GAPS IN DATA FOR AMERICAN INDIANS AND ALASKA NATIVES IN THE NATIONAL HEALTHCARE DISPARITIES REPORT

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The aim of this study was to identify and quantify gaps in health care data for American Indians and Alaska Natives. Findings indicate that only 42% of measures of health care quality and access tracked in the National Healthcare Disparities Report could be used to assess disparities among American Indians and Alaska Natives. Patient safety data was especially limited. Data from American Indians and Alaska Natives need to be improved to allow better targeting of interventions to reduce health care disparities and monitoring the success of these activities.

The National Healthcare Disparities Report (NHDR) is an annual report to Congress on racial, ethnic, and socioeconomic disparities in America (Siegel, Moy, & Burstin, 2004). Goals include identifying important disparities in health care quality and access at the national level and tracking disparities over time. Conditions targeted include cancer, diabetes, end stage renal disease, heart disease, respiratory disease, mental health, and substance abuse. Such information is critical for designing and targeting interventions to improve health care and reduce disparities and monitoring the success of these activities.

Because of the small numbers of American Indians and Alaska Natives included in many federal data collections, at the start of this activity we were concerned that almost no data would be available to examine health care disparities affecting these groups at the national level. Excluding American Indians and Alaska Natives from the report was considered and was rejected as unacceptable. We believed that it would be better to show gaps in information rather than exclude populations from the report.

To our surprise, we found that some national health care information is available on American Indians and Alaska Natives. Consistent with much research (Centers for Disease Control and Prevention, 2003; Denny, Holtzman, & Cobb, 2003; Indian Health Service, 2003a; Liao, Tucker, & Giles, 2003; Roubideaux, 2002; Urban Indian Health Institute, 2004), many disparities in health care affecting these groups were identified and reported in the NHDR (Agency for Healthcare Research and Quality, 2003).

However, data gaps were significant and precluded a comprehensive assessment of disparities faced by American Indians and Alaska Natives. Moreover, gaps in data for American Indians and Alaska Natives were larger than gaps for most other racial and ethnic groups. For example, of measures of quality of health care in the 2004 NHDR that could be tracked over time, data were available for blacks on all measures, for Hispanics on 95% of measures, for Asians on 63% of measures, and for American Indians and Alaska Natives on 55% of measures (Agency for Healthcare Research and Quality, 2004). Of measures of access to health care in the 2004 NHDR that could be tracked, data were available for blacks and Hispanics on all measures, for Asians on 84% of measures, and for American Indians and Alaska Natives on 52% of measures. Hence, compared with other groups, our ability to assess disparities faced by American Indians and Alaska Natives was severely limited.

To begin to fill gaps in data about health care disparities faced by American Indians and Alaska Natives, a better understanding of the reasons for these gaps is needed. Problems with data collection, reliability of estimates, or power to detect disparities may lend themselves to different interventions. In this paper, we use data gathered for the 2004 NHDR to identify and quantify gaps in data for American Indians and Alaska Natives and describe efforts and opportunities to close some of these gaps.

Methods

NHDR Measures

The measures examined in this paper come from the 2004 NHDR. The measures tracked in the NHDR were selected through an extensive process. The Agency for Healthcare Research and Quality (AHRQ), which houses the NHDR, issued a call for measures to Federal agencies. The Institute of Medicine (IOM) issued a complementary call for measures to the private sector. More than 600 measures were submitted for

consideration in response to these calls. An Interagency Work Group, with representatives for across the Department of Health and Human Services, then evaluated these measures based on specific criteria:

- Importance—What is the impact on health associated with the health problem assessed by the measure? Are policymakers and consumers concerned about this area of health care quality? Can the health care system meaningfully address this aspect or problem?
- Scientific soundness—Does the measure actually reflect what it is intended to measure? Does the measure provide stable results across various populations and circumstances? Is there scientific evidence available to support the measure?
- Feasibility—Is the measure in use? Can information needed for the measure be collected in the scale and time frame required? How much will it cost to collect the data needed for the measure? Can the measure be used to compare different population groups?

