



## Comparative Billing Report

May 4, 2015

CBR #: CBR201505  
NPI #: 1111111111  
Fax #: (888)555-5555

ORGANIZATION NAME  
FULL NAME  
123 STREET & LANE  
SUITE #4000  
ANYTOWN, XX 55555-4444

Dear Medicare Provider:

The Centers for Medicare & Medicaid Services (CMS) strives to protect the Medicare Trust Fund and effectively manage Medicare resources. In an effort to accomplish these goals, CMS has contracted with eGlobalTech, a professional services firm in Arlington, VA, to develop Comparative Billing Reports (CBRs). CBRs are designed to educate providers on their billing or referral patterns for selected topics through a comparison to other providers across their state and the nation. CBRs are for educational and comparison purposes. They are not indicative of overpayments being identified. No reply is necessary.

Attached is a CBR that reflects your billing or referral patterns compared to peer providers' billing or referral patterns for the same services in your state and nationwide. Please note, we recognize that practice patterns can vary by region, subspecialty, and patient acuity levels, which are elements that are not evident in the claims data reviewed for the CBR report. We hope you find this CBR beneficial as an educational tool to assist you in identifying opportunities for improvement. If you have any questions regarding this CBR, or if you want to change the way you receive CBRs in the future, please contact the CBR Support Help Desk via:

- Calling the Toll Free Number, 1-800-771-4430;
- Sending an email to [cbrsupport@eglobaltech.com](mailto:cbrsupport@eglobaltech.com);
- Visiting the website at <http://www.cbrinfo.net>.

REMINDER: If you have changed your mailing address or contact information and have not notified the National Plan and Provider Enumeration System (NPES) and/or CMS' provider enrollment contractor via the internet or the appropriate Medicare enrollment application, please take time to review and update the system.

You can update your National Provider Identifier (NPI) contact information on NPES at <https://npes.cms.hhs.gov/NPES>. If you have forgotten your User ID and/or password or need assistance, contact the NPI Enumerator at 1-800-465-3203 or email [customerservice@npienumerator.com](mailto:customerservice@npienumerator.com).

For more information regarding the Medicare enrollment process or to obtain a copy of the Medicare enrollment application for your provider type, refer to <http://www.cms.gov/MedicareProviderSupEnroll>.

We thank you for your cooperation and hope you find the attached report informative.

Sincerely,

A handwritten signature in cursive script that reads "Susan M. Goodrich".

Susan M. Goodrich  
CBR Project Director  
eGlobalTech  
Enclosure

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## Comparative Billing Report (CBR): NPI 1111111111

### Transthoracic Echocardiography

#### Introduction

CBR201505 focuses on physicians with a specialty of cardiology or internal medicine, who submitted claims for office-based transthoracic echocardiography (TTE) services using current procedural terminology (CPT®) codes 93306, 93350 or 93351. According to an article titled *Medicare Services Provided by Cardiologists in the United States: 1999-2008*, the rate of transthoracic echocardiography nearly doubled from 319 services per 1000 beneficiaries in 1999 to 609 services per 1000 beneficiaries in 2008. Studies estimate the rate of inappropriate echocardiography use may be as high as 26 percent.

A report by the American College of Cardiology Foundation Appropriate Use Criteria Task Force, Et al, titled *2011 Appropriate Use Criteria for Echocardiography* rated 202 indications for echocardiography. The report states “In general, the use of echocardiography for initial diagnosis when there is a change in clinical status or when the results of the echocardiogram are anticipated to change patient management were rated appropriate. Routine testing when there was no change in clinical status or when results of testing were unlikely to modify management were more likely to be inappropriate than appropriate/uncertain.”

Studies by the Office of the Inspector General support large variations in billing patterns for ultrasound services, with 20 high-use counties accounting for 16 percent of Part B expenditures on ultrasound in spite of having only six percent of Medicare beneficiaries residing in those counties. In their July 2009 report titled *Medicare Part B Billing for Ultrasound*, the OIG determined that twice as many beneficiaries received ultrasound services in high-use counties when compared to the rest of the country and that the ratio of ultrasound providers to beneficiaries in those counties was three times more than the rest of the nation.

Table 1 provides a summary of your utilization of the CPT® codes included in this CBR. For the purposes of this CBR only global services and services with the professional portion were included. Please note, the totals may not be equal to the sum of the rows.

