



*Guidebook*

**Medicare Wage Index for VA Facilities: 2000-2015**

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Todd H. Wagner

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Health Economics Resource Center (HERC)

VA Palo Alto Healthcare System

795 Willow Road (152 MPD)

Menlo Park, CA 94025

650-617-2630

650-716-2639 (fax)

herc@va.gov

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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. See <http://www.census.gov> for up-to-date information on CBSAs. Rural areas have a missing CBSA, and we use the state 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. Our wage index information reflects the average for the CBSA post reclassification.

## Using the data

We provide two data files: a wide version and a long version. In the wide version, each STA6A is represented along with the yearly wage index variables. In the long version, 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: 130  
Source: PSSG

**STA6A**

Description: VA 5-character station identifier  
Type: string (str6)  
Unique values: 670  
Source: PSSG

**VISN**

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

**STA\_NAME**

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

**LATITUDE**

Description: Latitude of the VA station  
Type: numeric (float)  
Range: [17.989231,64.810091]  
Unique values: 927  
Missing .: 84/13580 (mobile clinics do not have GPS locations)  
Source: PSSG

**LONGITUDE**

Description: Longitude of the VA station  
Type: numeric (float)  
Range: [-159.39324,-65.656208]  
Unique values: 927  
Missing .: 84/13580 (mobile clinics do not have GPS locations)  
Source: PSSG

**VA\_SITE**

Description: Identifies facilities owned by VA  
Type: string (str1)  
Unique values: 2

Tabulation: Freq. Value  
10136 "N" "VA Owned and Operated"  
3444 "Y" "Contractor owned and operated"  
Source: PSSG

### **VA\_STAFFED**

Description: Identifies facilities staffed by VA employees  
Type: string (str1)  
Unique values: 2  
Tabulation: Freq. Value  
2016 "N" "Operated with non-VA staff"  
11564 "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: 793  
Missing "": 84/8624  
Source: CMS

### **CBSA**

Description: Core Base Statistical Areas. Refers collectively to metropolitan and micropolitan statistical areas  
Type: string (str5)  
Unique values: 571  
Missing "": 70/13580  
Note: This represents the CBSA, which is what CMS uses to identify the labor 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

### **STATE**

Description: VA facility's state 2 letter abbreviation  
Type: string (str2)  
Unique values: 56  
Source: CMS

### **STATE**

Description: VA facility's state 2 code based on FIPS number

Type: string (str2)

Unique values: 52

Source: CMS

Missing represent American Samoa, Guam, Philippines, and Virgin Islands

## **ZIP**

Description: VA facility's zip code

Type: string (str5)

Unique values: 933

Source: CMS

## **WAGE\_INDEX**

Description: Medicare wage index for the market

Type: numeric (double)

Range: [.3137,1.7326]

Note: Missing data for American Samoa, Guam, Philippines, and Virgin Islands. Also, in rare cases, yearly wage information was missing for CBSAs in years.

Source: CMS

## **GAF**

Description: Medicare geographic adjustment factor. The GAF is calculated as the weighted average of the three geographic price indexes (physician work, practice expense and malpractice).

Type: numeric (double)

Range: [.4521,1.457]

Source: CMS

## 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_09_19", 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_disch10", clear  
    append using dss_disch11  
    append using dss_disch12  
    append using dss_disch13  
    append using dss_disch14  
    append using dss_disch15  
    gen year=year(admitday)  
    sort sta3n year  
  
*merge DSS and wage index data  
merge sta3n year using temp1, nokeep
```