Effort was also made to maximize consistency with existing consensus-based measure sets and to include both process measures that assess what happens to patients during their care and outcome measures that track what ultimately happens as a result of that care. A proposed measure set was published in the *Federal Register* for public comment and amended accordingly. Each year, the measure set is further refined in response to comments received from Federal partners, private stakeholders, and the public. The full 2004 NHDR quality measure set is listed in Appendix A and the full 2004 NHDR access measure set is listed in Appendix B.

Domains of Quality and Access

The domains of quality examined in the NHDR are based on a conceptual framework developed for AHRQ by the IOM (Institute of Medicine, 2001). In the NHDR, disparities in health care quality are examined across four domains:

- Effectiveness—Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit;
- Safety—Avoiding injuries to patients from the care that is intended to help them;

- Timeliness—Reducing waits and sometimes harmful delays for both those who receive and those who give care; and
- Patient centered—Providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

The domains of access examined in the NHDR are based on guidance received from the Interagency Work Group and from the IOM (Institute of Medicine, 2002). Disparities in health care access are examined across another four domains:

- Entry barriers—Measures of the presence or absence of specific resources that enable entry into the health care system, such as having health insurance or a usual source of care;
- Structural barriers—Measures of the presence or absence of specific resources that enable receipt of care within the health care system, such as having a provider with hours on nights or weekends or who can be contacted by telephone easily;
- Patient satisfaction—Measures of patients' perceptions of how well their providers interact with them; and
- Health care utilization—Measures of the ultimate outcome of good access to care; i.e., the successful receipt of needed services.

In total, nineteen national databases were used to assess disparities across these domains of health care quality and access in the 2004 NHDR (Table 1). These databases include every major data source capable of providing nationally representative estimates of disparities in health care and that are conducted on a regular basis.

Analysis

In this paper, data gathered for the 2004 NHDR are analyzed to quantify the ability of national data to assess disparities among American Indians and Alaska Natives. Measures rather than data sources are used as the unit of analysis because our goal is to assess the capacity of extant data to provide information about disparities in health care quality and access faced by American Indians and Alaska Natives. Many measures used in the NHDR are restricted to individuals of specific ages or who have specific conditions. Often, data sources that are able to provide reliable estimates for the total American Indian and Alaska Native population

are unable to provide reliable estimates for the subgroups needed to assess quality and access.

Table 1
Databases Used to Assess Disparities in Quality of and Access to Health Care in the 2004 National Healthcare Disparities Report

Surveys collected from samples of civilian, noninstitutionalized populations
• AHRQ, Medical Expenditure Panel Survey (MEPS), 1999-2001
• CDC-NCHS, National Health Interview Survey (NHIS), 1999-2001
• CDC-NCHS/National Immunization Program, National Immunization Survey (NIS), 2000-2002
• SAMHSA, National Survey on Drug Use and Health (NSDUH), 2001-2002
Data collected from samples of health care facilities and providers
• CDC-NCHS, National Ambulatory Medical Care Survey (NAMCS), 1999-2001
• CDC- NCHS, National Hospital Ambulatory Medical Care Survey-Outpatient Department (NHAMCS-OPD), 1999-2001
• CDC- NCHS, National Hospital Ambulatory Medical Care Survey-Emergency Department (NHAMCS-ED), 1999-2001
• CDC--NCHS, National Hospital Discharge Survey (NHDS), 1998-2001
• CMS, End Stage Renal Disease Clinical Performance Measures Project (ESRD CPMP), 2001-2002
Data extracted from data systems of health care organizations
• AHRQ, Healthcare Cost and Utilization Project State Inpatient Databases disparities analysis file[a] (HCUP), 2001
• CMS, Medicare Patient Safety Monitoring System (MPSMS), 2002
• CMS, Nursing Home Minimum Data Set (MDS), 2002
• CMS, Quality Indicators program (CMS QIO), 2000-2001
• HIV Research Network data (HIVRN), 2001
• NIH, United States Renal Data System (USRDS), 1998-2001
Data from surveillance and vital statistics systems
• CDC-National Center for HIV, STD, and TB Prevention, HIV/AIDS Surveillance Report (CDC HIV/AIDS SR), 2001
• CDC-National Center for HIV, STD, and TB Prevention, TB Surveillance System (CDC TBSS), 2000
• CDC-NCHS, National Vital Statistics System (NVSS), 2000-2001
• NIH, Surveillance, Epidemiology, and End Results (SEER) program, 1992-2001

[a] This file is designed to provide national estimates of disparities in the AHRQ Quality Indicators using weighted records from a sample of hospitals from the following 22 States: AZ, CA, CO, CT, CT, FL, GA, HI, KS, MD, MA, MI, MO, NJ, NY, PA, RI, SC, TN, TX, VA, VT, and WI.