**Table 1: Summary of Your Utilization**  
**January 1, 2014 - December 31, 2014**

CPT® Code	Abbreviated Description	Allowed Charges	Allowed Services	Beneficiary Count
93306	Complete transthoracic echocardiography with spectral and color flow Doppler	\$46,102.73	189	153
93350	Transthoracic stress echocardiography, without continuous electrocardiographic monitoring	\$257.76	1	1
93351	Transthoracic stress echocardiography, with continuous electrocardiographic monitoring	\$3,896.62	13	13
<b>TOTAL</b>		<b>\$50,257.11</b>	<b>203</b>	<b>156</b>

*Current Procedural Terminology® (CPT®) codes, descriptors, and all other data only are copyright 2013 American Medical Association. All rights reserved. Applicable FARS/DFARS apply.*

The number of beneficiaries is an unduplicated count for each row and the total. It is likely the same beneficiary has billings for more than one CPT® code and is counted only once in the total.

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The CBR team's analysis supports substantial geographical variations in utilization as well. The number of allowed services for CPT® codes 93306, 93350, and 93351 for Part B beneficiaries is 83 services per 1000 beneficiaries nationally. The number of allowed services ranges from two services per 1000 beneficiaries to almost 300 services per 1000 beneficiaries depending on county. These services only account for services administered in an office by a cardiologist or internist. Studies suggest that some Medicare beneficiaries are undergoing routine annual echocardiography despite the recommendations by the American College of Cardiology Foundation Appropriate Use Criteria Task Force against routine surveillance echocardiography.

The metrics reviewed in this report include:

- The average number of services per beneficiary for echocardiography services CPT® codes 93306, 93350, and 93351, for the one year period
- The percentage of services for stress echocardiography without continuous electrocardiographic monitoring vs stress echocardiography with continuous electrocardiographic monitoring, CPT® codes 93350 vs 93351
- The percentage of beneficiaries with a previous TTE service, from **any provider or in any place of service**, within 365 days

## Coverage and Documentation Overview

This portion of the CBR offers a broad look at the coverage and documentation requirements to ensure compliance with Medicare guidelines. **The information provided does not supersede or alter the coverage and documentation policies as outlined in the Medicare Administrative Contractor (MAC) Local Coverage Determinations (LCDs) and Local Coverage Articles (LCAs).** Please refer any specific questions you may have to the MAC for your region.

### Basic Coverage Criteria

Thirty-seven U.S. states and territories are covered by LCDs pertaining to transthoracic echocardiography and transthoracic stress echocardiography services. LCD L32675, *Transthoracic Echocardiography*, states, "TTE affords unique insight into cardiac structure and function. It is a non-invasive technique in which pulsed high-frequency sound waves are used to visualize the contours, movements and dimensions of cardiac structures." The authors of this document also note that "the rapid and non-invasive acquisition of this information has contributed to exponential application and to potential overutilization."

The numerous indications for TTE include native valvular heart disease, acute endocarditis, cardiomyopathies, and congenital heart disease as well as cardiac transplant and rejection monitoring. Stress echocardiograms and resting echocardiograms are also commonly used to assess the presence of cardiac ischemia and, in post myocardial infarction patients, cardiac wall motion abnormalities. Physicians use TTE to monitor prosthetic heart valves and assess myocardial function in cases of exposure to myocardial toxic drugs.

LCD L27360, *Transthoracic Echocardiography*, states that "in order to qualify as a valid echocardiographic service, the study must be done for an accepted clinical indication by a properly trained examiner and must include a permanent record of the findings, data sufficient to support the conclusions and an appropriate interpretation and written report." Most LCDs list multiple indications and limitations for testing and include covered diagnoses applicable to the covered CPT® codes

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addressed. The patient's medical record must support that the services provided are reasonable, necessary, and meet the criteria specified by the determination.

Typically, the guidelines dictate that the frequency of a study is guided by the patient's status for repeat or follow-up studies. Studies are appropriate when used to monitor **changes** in cardiac structure or function, when the patient presents with **clinical changes** in status, or when **disease progression** is suspected for some other reason. Most LCDs state that it is not medically necessary to repeat examinations (for the majority of indications listed) once the patient's condition has reached a stable state. Routine examinations of asymptomatic patients with no change in clinical status are not medically necessary and are not reimbursable by Medicare.

