Maine Hospital Inpatient Service Areas, 2004

Hospital Service Areas (HSAs) represent local areas for community inpatient care. Each HSA consists of a group of cities and towns that include one or more hospitals to which local residents generally have the plurality of their inpatient admissions. HSAs have provided an accepted method in Maine and throughout the country to analyze variation in health care use.

During 2004, the Maine Health Data Organization (MHDO) initiated work to update Maine HSAs because delivery systems for hospital care in Maine changed since 1994 when the last version of HSAs was completed. The MHDO collaborated with other health care agencies in preparing data, reviewing methods, and making final assignments of the Maine 5-digit county/town codes to HSAs. In addition to reassigning towns to HSAs, the work resulted in a reduction in the number of HSAs from 35 to 32; Fort Fairfield, Bath, and Berwick 1994 HSA areas were eliminated. Towns previously assigned to these areas have been reassigned to other service areas.

Methods

Standard statistical methods were used to develop the 2004 Maine HSAs[1].

Step 1. Assigned each of Maine's 35 general hospitals (37 physical plants) to the city or town where the hospital is located. Spring Harbor, The Acadia Hospital, New England Rehabilitation Hospital and Community General Hospital are specialty hospitals and were excluded. This resulted in 32 geographical areas (HSAs) in Maine that had at least one general hospital. Areas with two or more hospitals were Portland (2), Bangor (2), Lewiston (2), and Waterville (2).

Step 2. Assigned each county/town code to one of the 32 HSAs based on where the greatest proportion (plurality) of residents received their inpatient care. 2001-2003 Maine inpatient discharges and 2000-2002 New Hampshire inpatient discharges (Maine residents) were used for this analysis. Newborn discharges, discharges from the four specialty hospitals mentioned above and discharges with a DRG for specialized or tertiary care provided exclusively by Maine Medical Center, Central Maine Medical Center and Eastern Maine Medical Center were excluded.

Step 3. Assigned unorganized territories in Maine to HSAs that were consistent with U.S. Census county subdivisions. The U.S. Census aggregates population data by county subdivisions (e.g. N Penoscot U) and not by specific Maine state planning county/town codes for unorganized territories (e.g. T05 R07 WELS). Because census population numbers are used as denominators in analysis of variations in HSA rates, the state planning county/town codes for unorganized territories were assigned to HSAs consistent with U.S. Census county subdivision aggregations.

Step 4. The Maine Office of GIS prepared an interim map of the resulting HSAs. Visual inspection revealed a small number of towns that were not contiguous with the HSA they were assigned to. These "island" towns were reassigned to the HSA they were enclosed within.

The methods used for the 2004 HSA assignment are consistent with the methods used to create the previous 1994 version of Maine HSAs.

Special Considerations for Users of the 2004 Maine HSA crosswalk

1. The 2004 Maine HSAs are based on Maine State planning 5-digit county/town codes. There is no 2004 HSA crosswalk file based on zip codes.

2. The 2004 Maine HSAs are based on current 2004 Maine State planning 5-digit county/town codes. There are a small number of townships where the county/town code has changed over the years (e.g. Benedicta TWP changed from 03909 to 03050). Descriptions of historical changes to county/town codes can be found in the geocode file at the Maine Office of GIS website[2].

3. Hospital discharge files provided by the MHDO to users contain a field for the HSAs and county/town codes. Historical files will have the old 1994 HSA. Those using historical files can apply the 2004 HSA crosswalk to the historical hospital data files to achieve consistent reporting.

4. Jackman, Moose River, Dennistown Plantation were left as an "island" area assigned to the Waterville HSA. MaineGeneral hospital in Waterville is affiliated with the Jackman Region Health Center. Residents of these communities have consistently has more inpatient hospitalizations at the Waterville hospitals and not the closer hospital in Skowhegan.

5. Most Maine residents receive hospital care at Maine hospitals. However, interpretation of population-based health care rates for the York HSA using MHDO Maine hospital data, should be made with caution because of border crossings to New Hampshire hospitals. The 1994 HSA version contained a separate Berwick HSA border area. Berwick was eliminated as a separate HSA from York after review of both Maine and New Hampshire discharge data.

6. Orono (19490), located in the Bangor HSA contains a large student population. For the purposes of generating population based health care use rates some users may elect to exclude Orono from analysis.

7. Fort Fairfield was eliminated as a separate HSA because Community General Hospital is a specialty hospital and no longer provides acute care inpatient services. Bath was eliminated as a separate HSA because the hospital in Bath closed.

8. HSAs are simply a commonly accepted means to aggregate specific data for analysis over time. They also provide a method of presenting data to the public without violating any HIPAA rules. Each hospital has its own definition of "service area" which may or may not be different from MHDOs definitions. Many hospitals have both a primary and secondary service area. MHDOs HSAs have no legal standing and are not intended to replace or override any individual hospital's definition of service area.

9. Using HSAs to aggregate outpatient data should be used with a great deal of caution. Outpatient data, unlike inpatient data, does not always reflect a hospital's total expenditure of resources for outpatient care. As currently written, the rules require hospitals to report services provided within the hospital or a department of the hospital. Services provided outside the hospital but not considered a department of the hospital are not reported. Many hospitals own and operate satellite facilities (health centers) that provide outpatient services but are not considered a department of the hospital.

10. At some point in the future a separate service area map will be forthcoming for emergency department and ambulatory outpatient care.

Footnotes

1. The Dartmouth Atlas of Health Care, 1999. Appendix on Methods: Section 1.2 Defining Hospital Service Areas. Center for the Evaluative Clinical Sciences at Dartmouth Medical School. http://www.dartmouthatlas.org/99US/chap_8_sec_1_2.php

2. Maine Office of GIS geocode file can be found at: http://apollo.ogis.state.me.us/catalog/ and click on TABLES, GEOCODES.ZIP