Each measure included in the 2004 NHDR was assessed for one of three different data issues that could preclude use for assessing disparities faced by American Indians and Alaska Natives. Measures were classified as having:

- Collection issues, if data on American Indians and Alaska Natives were not collected;
- Estimation issues, if data were collected but estimates were unreliable because of small numbers of American Indians and Alaska Natives (< 30) or large relative standard errors (>30%);
- Power issues, if estimates were possible but relative differences compared with whites of 10% were not statistically significant with a two-tailed alpha of 0.05; and
- No problems, if none of these issues were present.Results are presented by domain and by type of data.

Findings

Overall, of the 149 measures of quality of health care tracked in the 2004 NHDR, 42% could be used to assess disparities among American Indians and Alaska Natives (Table 2). Disparities could not be adequately assessed for 21% of measures due to collection issues, 22% due to estimation issues, and 14% due to power issues. Of the 60 measures of access to health care, 42% could be used to assess disparities among American Indians and Alaska Natives. Disparities could not be adequately assessed for 8% of measures due to collection issues, 30% due to estimation issues, and 20% due to power issues.

Gaps by Domain

The ability to assess disparities among American Indians and Alaska Natives differed across domains of quality and access. About half of measures of effectiveness, patient-centeredness, entry barriers, structural barriers, and patient satisfaction could be used to assess disparities among American Indians and Alaska Natives. However, none of the measures of patient safety and only two-thirds of measures of timeliness and health care utilization could be used. Collection issues prevented use of two-thirds of patient safety measures. Estimation issues prevented use of over a quarter of measures of patient safety, timeliness, entry barriers, and health care utilization. Power issues prevented use of over a quarter of measures of timeliness, patient-centeredness, structural barriers, and patient satisfaction.

Table 2
Measures in the 2004 NHDR With Collection, Estimation, or Power Issues by Quality and Access Domains and by Data Type

	Total Measures	Measures with Collection Issues	Measures with Estimation Issues	Measures with Power Issues	Measures with No Problems
	N	N (%)	N (%)	N (%)	N (%)
Quality Domains					
Effectiveness	108	13 (12%)	22 (20%)	15 (14%)	58 (52%)
Patient Safety	28	19 (68%)	8 (29%)	1 (4%)	0 (0%)
Timeliness	9	0 (0%)	3 (33%)	3 (33%)	3 (33%)
Patient-Centeredness	4	0 (0%)	0 (0%)	2 (50%)	2 (50%)
All Quality Domains	149	32 (21%)	33 (22%)	21 (14%)	63 (42%)
Access Domains					
Entry Barriers	18	0 (0%)	5 (28%)	4 (22%)	9 (50%)
Structural Barriers	6	0 (0%)	1 (17%)	2 (33%)	3 (50%)
Patient Satisfaction	7	0 (0%)	0 (0%)	3 (43%)	4 (57%)
Health care Utilization	29	5 (17%)	12 (41%)	3 (10%)	9 (31%)
All Access Domains	60	5 (8%)	18 (30%)	12 (20%)	25 (42%)
Data Type					
Person Survey	78	0 (0%)	31 (40%)	14 (18%)	33 (42%)
Hospital Discharge	46	37 (80%)	7 (15%)	2 (4%)	0 (0%)
Long-term Care	22	0 (0%)	0 (0%)	1 (5%)	21 (95%)
Quality Improvement	21	0 (0%)	8 (38%)	9 (43%)	4 (19%)
Population Data	20	0 (0%)	1 (5%)	0 (0%)	19 (95%)

Quality Domains: ***Effectiveness*** measures care that is based on scientific evidence and generally specific to patients with particular conditions (e.g., cancer). ***Patient safety*** measures care that avoids injuries to patients. ***Timeliness*** measures care that reduces waits and harmful delays. ***Patient-centeredness*** measures care that is respectful of and responsive to individual patient preferences, needs, and values.