In the case of stress echocardiography, indications for testing differ from traditional echocardiography and may be necessary to determine the need for valve replacement in patients with significant valvular heart disease. According to LCD L33515, titled *Cardiovascular Stress Testing, Including Exercise and/or Pharmacological Stress and Stress Echocardiography*, a stress echocardiogram may be appropriate in cases of an abnormal resting electrocardiogram due to digitalis, bundle branch block, or a history of posterior wall myocardial infarction.

LCD L33515 speaks to the use of echocardiograms as "screening" tests: "Medicare will not cover cardiovascular stress testing to **screen** a patient with risk factors when there is no personal history of vascular disease or related metabolic disorder." LCD L27360 states, "A screening service for high-risk patients is considered good medical practice but is not covered by Medicare. When the result of the test is abnormal, subsequent services may be billed with the test result diagnosis, however, the initial screening test must be listed as screening, even though the results of the screening test may be a covered condition." Given the fact that echocardiograms make up more than half of all cardiac imaging, clinicians must keep in mind those clinical conditions and circumstances in which it is medically appropriate to perform an echocardiogram or stress echocardiogram on their patient.

## Method

This report is an analysis of fee-for-service Medicare Part B providers with rendering NPI specialty denoted as either cardiology (06) or internal medicine (11). These providers have allowed services for the CPT codes listed in Table 1, with dates of service from January 1, 2014 to December 31, 2014 that were administered in an office (place of service 11). For the purpose of this CBR, 'peer group' will refer to other providers in your state or nation that meet this criteria. This analysis was based on the latest version of claims available from the Integrated Data Repository (IDR) as of April 13, 2015. Your values are compared to your state (PA) and national peer groups using either the chi-squared or t-test at the alpha value of 0.05.

Additionally, the analyses are based on claims that were billed globally (without modifier 26 or modifier TC) or billed with the professional component (with modifier 26).

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### Average Services per Beneficiary

The average services per beneficiary for the CPT® codes listed in Table 1 is calculated as follows:

$$\left( \frac{\text{Total Number of Allowed Services}}{\text{Total Number of Beneficiaries}} \right)$$

Your average is then compared to your state and the nation using a t-test at the alpha value of 0.05.

### Percentage of Stress TTE Services with Continuous Monitoring

The percentage of stress TTE services with continuous monitoring looks at the CPT® codes 93350 and 93351. The percentage is calculated as follows:

$$\left( \frac{\text{Number of Stress TTE Services with Continuous Monitoring}}{\text{Total Number of Stress TTE Services}} \right) \times 100$$

Your percentage is then compared to your state and the nation using a chi-squared test at the alpha value of 0.05.

### Percentage of Beneficiaries with a Previous Transthoracic Echocardiography

The percentage of your beneficiaries with a previous TTE is calculated by first identifying all of the beneficiaries with an allowed service for one of the CPT codes 93306, 93350, and 93351 by **any provider or in any place of service**. If the beneficiary received the service within 365 days prior to the provider's date of service, then this beneficiary is counted as having a previous TTE. The percentage is then calculated as below:

$$\left( \frac{\text{Total Number of Your Beneficiaries with a Previous TTE}}{\text{Total Number of Your Beneficiaries}} \right) \times 100$$

Your percentage is then compared to your state and the nation using a chi-squared test at the alpha value of 0.05.

### Comparison Outcomes

There are four possible outcomes for the comparisons between the provider and the peer groups:

- **Significantly Higher** - Provider's value is higher than the peer value and the statistical test confirms a significance
- **Higher** - Provider's value is higher than the peer value but the statistical test does not confirm a significance
- **Does Not Exceed** - Provider's value is not higher than the peer value
- **N/A** - Provider does not have sufficient data for comparison

A provider's value may be greater than the value of his peer group. The statistical test gives the provider the benefit of the doubt since significance is based on the total number of services and/or beneficiaries and the variability of those values.

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## Results

Table 2 provides a comparison of your average services per beneficiary for the CPT<sup>®</sup> codes included in Table 1 to that of your state and the nation.

**Table 2: Average Services per Beneficiary for TTE CPT<sup>®</sup> Codes  
January 1, 2014 - December 31, 2014**

Type	Your Average Services per Beneficiary	Your State's Average Services per Beneficiary	Comparison with Your State's Average	National Average Services per Beneficiary	Comparison with the National Average
Services	1.30	1.05	Significantly Higher	1.06	Significantly Higher

A t-test was used in this analysis, alpha=0.05.

