or Alaska Natives was 1.8 times higher than for Whites for the period 2004 to 2008 combined [7].
- The rate of new cases of End-stage Renal Disease (kidney disease) for American Indians or Alaska Natives was about 3 times higher than for Whites for the period 1991 to 2001 combined [13].
- The percent of pregnant American Indian or Alaska Native women who received late or no prenatal care was about 1.1 times higher than the percent for White women for the period 2004 to 2008 combined [7].

Additional disparities for Maryland's American Indian or Alaska Native population are likely to exist, but are difficult to demonstrate at this time due to limitations in our data systems and the small size of this population.

#### Asian or Pacific Islander Data

The Vital Statistics Administration of the Maryland Department of Health and Mental Hygiene estimates the Asian or Pacific Islander population of Maryland to have been 305,847 persons in 2008 [10], or 5.4% of the State's population.

Health disparities for Asians or Pacific Islanders can be demonstrated in Maryland for the following issues:

- The rate of new cases of End-stage Renal Disease (kidney disease) for Asians or Pacific Islanders was about 1.3 times higher than for Whites at ages 65 or older for the period 1991 to 2001 combined [13].
- The proportion of adults without health insurance was 1.7 times higher for Non-Hispanic Asians or Pacific Islanders than for Non-Hispanic Whites for the period 2004 to 2008 combined [5].
- The proportion of adults unable to afford health care in the prior year was 1.5 times higher for Non-Hispanic Asians or Pacific Islanders than for Non-Hispanic Whites for the period 2004 to 2008 combined [5].
- The percent of pregnant Asian or Pacific Islander women who received late or no prenatal care was about 1.3 times higher than the percent for White women for the period 2004 to 2008 combined [7].
- Non-Hispanic Asians or Pacific Islanders were half as likely as Non-Hispanic Whites to have seen a provider for a mental health problem [8], despite having a similar rate of reporting poor mental health [9].

Additional disparities for Maryland's Asian or Pacific Islander population are likely to exist, but are difficult to demonstrate at this time due to limitations in our data systems and the small size of this population.

# Hispanic or Latino Data

The Vital Statistics Administration of the Maryland Department of Health and Mental Hygiene estimates the Hispanic or Latino population of Maryland to have been 375,830 persons in 2008 [10], or 6.7% of the State's population.

Health disparities for Hispanics or Latinos can be demonstrated in Maryland for the following issues:

- The rate of new cases of End-stage Renal Disease (kidney disease) for Hispanics or Latinos was about 1.3 times higher than for Non-Hispanic Whites at ages 55 or older for the period 1996 to 2001 combined [13].
- The rate of new cases of HIV for Hispanics or Latinos was about 2.7 times higher than for Non-Hispanic Whites in 2007 [14].
- The rate of new cases of AIDS for Hispanics or Latinos was about 4.0 times higher than for Non-Hispanic Whites in 2007 [14].
- The proportion of adults without health insurance was 4.7 times higher for Hispanics or Latinos than for Non-Hispanic Whites for the period 2004 to 2008 combined [5].
- The proportion of adults unable to afford health care in the prior year was 2.9 times higher for Hispanics or Latinos than for Non-Hispanic Whites for the period 2004 to 2008 combined [5].
- The percent of pregnant Hispanic or Latino women who received late or no prenatal care was about 3.5 times higher than the percent for White women for the period 2004 to 2008 combined [7].
- Hispanics or Latinos were half as likely as Non-Hispanic Whites to have seen a provider for a mental health problem [8], despite having a similar rate of reporting poor mental health [9].

Additional disparities for Maryland's Hispanic or Latino population are likely to exist, but are difficult to demonstrate at this time due to limitations in our data systems and the small size of this population.

## Black or African American Data

The Vital Statistics Administration of the Maryland Department of Health and Mental Hygiene estimates the Black or African American population of Maryland to have been 1,692,495 persons in 2008 [10], or 30.0% of the State's population.