Access Domains: ***Entry barriers*** measure difficulties getting into the health care system. ***Structural barriers*** measures difficulties getting care within the health care system. ***Patient satisfaction*** measures patient perceptions of provider communication and relationship. ***Health care utilization*** measures actual receipt of health care services.

Data Types: ***Person surveys*** include the Medical Expenditures Panel Survey, National Health Interview Survey, National Immunization Survey, Medicare Current Beneficiary Survey, and National Survey on Drug Use and Health. ***Hospital discharges*** include the Healthcare Cost and Utilization Project State Inpatient Databases and National Hospital Discharge Survey. ***Long-term care*** data include the Nursing Home Minimum Data Set and Home Health Agency Outcome and Assessment Information Set. ***Quality improvement*** data include the Medicare Quality Improvement Organization Program and Medicare Patient Safety Monitoring System. ***Population data*** include the National Vital Statistics System and various disease registries.

Notes: The assessment by data type does not include 22 measures which come from a variety of other data sources that are not listed.

Gaps by Data Type

Data in the 2004 NHDR came from many different sources: population-based surveys, hospital discharge data, long-term care data, quality improvement data, and population data from vital statistics systems and disease registries. The ability to assess disparities among American Indians and Alaska Natives differed across different types of data. About 40% of measures from person surveys could be used to assess disparities among American Indians and Alaska Natives; estimation issues were the major barriers to using these data. No measures from hospital discharge data could be used; collection issues were the major barriers. About 95% of long-term care and population measures could be used to assess disparities among American Indians and Alaska Natives. However, only about 20% of measures from quality improvement data could be used; estimation and power issues were the major barriers.

Discussion

In this paper, we identify significant gaps in the ability of extant data to assess health care disparities faced by American Indians and Alaska Natives. Overall, only 42% of measures tracked in the 2004 NHDR had American Indian and Alaska Native estimates that did not have significant issues related to collection, estimation, or power. Large gaps involved all domains of quality and access tracked in the NHDR; a thorough assessment of disparities faced by American Indians and Alaska Natives was not possible for any of these areas.

Data issues varied widely by data type. Population data based on vital statistics and disease registries were largely complete. Long-term care data also could be used to assess disparities among American Indians and Alaska Natives in most instances. Collection of data from Medicare and Medicaid certified nursing homes and home health agencies has been required by the Centers for Medicare & Medicaid Services since the 1990s.

In contrast, no estimates for American Indians and Alaska Natives were possible for measures based on hospital discharge data. This was largely attributable to the fact that many states do not identify American Indians and Alaska Natives in their hospital data. To begin to fill this gap and improve understanding of health care received by American Indians and Alaska Natives, AHRQ and the Indian Health Service (IHS) are collaborating on a project. This project brings together information from the IHS National Patient Information Reporting System (NPIRS) and the

AHRQ Healthcare Cost and Utilization Project (HCUP). Data from NPIRS about discharges from IHS and tribal hospitals (Indian Health Service, 2003b) allow estimates for American Indians and Alaska Natives living in IHS service areas, approximately 56% of the total U.S. American Indian and Alaska Native population (Indian Health Service, 2005). A number of States in HCUP that do collect information about American Indians and Alaska Natives have been identified. Work is currently underway to assess whether data from IHS hospitals and from community hospitals in HCUP with information on American Indians and Alaska Natives can be integrated and weighted to provide national American Indians and Alaska Natives estimates. If feasible, this work would begin to fill the gaps in hospital discharge data for American Indians and Alaska Natives and to allow assessment of disparities in patient safety, which relies heavily upon hospital data.

In addition, person-based surveys and quality improvement data need to be expanded. Options include increasing the numbers of American Indians and Alaska Natives represented in existing national data collections or initiating data collections that focus on American Indians and Alaska Natives, such as the 1987 Survey of American Indians and Alaska Natives (Johnson & Taylor, 1991). Reducing misclassification of American Indians' and Alaska Natives' race in vital statistics (Indian Health Service, 1996) and health care data (Escarce & McGuire, 2003; Korenbrot, Ehlers, & Crouch, 2003; Kozak, 1995) is also important. AHRQ is working with state governments and hospital associations to improve quality and uniformity of race/ethnicity reporting in statewide hospital data systems. IHS is also working with State vital statistics agencies to improve the reporting of American Indian and Alaska Natives on state death certificates (Groves et al., 2004).

