Program for Evaluating Payment
Patterns Electronic Report (PEPPER) v. 9.0

User's Guide

Contents

I. What is PEPPER?

The Program for Evaluating Payment Patterns Electronic Report (PEPPER) is an electronic data report containing hospital-specific data for 14 target areas—specific Diagnosis Related Groups (DRGs) and discharges that have been identified as at high risk for payment errors.

PEPPER is developed under contract with the Centers for Medicare & Medicaid Services (CMS) by the Hospital Payment Monitoring Program (HPMP) Quality Improvement Organization Support Center (QIOSC), which is the Texas Medical Foundation (TMF). TMF provides all Quality Improvement Organizations (QIOs) with hospital-specific data for short stay acute care inpatient prospective payment system (PPS) hospitals within their states quarterly. These data are intended to assist QIOs in their HPMP efforts to identify and prevent payment errors by working with inpatient PPS within their state. The overall goal of HPMP is to reduce the Medicare payment error rate within each state as well as nationally.

PEPPER contains data in the following 14 target areas. Your QIO may have decided to give you a report on only the high and low statistical outlier target areas for your hospital. The target areas are defined as follows:

One-day stays excluding transfers	Numerator: count of discharges with length of stay less than or equal to one day excluding patient status of 20 (expired), 07 (left against medical advice), or 02 (transfer to another short-term general hospital for inpatient care) Denominator: count of all discharges excluding patient status 02
One-day stay transfers	Numerator: count of discharges with length of stay less than or equal to one day with patient status equal to 02 (transfer to another short-term general hospital for inpatient care) Denominator: count of all discharges
DRG 127 one-day stays	Numerator: count of discharges with DRG equal to 127 (heart failure and shock) with length of stay less than or equal to one day excluding patient status of 20 (expired), 07 (left against medical advice), or 02 (transfer to another short-term general hospital for inpatient care) Denominator: count of all DRG 127 discharges

DRG 143 one-day stays	Numerator: count of discharges with DRG equal to 143 (chest pain) with length of stay less than or equal to one day excluding patient status of 20 (expired), 07 (left against medical advice), or 02 (transfer to another short-term general hospital for inpatient care) Denominator: count of all DRG 143 discharges
DRGs 182 and 183 one-day stays	Numerator: count of discharges with DRG equal to 182 (esophagitis, gastroenteritis and miscellaneous digestive disorders age > 17 with complication or comorbidity) or 183 (esophagitis, gastroenteritis and miscellaneous digestive disorders age > 17 without complication or comorbidity) with length of stay less than or equal to one day excluding patient status of 20 (expired), 07 (left against medical advice), or 02 (transfer to another short-term general hospital for inpatient care) Denominator: count of discharges with DRG equal to 182 or 183
DRGs 296 and 297 one-day stays	Numerator: count of discharges with DRG equal to 296 (nutritional and miscellaneous metabolic disorders age > 17 with complication or comorbidity) or 297 (nutritional and miscellaneous metabolic disorders age > 17 without complication or comorbidity) with length of stay less than or equal to one day excluding patient status of 20 (expired), 07 (left against medical advice), or 02 (transfer to another short-term general hospital for inpatient care) Denominator: count of discharges with DRG equal to 296 or 297
DRG 014	Numerator: count of discharges with DRG equal to 014 (intracranial hemorrhage and stroke with infarct) Denominator: count of discharges with DRG equal to 014, 015 (nonspecific CVA and precerebral occlusion without infarct), or 524 (transient ischemia) *IMPORTANT: DRGs 014 and 015 were redefined and DRG 524 was added effective with discharges starting October 1, 2002. This impacts the comparability of the proportions reported these DRGs. Trending cannot be conducted for these DRGs using fiscal year 2003 data. Hospitals are recommended to evaluate the fiscal year 2003 data as a stand-alone time period.*
DRG 079	Numerator: count of discharges with DRG equal to 079 (respiratory infections and inflammations age > 17 with complication or comorbidity) Denominator: count of discharges with DRG equal to 079, 080 (respiratory infections and inflammations age > 17 without complication or comorbidity), 089 (simple pneumonia and pleurisy age > 17 with complication or comorbidity), or 090 (simple pneumonia and pleurisy age > 17 without complication or comorbidity)
DRGs 239, 243 and 253	Numerator: count of discharges with DRG equal to 239 (pathological fractures and musculoskeletal and connective tissue malignancy), 243 (medical back problems), or 253 (fracture, sprain, strain and dislocation of upper arm, lower leg except foot age > 17 with complication or comorbidity) Denominator: count of all discharges