With this large a population, health disparities for Blacks or African Americans can be demonstrated in Maryland for a wide variety of issues:

- The age-adjusted death rate from all causes combined was 1.25 times higher for Blacks or African Americans than for Whites in 2008 [10]. For specific causes of death, compared to Whites, the Black or African American death rates were:
  - 1.3 times higher for heart disease
  - 1.2 times higher for cancer
  - 1.2 times higher for stroke
  - 2.1 times higher for diabetes
  - 1.9 times higher for septicemia
  - 2.0 times higher for kidney diseases
  - 5.9 times higher for homicide
  - 15.5 times higher for HIV/AIDS [10]
- Infant mortality for Blacks or African Americans was 2.6 times higher than for Whites for the period 2004 to 2008 combined [7].
- Non-Hispanic Black or African American adults reported higher prevalence of the following compared to Non-Hispanic whites for the period 2004 to 2008 [5]:
  - a diagnosis of diabetes at all adult ages
  - a diagnosis of hypertension (high blood pressure) at all adult ages
  - current cigarette smoking for ages 45 and older.
- The rate of new cases of End-stage Renal Disease (kidney disease) for Blacks or African Americans was about 3.0 times higher than for Whites for the period 1991 to 2001 combined [13].
- The rate of new cases of HIV for Non-Hispanic Blacks or African Americans was about 11 times higher than for Non-Hispanic Whites in 2007 [14].

- The rate of new cases of AIDS for Non-Hispanic Blacks or African Americans was about 13 times higher than for Non-Hispanic Whites in 2007 [14].
- Compared to Whites, in 2006 Black or African American adults had
  - 1.3 times higher prevalence of asthma
  - 4.3 times higher emergency department visit rate for asthma
  - 2.4 times higher hospitalization rate for asthma
  - 2.4 times higher mortality rate for asthma [15].
- The proportion of adults without health insurance was 2.1 times higher for Non-Hispanic Blacks or African Americans than for Non-Hispanic Whites for the period 2004 to 2008 combined [5].
- The proportion of adults unable to afford health care in the prior year was 1.8 times higher for Non-Hispanic Blacks or African Americans than for Non-Hispanic Whites for the period 2004 to 2008 combined [5].
- The percent of pregnant Black or African American women who received late or no prenatal care was about 2.9 times higher than the percent for White women for the period 2004 to 2008 combined [7].
- Non-Hispanic Blacks or African Americans were half as likely as Non-Hispanic Whites to have seen a provider for a mental health problem [8], despite having a greater rate of reporting poor mental health [9].
- MHHD has estimated that the hospital cost (not including the physician fee component of hospitalization or any emergency department cost prior to the admission) of excess Black or African American admissions in Maryland in 2004 was at least \$ 481 million [16].

# **Policy Implications**

Policy strategies to address disparities in disease morbidity and mortality include:

- Improving data collection, analysis and reporting, especially for the smaller racial and ethnic minority groups by:
  - Reducing misclassification of race or ethnicity, and reducing the number of persons missing data for race or ethnicity, in vital statistics data and healthcare administrative data,
  - Oversampling in the smaller groups in surveys where possible, and
  - Targeted data collection in the smaller groups.
- Improving the racial and ethnic diversity of the health professions workforce (see section I above).
- Improving the cultural and linguistic competency of the health care system by:
  - Promoting cultural competency training during health professions education.
  - Encouraging or requiring cultural competency continuing education as a requirement for health professions re-licensure, and
  - Providing medical interpretation services and having patient information materials available in the languages spoken by the population.
- Improving the focus of public health at all levels on the health issues of racial and ethnic minority populations.
- Empowering minority communities to improve their health by:
  - Using local community groups as the vehicle for interventions, and
  - Requiring partnerships among public health, health care providers, and local community groups.