The ability to track health care is critical for designing and targeting interventions to improve health care and reduce disparities and monitoring the success of these activities. National health care data too often fail to collect information from American Indians and Alaska Natives that is adequate for generating reliable estimates and assessing disparities experienced by these groups. Without improved data, gaps in the ability to assess disparities in health care among American Indians and Alaska Natives will remain, health care problems may go undetected, and opportunities for reducing disparities may be missed. It is important to reiterate that limited data is not justification for excluding American

Indians and Alaska Natives from national assessments of disparities like the NHDR. Data available for American Indians and Alaska Natives should be presented to identify disparities in need of redress and information gaps in need of remedy.

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Appendix A
2004 NHDR Quality of Health Care Measures

Measure	Source
Effectiveness: Cancer	
Rate of breast cancers diagnosed at late stage	SEER
Rate of cervical cancers diagnosed at late stage	SEER
Rate of colorectal cancers diagnosed at late stage	SEER
Cancer deaths per 100,000 population per year for all cancers	NVSS
Cancer deaths per 100,000 male population per year for prostate cancer	NVSS
Cancer deaths per 100,000 female population per year for breast cancer	NVSS
Cancer deaths per 100,000 population per year for lung cancer	NVSS
Cancer deaths per 100,000 population per year for colorectal cancer	NVSS
Effectiveness: Diabetes	
Adults with diabetes who had a hemoglobin A1c measurement at least once in past year	MEPS
Adults with diabetes who had a lipid profile in past two years	MEPS
Adults with diabetes who had a retinal eye examination in past year	MEPS
Adults with diabetes who had a foot examination in past year	MEPS
Adults with diabetes who had an influenza immunization in past year	MEPS
Hospital admissions for uncontrolled diabetes per 100,000 population	HCUP
Hospital admissions for short term complications of diabetes per 100,000 population	HCUP
Hospital admissions for long term complications of diabetes per 100,000 population	HCUP
Hospital admissions for lower extremity amputations in patients with diabetes per 1,000 population	NHDS
Effectiveness: End Stage Renal Disease	
Hemodialysis patients with urea reduction ratio 65% or higher	ESRD CPMP
Hemodialysis patients with hemoglobin 11 or higher	ESRD CPMP
Hemodialysis patients with arteriovenous fistula as primary mode of vascular access	ESRD CPMP
Dialysis patients registered on the waiting list for transplantation	USRDS
Patients with treated chronic kidney failure who receive a transplant within 3 years of date of renal failure	USRDS
Effectiveness: Heart Disease	
Current smokers age 18 and over receiving advice to quit smoking	MEPS
AMI patients administered aspirin within 24 hours of admission	CMS QIO
AMI patients with aspirin prescribed at discharge	CMS QIO
AMI patients administered beta-blocker within 24 hours of admission	CMS QIO
AMI patients with beta blocker prescribed at discharge	CMS QIO

Appendix A
2004 NHDR Quality of Health Care Measures (continued)

Measure	Source
Effectiveness: Heart Disease (continued)	
AMI patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	CMS QIO
AMI patients given smoking cessation counseling while hospitalized	CMS QIO
Heart failure patients with evaluation of left ventricular ejection fraction	CMS QIO
Heart failure patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	CMS QIO
Hospital admissions for congestive heart failure per 100,000 population	NHDS
Deaths per 1,000 adult admissions with acute myocardial infarction	HCUP
Deaths per 1,000 adult admissions with congestive heart failure	HCUP
Deaths per 1,000 adult admissions with coronary artery bypass surgery, age 40 and older	HCUP
Deaths per 1,000 adult admissions with percutaneous transluminal coronary angioplasty, age 40 and older	HCUP
Deaths per 1,000 admissions with abdominal aortic aneurysm repair	HCUP
Deaths per 1,000 pediatric heart surgery admissions, under age 18	HCUP
Effectiveness: HIV and AIDS	
New AIDS cases per 100,000 population 13 and over	CDC HIV/ AIDS SR
HIV-infection deaths per 100,000 population	NVSS
Effectiveness: Maternal and Child Health	
Pregnant women receiving prenatal care in first trimester	NVSS
Live born infants with low birth weight (<2500 grams)	NVSS
Live born infants with very low birth weight (<1500 grams)	NVSS
Infant mortality per 1000 live births, all	NVSS
Infant mortality per 1000 live births, birth weight <1500 grams	NVSS
Infant mortality per 1000 live births, birth weight 1500-2499 grams	NVSS
Infant mortality per 1000 live births, birth weight >2499 grams	NVSS
Maternal deaths per 100,000 live births	NVSS
Children age 19-35 months who received all recommended vaccines	NIS
Children age 19-35 months who received 4 doses of diphtheria-pertussis-tetanus vaccine	NIS
Children age 19-35 months who received 3 doses of polio vaccine	NIS
Children age 19-35 months who received 1 dose of measles-mumps-rubella vaccine	NIS
Children age 19-35 months who received 3 doses of Haemophilus influenzae type B vaccine	NIS
Children age 19-35 months who received 3 doses of hepatitis B vaccine	NIS
Children age 19-35 months who received 1 dose of varicella vaccine	NIS