DRG 416	Numerator: count of discharges with DRG equal to 416 (septicemia age > 17)
	Denominator: count of discharges with DRG equal to 416, 320 (kidney and urinary tract infections age > 17 with complication or comorbidity), or 321 (kidney and urinary tract infections age > 17 without complication or comorbidity)
DRG 475	Numerator: count of discharges with DRG equal to 475 (respiratory system diagnosis with ventilator support)
	Denominator: count of all discharges
Seven-day readmit to same facility or elsewhere	Numerator: count of index (first) admissions for which a readmission occurred within seven days to the same hospital or elsewhere for the same beneficiary (identified using the Health Insurance Claim number); patient status of the index admission is not equal to 02 (transfer to another short-term general hospital for inpatient care)
	Denominator: count of all discharges
Same-day readmit elsewhere	Numerator: count of index (first) admissions with admission date of the readmission equaling the discharge date of the index admission for the same beneficiary (identified using the Health Insurance Claim number); patient status of the index admission not equal to 02 (transfer to another short-term general hospital for inpatient care) or 63 (discharged/transferred to a long term care hospital); hospital provider number for index admission is not equal to that of the readmission
	Denominator: count of all discharges
Same-day readmit to same facility	Numerator: count of index (first) admissions with admission date of the readmission equaling the discharge date of the index admission for the same beneficiary (identified using the Health Insurance Claim number); hospital provider number for index admission is equal to that of the readmission
	Denominator: count of all discharges

These target areas were selected by CMS because a national analysis of payment errors identified that they were high in either dollars in error or proportion of payment errors. Thirty-eight percent of all admission denials were for admissions with a length of stay of one day, while eighty-nine percent of all admission denials were for admissions of five or fewer days. DRGs 079, 416 and 475 were selected due to the high dollars in error for DRG changes. Several target areas were high in dollars in error or number of payment errors for both DRG changes and admission denials (DRGs 014, 127, 243, 182/183, 296/297 and 143). Readmissions have been associated with payment errors due to billing errors, premature discharge, incomplete care and/or inappropriate readmission.

Two additional worksheets are included. The first, titled 'One Day Stay Top 20 DRGs', lists the top 20 DRGs for one-day stays in FY 2004 (excluding patient status codes 02, 07, 20) for your hospital. The second worksheet shows the Statewide Top 20 DRGs for One-Day Stay Discharges in FY 2004. Please note there are changes in DRGs and DRG definitions from year to year that should be considered. For example, for FY 2004, the changes are documented in the *Federal Register* for August 1, 2003, pages 45346-45672.

PEPPER data represent Medicare short stay acute care inpatient PPS discharges. The source of data reported in PEPPER is Medicare inpatient PPS discharge data. The data are

current through the fourth quarter of fiscal year 2004 discharges (through September 30, 2004). Please note the data label "FY 2004" indicates the data are cumulative through the fourth quarter of FY 2004; that is, the data represent the time period October 1, 2003 through September 30, 2004.

II. How Can Hospitals use PEPPER?

"The Office of Inspector General's Compliance Program Guidance for Hospitals," (http://oig.hhs.gov/authorities/docs/cpghosp.pdf), released in 1998, encourages hospitals to develop and implement a compliance program. One aspect of a compliance program involves ensuring that charges for Medicare services are correctly documented and billed. Hospitals should conduct regular audits to ensure that the medical necessity for admission and treatment is documented and that bills for Medicare services are correct. Hospitals can use PEPPER to guide their auditing and monitoring activities related to the identification and prevention of payment errors. PEPPER provides statewide comparative data that enables hospitals to identify where they differ from their peers with regards to the above-noted high-risk areas. The data can assist hospitals in identifying both potential overpayments as well as potential underpayments.

PEPPER defines outliers as findings that are at or above the statewide 75th percentile or at or below the statewide 10th percentile for a given target area. PEPPER cannot be used to identify the presence of payment errors, but it can be used as a guide for auditing and monitoring efforts to help hospitals identify and prevent payment errors.