Table 3 provides a comparison of your percentage of stress echocardiography with continuous monitoring to that of your state and the nation.

**Table 3: Percentage of Stress Echocardiography Services with Continuous Monitoring  
January 1, 2014 - December 31, 2014**

Type	Your Percentage of Continuous Monitoring Services	Your State's Percentage of Continuous Monitoring Services	Comparison with Your State's Percentage	National Percentage of Continuous Monitoring Services	Comparison with the National Percentage
Continuous	93%	83%	Significantly Higher	91%	Higher

A chi-square test was used in this analysis, alpha=0.05.

Table 4 provides a comparison of your percentage of beneficiaries with a previous TTE to that of your state and the nation.

**Table 4: Percentage of Beneficiaries with a Previous TTE  
January 1, 2014 - December 31, 2014**

Type	Your Percentage of Beneficiaries w/ Previous TTE	Your State's Percentage of Beneficiaries w/ Previous TTE	Comparison with Your State's Percentage	National Percentage of Beneficiaries w/ Previous TTE	Comparison with the National Percentage
Previous TTE	19%	22%	Does Not Exceed	25%	Does Not Exceed

A chi-square test was used in this analysis, alpha=0.05.

## References & Resources

The coverage and documentation guidelines for Transthoracic Echocardiography are listed below. Please follow the guidelines pertinent to your region. The Local Coverage Determinations (LCDs) are located on the Centers for Medicare & Medicaid Services (CMS) website at <http://www.cms.gov/medicare-coverage-database/overview-and-quick-search.aspx>.

**Table 5: Transthoracic Echocardiography LCDs**

Local Coverage Determination	Medicare Administrative Contractor	CPT® Code
L31848	CGS Administrators, LLC	93306
L28997, L29029, L29296, L29402	First Coast Service Options, Inc.	93306
L28987, L29019, L29315, L29475	First Coast Service Options, Inc.	93350, 93351
L27360	National Government Services	93306, 93350, 93351
L33515	Noridian Healthcare Solutions	93350, 93351
L27536	Novitas Solutions, Inc.	93306
L32675	Novitas Solutions, Inc.	93306, 93350, 93351
L31794	Palmetto GBA	93306, 93350, 93351
L31771	Palmetto GBA	93350, 93351
L28565	Wisconsin Physicians Service	93306, 93350, 93351

- Centers for Medicare & Medicaid Services (CMS), <http://www.cms.gov>
- Comprehensive Error Rate Testing (CERT) Reports,
  - The Supplementary Appendices for the Medicare Fee-for-Service, *2014 Improper Payments Report*
- US National Library of Medicine National Institutes of Health, <http://www.ncbi.nlm.nih.gov/pubmed/>
  - *Medicare Services Provided by Cardiologists in the United States: 1999-2008*
- Journal of the American College of Cardiology, <http://content.onlinejacc.org/>
  - *2011 Appropriate Use Criteria for Echocardiography*
- Journal of the American Medical Association, <http://archinte.jamanetwork.com/journal.aspx>
  - *Appropriate Use and Clinical Impact of Transthoracic Echocardiography*
  - *Repeat Testing Among Medicare Beneficiaries*, December 10/24, 2012
- Office of Inspector General, <http://oig.hhs.gov>
  - *Medicare Part B Billing for Ultrasound*

## The Next Steps

We encourage you to check with your MAC to ensure you meet Medicare standards for your jurisdiction. Please use the above references and resources as a guide.

You are invited to join us for the CBR201505 webinar on May 27, 2015 from 3:00 - 4:30 PM ET. Space is limited, so please register early. Register online at [www.cbrinfo.net/cbr201505-webinar.html](http://www.cbrinfo.net/cbr201505-webinar.html).

If you are unable to attend, you may access a recording of the webinar five business days following the event at the website above.

For detailed links to information listed in the references and resources section, visit: <http://www.cbrinfo.net/cbr201505.html>.

If you have any questions or suggestions relating to this CBR, please contact the CBR Support Help Desk via email at [CBRSupport@eglobaltech.com](mailto:CBRSupport@eglobaltech.com) or via telephone at (800) 771-4430.