Appendix A
2004 NHDR Quality of Health Care Measures (continued)

Measure	Source
Effectiveness: Maternal and Child Health (continued)	
Adolescents age 13-15 who received 3 or more doses of hepatitis B vaccine	NHIS
Adolescents age 13-15 who received 2 or more doses of measles-mumps-rubella vaccine	NHIS
Adolescents age 13-15 who received 1 or more doses of tetanus-diphtheria booster	NHIS
Adolescents age 13-15 who received 1 or more doses of varicella vaccine	NHIS
Hospital admissions for pediatric gastroenteritis per 100,000 population	HCUP
Children age 0-17 who had their height and weight measured by a doctor or other health provider	MEPS
Children age 2-17 with advice about physical activity	MEPS
Children age 2-17 with advice about eating healthy	MEPS
Children age 3-6 with a vision check	MEPS
Children agd 0-17 with advice to parent or guardian about smoking in the house	MEPS
Children 0-40 lbs with advice to parent or guardian about using child car safety seats	MEPS
Children 40-80 lbs with advice to parent or guardian about using booster seats	MEPS
Children over 80 lbs with advice to parent or guardian about using lap and shoulder belts	MEPS
Children age 2-17 with advice about using helmets	MEPS
Children age 2-17 with a dental visit	MEPS
Effectiveness: Mental Health	
Suicide deaths per 100,000 population	NVSS
Effectiveness: Respiratory Diseases	
High risk adults age 18-64 who received influenza vaccine in past year	NHIS
Non-institutionalized adults age 65 and over who received influenza vaccine in the past year	NHIS
Hospital admissions for influenza per 100,000 population 65 and over	HCUP
High risk adults age 18-64 who ever received pneumococcal vaccination	NHIS
Non-institutionalized adults age 65 and over who ever received pneumococcal vaccination	NHIS
Pneumonia patients who have blood cultures taken before antibiotics	CMS QIO
Pneumonia patients who receive initial antibiotic dose within 4 hours of arrival	CMS QIO
Pneumonia patients who receive initial antibiotic consistent with current recommendations	CMS QIO
Pneumonia patients who receive influenza screening or vaccination	CMS QIO
Pneumonia patients who receive pneumococcal screening or vaccination	CMS QIO
Deaths per 1,000 adult admissions with pneumonia	HCUP
Antibiotics prescribed at visits with a diagnosis of common cold per 10,000 population	NAMCS NHAMCS
Hospital admissions for asthma per 100,000 population under age 18	NHDS

Appendix A
2004 NHDR Quality of Health Care Measures (continued)