Hospitals may receive all or some of the following reports from PEPPER at the discretion of the QIO:

A. Data Tables
   PEPPER provides data tables that include data for three full fiscal years and the current fiscal year to date. This version of PEPPER includes four full fiscal years (2001, 2002, 2003 and 2004). Measures included in each data table include the total number of discharges for the target area (target area discharge count, which is the numerator), the denominator count of discharges, the proportion of these two figures and average length of stay and Medicare payment data.

B. Graphs
   The PEPPER graph provides a visual representation of the proportion for each target area over time. Four data points are represented: the previous three full fiscal years and the current fiscal year to date. The graphs can assist in the identification of significant changes from one year to the next, which could be a result of changes in the medical staff, coding staff, utilization review processes, or hospital services. Hospitals are encouraged to identify root causes of major changes to ensure that payment errors are prevented.

C. Compare Worksheet
   The Compare Worksheet assists hospitals with prioritizing areas for auditing and monitoring by using two factors: 1) the number of discharges for an area, and 2) the hospital's "outlier value" for that area, which is a measure of how unusual the finding for your hospital is relative to all PPS hospitals in your state. For a complete description of how the outlier value is calculated, refer to the Glossary (Section V). Please note that

the PEPPER-defined outlier value is not related to DRG outliers. Generally, positive outlier value findings identify possible over coding errors, while negative values generally identify possible under coding errors.

By default, the Compare Worksheet is sorted in descending order by the outlier value times the number of discharges for each outlier target area. This resulting measure captures both the unusualness and the scope of a possible problem and is the recommended priority order for a hospital to focus monitoring efforts.

Hospitals can navigate through PEPPER by clicking on the sheet tabs at the bottom of the screen. Each tab is labeled to identify the contents of each sheet (i.e., target area tables, graphs, Compare Worksheet).

III. Interpreting PEPPER Findings

PEPPER provides hospitals with their percentile value for each target area. The following table is intended to assist hospitals with interpreting these values. Please note that these are generalized suggestions and will not apply to all situations. For all areas, assess whether there is sufficient volume (10 to 30 cases for the fiscal year, depending on the hospital's total discharges for the fiscal year) to warrant a review of cases.

Target Area	Suggested Interventions If At/Above 75th Percentile	Suggested Interventions If At/Below 10th Percentile
One-day stay areas	This could indicate that there are unnecessary admissions related to inappropriate use of admission screening criteria or outpatient observation. A sample of one-day stay cases should be reviewed to determine if inpatient admission was necessary or if care could have been provided more efficiently on an outpatient basis (e.g., outpatient observation). Hospitals may generate data profiles to identify one-day stays sorted by DRG, physician, or admission source to assist in identification of any patterns related to one-day stays. Hospitals may wish to evaluate whether one-day stays are identified for procedures that are designated by CMS as "inpatient only" or whether one-day stays are preceded by an outpatient observation stay.	A low proportion of one-day stays does not indicate a problem; therefore, additional review is not necessary.
DRG 079	This could indicate that there are coding or billing errors related to overcoding for DRG 079. A sample of medical records for DRG 079 should be reviewed to determine if coding errors exist. Hospitals may generate data profiles to identify DRG 079 cases with principal diagnosis codes of 507.x (aspiration pneumonia), 482.83 (pneumonia due to other gram negative pneumonia), or 482.89 (pneumonia due to other specified bacteria) to	This could indicate that there are coding or billing errors related to undercoding for DRG 079. A sample of medical records for other DRGs, such as DRGs 089/090, should be reviewed to determine if coding errors exist. Remember that a diagnosis of pneumonia must

