



*Guidebook*

**Medicare Wage Index for VA Facilities: 2000-2011**

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## Overview

Medical facilities produce health care by combining labor and capital (e.g., supplies, equipment, buildings). Labor prices vary considerably across the nation; certain markets, such as San Francisco and Boston, are known for having high labor costs. Researchers may need to adjust their cost analyses for these wage differentials. The best known method involves using the Medicare wage index. HERC has combined data from Centers for Medicare and Medicaid Services (CMS) and the VA Planning System and Support Group (PSSG) to create a Medicare wage index for VA facilities.

## Methods

We downloaded the annual wage index data, which are part of CMS' inpatient Impact files. We merged the data to a CMS file (nprm2008\_xwalk\_file; updated in 2008) that links Social Security Administration county code to the Federal Information Processing Standards (FIPS) county code and the Metropolitan Statistical Area (MSA). This linkage was not possible for some hospitals that only existed prior to 2005.

The Impact files have information on specific providers, but the wage index is determined at the market level. According to CMS, "A labor market area's wage index value is the ratio of the area's average hourly wage to the national average hourly wage." Markets are defined by MSA and Core Based Statistical Areas (CBSA). Between 2000 and 2004, CMS reported the MSA. Starting in 2005, CMS switched and reported the CBSAs. There are over 930 CBSAs and the exact numbers change with the population. See <http://www.census.gov> for more up-to-date information on CBSAs. Rural areas have a missing CBSA or MSA, and we use the county code to identify their wage index.

VA hospitals are not included in the CMS wage index Impact files. We linked the CMS wage index data to VA facilities using three datasets from the PSSG. PSSG provides data at the VA STA6A hospital level. Some variability in wage index enters when summarizing the CMS wage index at the CBSA level. According to CMS, this variability exists because hospitals that are part of a system are sometimes recoded to the parent CBSA. Typically this variability is small. We calculated the standard deviation of the wage index for each CBSA in each year so that you can see the variability as well.

## Using the data

A record represents a VA facility, defined by STA6A, in a given year. It is necessary to consider how you want to merge these data to your data. You will need use the STA3N or STA6A for the merge. If you are using the STA3N, you will want to capture the subset of records for this level of analysis (select records where STA3N =STA6A); this should drop the data for the outlying facilities and permit a 1:1 merge when you include calendar year (see appendix).

## Data Access

Please contact HERC ([herc@va.gov](mailto:herc@va.gov)), if you would like a copy of the file.

**STA3N**

Description: VA 3-digit station identifier  
Type: string (str3)  
Unique values: 127  
Missing "": 0/8624  
Source: PSSG

**STA6A**

Description: VA 5-character station identifier  
Type: string (str6)  
Unique values: 1710  
Missing "": 360/8624  
Source: PSSG

**VISN**

Description: VA VISN identifier  
Type: numeric (byte)  
Range: [1,23]  
Unique values: 21  
Missing .: 0/8624  
Source: PSSG

**STA\_NAME**

Description: Text field listing name of the station  
Type: string (str50)  
Unique values: 819  
Missing "": 0/8624  
Warning: variable has embedded blanks  
Source: PSSG

**LATITUDE**

Description: Latitude of the VA station  
Type: numeric (float)  
Range: [19.667627, 64.840057]  
Unique values: 841  
Missing .: 70/8624  
Source: PSSG

**LONGITUDE**

Description: Longitude of the VA station  
Type: numeric (float)  
Range: [-159.3698, -67.247833]  
Unique values: 841  
Missing .: 70/8624  
Source: PSSG

**VA\_SITE**

Description: Identifies facilities owned by VA

Type: string (str1)

Unique values: 2

Missing "": 0/8624

Tabulation: Freq. Value

6150 "N" "VA Owned and Operated"

2474 "Y" "Contractor owned and operated"

Source: PSSG

**VA\_STAFFED**

Description: Identifies facilities staffed by VA employees

Type: string (str1)

Unique values: 2

Missing "": 0/8624

Tabulation: Freq. Value

1570 "N" "Operated with non-VA staff"

7054 "Y" "Includes some VA staff on site"

Source: PSSG

**FIPS**

Description: FIPS county code, which are not getting replaced by ANSI codes (see <http://www.census.gov/geo/www/ansi/ansi.html>)

Type: string (str5)

Unique values: 713

Missing "": 70/8624

Source: CMS

**CBSA**

Description: Core Base Statistical Areas. Refers collectively to metropolitan and micropolitan statistical areas

Type: string (str5)

Unique values: 310

Missing "": 70/8624

Note: This represents the CBSA, which is what CMS now uses for identifying a market.

Missing indicates a rural market

Source: CMS

**YEAR**

Description: Calendar year of the wage index

Type: numeric (int)

Range: [2000, 2009]

Unique values: 10

Missing .: 0/8624

Source: Created by HERC

### **WAGE\_INDEX**

Description: Medicare wage index for the market

Type: numeric (float)

Range: [.73110002, 1.5954]

Unique values: 2193

Missing .: 5753/8624

Note: Missing data indicates a rural market

Source: CMS

### **WAGE\_SD**

Description: there was some variability of wage index within MSA. This represents the standard deviation of the wage index's that were combined at the market level. Missing indicates SD was not computed.

Type: numeric (float)

Range: [0,.42921382]

Unique values: 743

Missing .: 6109/8624

Source: Created by HERC

### **ZIP**

Description: VA facility's zip code

Type: string (str5)

Unique values: 844

Missing "": 40/8624

Source: CMS

### **AAC\_LIBNAME**

Description: Facility name as it is included in the Austin SAS libname

Type: string (str23)

Unique values: 1699

Missing "": 360/8624

Warning: variable has embedded blanks

Source: PSSG

## Appendix: Example of Stata Code for Merging Wage Index to PTF data

This example merges DSS discharge data from multiple years to the Medicare Wage Index.

```
*****  
*Load wage index file  
use "vawage_00_09", clear  
    keep if sta3n==sta6a  
    ren sta3n sta3  
    gen double sta3n =real(sta3)  
    drop sta6a  
    sort sta3n year  
save temp1, replace  
  
*load DSS data  
use "dss_disch0", clear  
    append using dss_disch04  
    append using dss_disch05  
    append using dss_disch06  
    append using dss_disch07  
    append using dss_disch08  
    gen year=year(admitday)  
    sort sta3n year  
  
*merge DSS and wage index data  
merge sta3n year using temp1, nokeep  
  
replace dcst_tot=costdss/wage_index  
replace dsur_tot= dsur_tot/wage_index
```