Measure	Source
Effectiveness: Respiratory Diseases (continued)	
Hospital admissions for asthma per 100,000 population age 18 and over	NHDS
Tuberculosis patients who complete a curative course of treatment within 12 months of initiation of treatment	CDC TBSS
Effectiveness: Nursing Home and Home Health Care	
Long stay nursing home residents who have moderate to severe pain	MDS
Long stay nursing home residents who were physically restrained	MDS
Long stay nursing home residents who spend most of their time in bed or in a chair	MDS
Long stay nursing home residents who had a urinary tract infection	MDS
Long stay nursing home residents who are more depressed or anxious	MDS
Low risk long stay nursing home residents who lose control of their bowels or bladder	MDS
Low risk long stay nursing home residents who had a catheter inserted and left in the bladder	MDS
Short stay nursing home residents with delirium	MDS
Short stay nursing home residents who have moderate to severe pain	MDS
Short stay nursing home residents who have pressure sores	MDS
Home health care patients who get better at getting dressed	OASIS
Home health care patients who get better at taking their medication correctly	OASIS
Home health care patients who get better at bathing	OASIS
Home health care patients who don't get worse at bathing	OASIS
Home health care patients who get better at getting in and out of bed	OASIS
Home health care patients who get better at walking or moving around	OASIS
Home health care patients who get better at going to and from the toilet	OASIS
Home health care patients who have less pain when moving around	OASIS
Home health care patients who have less shortness of breath	OASIS
Home health care patients who have less urinary incontinence	OASIS
Home health care patients who are confused less often	OASIS
Home health care patients who had to be admitted to the hospital	OASIS
Selected infections due to medical care per 1000 discharges	HCUP
Postoperative septicemia per 1000 elective surgical discharges of 4+ days	HCUP
Medicare beneficiaries with central venous catheter-associated infection at insertion site	MPSMS
Medicare beneficiaries with central venous catheter-associated blood stream infection	MPSMS
Medicare beneficiaries with postoperative pneumonia	MPSMS
Medicare beneficiaries with postoperative urinary tract infection	MPSMS
Medicare beneficiaries with ventilator-associated pneumonia	MPSMS
Medicare beneficiaries with hospital-acquired blood stream infection	MPSMS
Postoperative hemorrhage or hematoma with surgical drainage or evacuation per 1000 surgical discharges	HCUP
Postoperative pulmonary embolus or deep vein thrombosis per 1000 surgical discharges	HCUP
Postoperative respiratory failure per 1000 elective surgical discharges	HCUP

Appendix A
2004 NHDR Quality of Health Care Measures (continued)

Measure	Source
Effectiveness: Nursing Home and Home Health Care (continued)	
Postoperative physiologic/metabolic derangements per 1000 elective surgeries	HCUP
Complications of anesthesia per 1000 surgical discharges	HCUP
Decubitus ulcers per 1000 selected stays of 5 or more days	HCUP
Postoperative hip fractures per 1000 surgical discharges age 18 and over	HCUP
Medicare beneficiaries with postoperative pulmonary embolus or deep vein thrombosis	MPSMS
Medicare beneficiaries with central venous catheter-associated mechanical complication	MPSMS
Accidental laceration or puncture during procedure per 1000 discharges	HCUP
Iatrogenic pneumothorax per 1000 relevant discharges	HCUP
Reclosure of postoperative disruption of abdominal wall per 1000 abdominopelvic-surgery discharges	HCUP
Foreign body left in during procedure per 1000 discharges	HCUP
Birth trauma injury to neonate per 1000 selected live births	HCUP
Obstetric trauma per 1000 instrument-assisted deliveries	HCUP
Obstetric trauma per 1000 vaginal deliveries without instrument assistance	HCUP
Obstetric trauma per 1000 cesarean deliveries	HCUP
Deaths per 1000 admissions in low-mortality DRGs	HCUP
Deaths per 1,000 discharges with complications potentially resulting from care	HCUP
Persons with provider who does not usually ask about medications other doctors may give	MEPS
Timeliness	
People who have a specific source of ongoing care	NHIS
People in fair or poor health who have a specific source of ongoing care	NHIS
People with a hospital, emergency room, or clinic as source of ongoing care	NHIS
Families that experience difficulties or delays in obtaining health care or do not receive needed care	MEPS
Families that experience difficulties or delays in obtaining health care due to financial or insurance reasons	MEPS
Adults who sometimes or never can get appointment for routine care as soon as wanted	MEPS
Adults who sometimes or never can get care for illness or injury as soon as wanted	MEPS
Pneumonia patients who receive initial antibiotic dose within 4 hours of arrival	CMS QIO
AMI patients administered aspirin within 24 hours of admission	CMS QIO
Patient Centeredness	
Adults whose providers sometimes or never listened carefully to them	MEPS
Adults whose providers sometimes or never explained things in a way they could understand	MEPS
Adults whose providers sometimes or never showed respect for what they had to say	MEPS
Adults whose providers sometimes or never spent enough time with them	MEPS