	ensure that documentation supports the principal diagnosis.	be determined by the physician and that a coder should not code based on a laboratory or radiological finding without seeking clarification from the physician.
DRG 014	This could indicate potential overcoding. A sample of medical records for DRG 014 should be reviewed to determine if coding errors exist. *Note that DRGs 014 and 015 were redefined and DRG 524 was added effective with discharges starting October 1, 2002. This impacts the comparability of the proportions reported these DRGs. Trending cannot be conducted for these DRGs using fiscal year 2003 data. Hospitals are recommended to evaluate the fiscal year 2003 data as a stand-alone time period.*	This could indicate that there are coding or billing errors related to undercoding of DRG 014. A sample of medical records for other DRGs, such as DRG 015 or 524, should be reviewed to determine if coding errors exist. Remember that a diagnosis of cerebrovascular accident must be determined by the physician and that a coder should not code based on laboratory or radiological findings without seeking clarification from the physician.
DRGs 239, 243, 253	This could indicate that there are unnecessary admissions related to inappropriate use of admission screening criteria or outpatient observation. A sample of medical records for DRGs 239, 243 and/or 253 should be reviewed to determine if inpatient admission was necessary or if care could have been provided more efficiently on an outpatient basis (e.g., outpatient observation).	A low proportion for these DRGs does not indicate a problem; therefore, additional review is not necessary.
DRG 416	This could indicate that there are coding or billing errors related to overcoding of DRG 416. A sample of medical records for DRG 416 should be reviewed to determine if coding errors exist. Hospitals may generate data profiles to identify DRG 416 cases with a principal diagnosis code of 038.9 (unspecified septicemia) to ensure documentation supports the principal diagnosis.	This could indicate that there are coding or billing errors related to undercoding of DRG 416. A sample of medical records for other DRGs, such as DRG 320 (urinary tract infection), should be reviewed to determine if coding errors exist. Remember that a diagnosis of septicemia must be determined by the physician and that a coder should not code based on a laboratory finding without seeking clarification from the physician.

DRG 475	This could indicate that there are coding or billing errors related to overcoding of DRG 475. A sample of medical records for DRG 475 should be reviewed to determine if coding or sequencing errors exist.	This could indicate that there are coding or billing errors related to undercoding of DRG 475. A sample of medical records for other DRGs should be reviewed to determine if coding errors exist. For example, DRG 087 should be reviewed to determine if the patient received mechanical ventilation. Remember that a diagnosis of respiratory failure must be determined by the physician and that a coder should not code based on laboratory or radiological findings without seeking clarification from the physician.
Readmission target areas	This could indicate that there are inappropriate admissions or discharges, quality of care issues, or billing errors. A sample of readmission cases should be reviewed to identify appropriateness of admission, discharge, quality of care and DRG assignment and billing errors. The hospital is encouraged to generate data profiles for patients readmitted the same day or next day after discharge. Suggested data elements to include in these profiles are: patient identifier, date of admission, date of discharge, discharge destination code, principal and secondary diagnoses, procedure code(s) and DRG. Evaluate these profiles for the following indications of potential payment errors: • When patients are discharged home (patient status code 01) and readmitted on the same or next day, this may indicate a potential premature discharge or incomplete care. • When a patient is readmitted for the same principal diagnosis as for the first admission, this may indicate a potential premature discharge or incomplete care. • Hospitals that have exempt units (i.e., swing beds, rehabilitation units, or psychiatric units) should take special note of patient status codes and same-	A low proportion of readmissions does not indicate a problem; therefore, additional review is not necessary.

	day readmissions. In these situations, the second admission is usually billed to an incorrect provider number, rather than a true readmission to the acute care PPS hospital. There is a very high probability of billing errors when the following patient status codes are billed on the first admission of a same-day readmission: 03 (discharged/transferred to SNF); 05 (discharged/transferred to another type of institution, including distinct parts); 61 (discharged/transferred within the institution to a hospital-based Medicare approved swing bed, effective 10-01-01); or 62 (discharged/transferred to another rehabilitation facility including rehabilitation distinct part units of a hospital, effective 01-01-02).	

Comparative data for several consecutive years can be used to identify whether the hospital's proportions changed significantly in either direction from one year to the next. This could be an indication of a procedural change in admitting, coding or billing practices, perhaps due to staff turnover or a change in medical staff.

IV. Installation Instructions for PEPPER

PEPPER is a Microsoft Excel spreadsheet program that can be opened and saved to a PC. It is not intended for use on a network but may be saved to as many PCs as necessary.

Installation of PEPPER will depend upon the distribution method utilized by each QIO. Please follow any instructions received from your QIO with regards to accessing and installing PEPPER.

V. Glossary

Average Length of Stay
The Average Length of Stay (ALOS) is calculated as an arithmetic average or mean. It is computed by dividing the total number of hospital (or inpatient) days by the total number of discharges within a given time period. Hospital (or inpatient) days are calculated by counting the difference between admission and discharge dates for each discharge. Same day admission and discharges are counted as one hospital (or inpatient) day.

Data Table
The statistical findings for a hospital are presented in tabular form, labeled by time period and indicator. These are referred to as Data Tables.

