

## CHAPTER 2 HEALTHCARE COST, COVERAGE, AND ACCESS INDEX

### 2.1 INDEX CRITERIA

The Healthcare Cost, Coverage and Access Index (HCCA) includes a small number of core indicators selected in a way that provides comparable values among counties throughout the United States. The properties of the HCCA are based on ARC's Economic Status Index. These properties include: First, the HCCA is simple and straightforward in its composition and highly intuitive in interpretation. Second, the HCCA makes use of data sources that are reliable, publicly available, and periodically constructed and validated by federal government sources using nationally uniform data collection and data manipulation strategies. This characteristic increases confidence that the index can be updated and replicated with a minimum of effort and expense. Third, the HCCA makes use of sources that are transparent and rely upon justifiable and generally well accepted and well validated small area analysis techniques in those instances where county-level estimates, as opposed to actual population measures, are required. Fourth, the HCCA values consistency and reliability over currency or recentness in choosing among different potential measurement items to be used to construct the index. This approach helps to assess local or regional trends relative to similar trends at a state or national level.

### 2.2 INDEX COMPONENTS

The HCCA reflects three distinct but related dimensions: (1) access to health professionals and facilities, (2) health insurance coverage among all individuals, and (3), healthcare cost. As noted above, these three dimensions were used to create three components. All data were converted to percentiles. The components were then combined to form the final HCCA.

### 2.3 HEALTH CARE COST (HCC) COMPONENT

Costs are often measured by the expenditures of public and private parties in per capita terms. The healthcare cost component (HCC) measures relative cost to provide services. Generally this means aggregate expenditures over an annual period divided by the number of "participants" (users and nonusers who were eligible to use the service over the time period observed). In some cases, particularly where relatively few eligibles actually make use of the service, the appropriate denominator might be the number of actual users, rather than the eligibles. For each payer, the population covered must be carefully specified (e.g., Private Insurance, Uninsured, Medicaid, Medicare, and Veterans Administration (VA)) to assure denominators are available and consistently applied for the same years as is numerator data. Because of the lack of uniform public data sources for all covered and not covered populations, the HCC component has only one input; the CMS Hospital Geographic Wage Index. The Geographic Wage Index was used in its raw form. Each county has an Index based on a 1.0 national average. Because the data are aggregated into three clusters in each state: metropolitan, micropolitan, and other non-core, distinctions of true cost differences within states are blurred. Some argue that the aggregation misrepresents the actual cost of care at the county level.

Nonetheless, this component is the basic foundation on which Medicare bases its payments; and most insurance companies base their payments on a multiple of Medicare. Medicaid varies from state to state.

Although it has only one input, the HCC component has equal weight with the other subcomponents. The HCC itself is comprised of multiple elements of salary payments reported by hospitals on their cost reports.

Salary data are aggregated for hospitals in a specific Core Based Statistical Area (CBSA), which can be an aggregation of counties, and an index is assigned to each hospital. Hospitals were assigned to counties to produce county indices. Counties without hospitals were assigned the value of the nearest county.

Data for the HCC component were drawn from raw Medicare hospital wage index data files by state and assigned to the counties associated with the Medicare area. Counties with no hospital were assigned to the nearest county associated with a hospital.

## 2.4 HEALTH INSURANCE COVERAGE (HIC) COMPONENT

HRSA’s Area Resource File (ARF) routinely assembles Small Area Health Insurance Expenditures (SAHIE) for persons under 65. This was used for the health insurance coverage component (HIC).

Insurance coverage data on persons age 65 and older was excluded from the HIC component. Analysis of county-level data from the 2009 American Community Survey showed that the percent of persons over 65 insured varies very little from county to county in Appalachia and the United States. Approximately 98 percent to 100 percent of this population has some coverage because of the virtually universal coverage of this age group by the Medicare program. A significant differentiation occurs only in the groups under age 65. Therefore, data on persons 65 and over was excluded from the HIC. The HIC makes no distinction about the quality or comprehensiveness of the coverage. It measures only the existence of coverage, whether private or public insurance.

## 2.5 HEALTH CARE RESOURCES AVAILABILITY (HCRA) COMPONENT

Resource availability refers to the physical presence of certain resources within a local community (e.g., short term general hospital beds, physicians of various types and specialties). The following four inputs were included in the HCRA:

**TABLE 3 – HCRA INPUT DATABASE**

Input	Per Population	Data Source	Time Period
Primary Care Physicians (PCP)	100,000	ARF	2006, 2007, 2008 (Average of 3 most recent years available)
Non-Primary Care Physicians (NPCP)	100,000	ARF	2006, 2007, 2008 (Average of 3 most recent years available)
Dentists (DDS)	100,000	ARF	2007 (Most recent year available)
Acute Hospital Beds (HOSPBEDS)	10,000	ARF	2005, 2006, 2007 (Average of 3 most recent years available)

Source: ARF is compiled from multiple national databases by the HRSA of the U.S. DHHS.