Appendix B
2004 NHDR Access to Health Care Measures

Measure	Source
Getting Into the Health Care System	
People under 65 with health insurance	NHIS
People under 65 with any private health insurance	NHIS
People 65 and over with any private health insurance	NHIS
People uninsured all year	MEPS
People with any period of uninsurance during the year	MEPS
People with any period of public insurance during the year	MEPS
People who have a specific source of ongoing care	NHIS
People in fair or poor health who have a specific source of ongoing care	NHIS
People with a hospital, emergency room, or clinic as source of ongoing care	NHIS
People without a usual source of care who indicate a financial or insurance reason for not having a source of care	MEPS
People who have a usual primary care provider	MEPS
Families that experience difficulties or delays in obtaining health care or do not receive needed care	MEPS
Families that experience difficulties or delays in obtaining health care due to financial or insurance reasons	MEPS
Families that did not receive a doctor's care or prescription medications because the family needed the money	MEPS
Families not very satisfied that they can get health care if they need it	MEPS
People who sometimes or never get appointments for routine care as soon as wanted	MEPS
People who sometimes or never get care for illness or injury as soon as wanted	MEPS
Getting Care Within the Health Care System	
People with provider who has office hours nights or weekends	MEPS
People with difficulty getting appointments on short notice	MEPS
People with difficulty contacting provider over the telephone	MEPS
Adults without problems getting referral to a specialist in past year	MEPS
People not very satisfied with professional staff at provider's office	MEPS
People who usually wait over 30 minutes before seeing provider	MEPS
Patient Perceptions of Care	
People with provider who usually asks about medications and treatments other doctors may give	MEPS
Adults whose providers sometimes or never listened carefully to them	MEPS
Adults whose providers sometimes or never explained things in a way they could understand	MEPS
Adults whose providers sometimes or never showed respect for what they had to say	MEPS
People not satisfied with quality of care received from provider	MEPS
Adults whose providers sometimes or never spent enough time with them	MEPS
Adults who rate their health care in the past year <7 on a scale from 0 to 10	MEPS

Appendix B
2004 NHDR Access to Health Care Measures (continued)

Measure	Source
Health Care Utilization	
People with an office or outpatient visit in the past year	MEPS
People with a prescription medication in the past year	MEPS
People with a dental visit in the past year	MEPS
People with an emergency room visit in the past year	MEPS
People with an inpatient discharge in the past year	MEPS
Outpatient visits per 100 population	NHAMCS-OPD
Emergency department visits per 100 population	NHAMCS-ED
Total hospitalizations per 100 population	NHDS
Medicare beneficiaries 65 and over with Medicare-covered home health care	MCBS
Medicare beneficiaries under 65 with Medicare-covered home health care	MCBS
Medicare beneficiaries 65 and over with nursing home care in the past year	MCBS
Medicare beneficiaries under 65 with nursing home care in the past year	MCBS
Admissions for hypertension per 100,000 population 18 and older	HCUP
Admissions for angina per 100,000 population 18 and older	HCUP
Admissions for chronic obstructive pulmonary disease per 100,000 population 18 and older	HCUP
Admissions for bacterial pneumonia per 100,000 population	HCUP
Admissions for perforated appendix per 1,000 admissions with appendicitis	HCUP
Adults who received mental health treatment or counseling in the past year	NSDUH
Adults who received outpatient mental health treatment or counseling	NSDUH
Adults who received prescription medications for mental health treatment	NSDUH
Adults who received inpatient mental health treatment or counseling	NSDUH
Adults with serious mental illness who received mental health treatment or counseling	NSDUH
People age 12 and older who received illicit drug or alcohol abuse treatment in the past year	NSDUH
People age 12 and older who needed treatment for illicit drug use and who received such treatment in the past year	NSDUH
Hospitalizations for HIV per 10,000 population	NHDS
HIV patients with 4 or more ambulatory visits in the past year	HIVRN
HIV patients with CD4 <50 with 4 or more ambulatory visits in the past year	HIVRN
HIV patients with an inpatient hospitalization in the past year	HIVRN
HIV patients with CD4 <50 with an inpatient hospitalization in the past year	HIVRN