#### References

- 1. Maryland Health Care Commission, analysis of Maryland Board of Physicians data. 2008, Maryland Department of Health and Mental Hygiene, Maryland Health Care Commission: Baltimore, MD.
- 2. Maryland Vital Statistics Administration, *Maryland Vital Statistics Annual Report* 2007. 2007, Maryland Department of Health and Mental Hygiene.
- 3. Association of American Medical Colleges. *Total Graduates by Sex and Race/Ethnicity*. [cited April 2006]; Available from: www.aamc.org/facts.
- 4. Association of American Medical Colleges. Enrollments, Graduates, and MD/PhD Data, Table 30: Total Graduates by U.S. Medical School and Race and Ethnicity, 2008. [cited August 2009]; Available from: <a href="www.aamc.org/facts">www.aamc.org/facts</a>.
- 5. Maryland Behavioral Risk Factor Surveillance System. *Maryland behavioral risk* factor surveillance system ad hoc reporting tool. 2004-2008 [cited July to December, 2009]; Available from: http://www.marylandbrfss.org/cgi-bin/broker.
- 6. Maryland Health Care Commission, *Health Insurance Coverage in Maryland Through 2007*. 2009, Maryland Department of Health and Mental Hygiene, Maryland Health Care Commission: Baltimore, MD.
- 7. Maryland Vital Statistics Administration, *Maryland Vital Statistics Annual Reports* 2004-2008. 2004-2008, Maryland Department of Health and Mental Hygiene.
- 8. Maryland Behavioral Risk Factor Surveillance System. *Maryland behavioral risk factor surveillance system ad hoc reporting tool.* 2001-2002 [cited March 2009]; Available from: http://www.marylandbrfss.org/cgi-bin/broker.
- 9. Maryland Behavioral Risk Factor Surveillance System. *Maryland behavioral risk factor surveillance system ad hoc reporting tool.* 2003-2007 [cited March 2009]; Available from: http://www.marylandbrfss.org/cgi-bin/broker.
- 10. Maryland Vital Statistics Administration, *Maryland Vital Statistics Annual Report* 2008. 2008, Maryland Department of Health and Mental Hygiene.
- 11. U.S. Census Bureau. *DP-1. Profile of General Demographic Characteristics: 2000*. Census 2000 Summary File 1 (SF 1) 100-Percent Data [cited December 2009]; Available from:

  <a href="http://factfinder.census.gov/servlet/QTTable?">http://factfinder.census.gov/servlet/QTTable?</a> bm=n& lang=en&qr\_name=DEC\_2

  000 SF1 U DP1&ds\_name=DEC\_2000 SF1 U&geo\_id=04000US24.

- 12. U.S. Census Bureau. Maryland General Demographic Characteristics: 2005. 2005
  American Community Survey [cited December 2009]; Available from:
  <a href="http://factfinder.census.gov/servlet/ADPTable?">http://factfinder.census.gov/servlet/ADPTable?</a> bm=y&-context=adp&<a href="mainto:qr name=ACS 2005">qr name=ACS 2005</a> EST G00 DP1&-ds name=ACS 2005 EST G00 &<a href="mainto:tree-id=305&-redoLog=false&-caller=geoselect&-geo-id=04000US24&-format=&-lang=en">tree-id=305&-redoLog=false&-caller=geoselect&-geo-id=04000US24&-format=&-lang=en</a>.
- 13. Maryland Office of Minority Health and Health Disparities, analysis of U.S. Renal Data System data, 1991-2001 pooled. 2006, Maryland Department of Health and Mental Hygiene, Office of Minority Health and Health Disparities: Baltimore, MD.
- 14. Maryland Infectious Disease and Environmental Health Administration, *Maryland HIV/AIDS Epidemiological Profile Fourth Quarter 2008*. 2008, Maryland Department of Health and Mental Hygiene, Infectious Disease and Environmental Health Administration.
- 15. Maryland Asthma Control Program, *Asthma in Maryland 2007*. 2007, Maryland Department of Health and Mental Hygiene, Family Health Administration, Maryland Asthma Control Program.
- 16. Maryland Office of Minority Health and Health Disparities, analysis of Maryland Health Services Cost Review Commission hospital discharge data for 2004. 2008, Maryland Department of Health and Mental Hygiene, Office of Minority Health and Health Disparities: Baltimore, MD.