Excel	Microsoft Excel 2000 or later is a spreadsheet program recommended to run PEPPER, which makes use of many Excel features.
Fiscal Year	As used in describing Medicare data, the fiscal year starts October 1 and ends September 30.
Graph	In PEPPER, the graph shows a hospital's percentages for the last four time periods. The hospital's percentages are compared to statewide data that include the 10th, median (50th), 75th and 90th percentiles. See *Percentile*.
Outlier Value	As used in the PEPPER program, the value assigned to a finding of a hospital's proportion to indicate the unusualness relative to all Prospective Payment System inpatient hospitals within your state.

In the PEPPER program outliers are defined as those findings that are at or above the statewide 75th percentile statewide or at or below the statewide 10th percentile. The program uses the term outlier in the sense of 'PEPPER-defined outliers' to distinguish them from other kinds of outliers, such as the DRG cost outliers. In the context of this program, 'outlier' will mean 'PEPPER-defined outlier.'

In the PEPPER program outlier values can range from –10 to –3.2, at the low end and from 2 to 10 at the high end. Negative outlier values represent percentile values at or below the 10th percentile. For DRG-related findings, these generally represent possible under-coding instances. Positive outlier values represent percentile values at or above the 75th percentile. For DRG-related findings, these generally represent possible over-coding instances. However, please review the recommendations in the Intervention worksheets.

Outlier Formula	The technical details on how the Outlier Values are computed are the following. The statewide percentile value for a hospital's average proportion is converted to a value we will call the Outlier Untransformed Value, using the formula:

Outlier Untransformed Value = 100/(100 – percentile) for percentile values between 50 and 100

or

= minus(100 / percentile) for percentile values between 1 and 49

An intuitive understanding of the meaning of the Outlier Value Untransformed can be gained by realizing that, if one disregards the sign, it represents, on average, the number of cases one would have to look at to find *one* case. For example, if the Outlier Untransformed Value is 10, this means one would have to look, on average, at 10 cases to find that one outlier case. Additional insight is gained by understanding that the 90th and 10th percentiles both produce the Outlier Untransformed Value of 10. That makes sense because a hospital at the 90th percentile has 90 percent of the hospitals below it and 10 percent at or above its value. So

if that hospital is in a total group of 100, it would be in a group 10 out of the 100, or one out of 10, that is at that outlier value or greater. The hospital at the 10th percentile is also in a group of 10 hospitals, out of the 100, or one out of 10, at the bottom of the scaled measurement.

Another example: if the Outlier Untransformed Value is 50, this means one would have to look at 50 cases, on average, to find this degree of an outlier value. This value results when a hospital is at the 98th or 2nd percentile. This hospital is in a group of 2 out of 100 or 1 out of 50. That coincides with the Outlier Untransformed Value of 50.
We could directly use the Outlier Untransformed Value, except that its scaling is overweighted at the extremes. This problem is solved by taking the square root. Therefore, the outlier value that is used in the PEPPER analyses is the square root of the Outlier Untransformed Value.

Thus,
Outlier Value = Square Root(Outlier Value Untransformed)
        [retaining the sign of the Outlier Value]

Percentile   Is a value that is assigned to a certain observed value of a total.
For example, suppose we calculate that the 75th percentile value of a hospital is the proportion 2.3%. This means that 75 percent of the hospitals in your state have a value *less* than 2.3%.

Percentiles in PEPPER are calculated from the hospitals' proportions, so that each hospital proportion can be compared to the statewide distribution of hospital proportions. Think of a distribution as a set of values being listed along a line. We could have a list of values for hospitals ranging from, for example, 0.33% to 4.74%. Suppose we find that 10% of hospitals have a value less than 0.83%. Then the 10th percentile would be 0.83%. Then suppose half of the hospitals measure less than 1.76%. The median (also known as the 50th percentile) would be 1.76%. And so forth.

Percentiles are computed for all Prospective Payment System hospitals in your state that had 100 or more discharges recorded for the fiscal year.

Prioritize   To arrange or sort items into an order according to some rule or characteristic to reflect importance or need. The Compare Worksheet was designed to assist hospitals with prioritizing data findings.

Quarter   In the Medicare Fiscal Year:
        Quarter 1 is from October 1 through December 31
        Quarter 2 is from January 1 through March 31
        Quarter 3 is from April 1 through June 30
        Quarter 4 is from July 1 through September 30

VI. Assistance with PEPPER

For assistance using PEPPER, please contact your state's QIO.