

Medicare Health Care Quality Demonstration Indiana Health Information Exchange

Performance Year One Results November 2011

Summary

The Demonstration

The Medicare Health Care Quality (MHCQ) Demonstration Program, authorized by Section 1866C of the Social Security Act, as amended by section 646 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, P. L. 108-173, examines the effectiveness of pay-for-performance, health information technology, and multi-payer initiatives in improving the quality and efficiency of care provided to Medicare beneficiaries. The Indiana Health Information Exchange (IHIE) provides the Quality Health First (QHF) Program to individual practitioners. QHF obtains claims information from commercial carriers, Medicare, and Medicaid and uses the information with clinical information from physician offices, labs, and clinics to produce quality reports, alerts and reminders. By incorporating CMS claims data with other payer data, IHIE through its QHF program, provides participating practitioners with a more complete picture of the care being provided and the information they need to positively impact the quality and cost of care. The quality reports provide comparative results so that physicians and physician group administrators can monitor their performance (on both quality and efficiency). Patient alerts help physicians improve the care for individual patients by providing actionable information.

The demonstration began on July 1, 2009 and will continue for 5 years. It occurs in the 9-county Indianapolis area. CMS provided claims information for Medicare beneficiaries who received primary care services from practitioners affiliated with QHF for a 2-year base period prior to July 1, 2009 and on a monthly basis after July 1. The demonstration was designed to determine if the QHF program reduces Medicare expenditures and improves quality of care for beneficiaries. The design consists of a comparison group trended baseline intended to determine if the QHF intervention affects Medicare expenditures. It assumes that in the absence of the demonstration, the relationship between the expenditures incurred in the demonstration and comparison groups in a base period would be unchanged in any performance period. A trended baseline is used to set a target expenditure amount and Medicare expenditures in the demonstration group are measured against that target.

The demonstration includes a shared savings component. If expenditures incurred in the demonstration are less than target expenditures, savings that are greater than a minimum savings requirement are paid to IHIE for distribution to participating physicians. Half of any savings are dependent on quality of care results while half are not. In the first payment year, 50 percent of savings are dependent on quality results and the percentage increases over time to 80 percent in the final year of the demonstration.

First Year Findings

The first performance year ended June 30, 2010 and CMS compared Medicare expenditures in the demonstration group to targeted expenditures based on the trend of the comparison group. Demonstration expenditures, measured on a per member per month (PMPM) basis, was not lower than the target amount. The demonstration expenditures of \$835.46 PMPM was \$10.23 higher than the target amount of \$825.23 PMPM. Expenditures for 122,501 Medicare beneficiaries who saw approximately 1,100 participating physicians in 111 participating practices are included in the calculation for the first performance year.

IHIE developed 14 ambulatory care quality measures for the first payment year and reported on 10 at the end of the year. Systems and resource constraints prevented reporting of all measures. Of the 10 reported measures, IHIE achieved target performance on 5 measures. Weights are assigned to the measures and IHIE achieved a composite score of 20 out of 35 points (57 percent). Had IHIE generated savings, 50 percent of the sharable savings would have been paid based on its quality performance. In such a case, IHIE would have received 78.5 percent of total savings (50 percent for efficiency, not based on quality, and 28.5 percent based on quality).

The second performance year ended June 30, 2011. Another calculation of second year performance will occur in early 2012. IHIE will continue to report on additional quality measures and has changed some of its procedures for collecting, processing and analyzing data that it receives from CMS.

IHIE Background

IHIE is a not-for-profit 501(c)(3) corporation founded in 2004 by a collaboration of 13 institutions representing hospitals, providers, researchers, public health organization, and economic development groups in the Indianapolis area. IHIE has also established relationships with local employers and public and private payers. Its program(s) are supported by the Indiana Network for Patient Care (INPC) database, which is run by the Regenstrief Institute. In addition to monthly CMS data sent under the demonstration, the INPC is comprised of clinical medical data (i.e. admissions, discharge, pathology, physician notes, etc.), commercial insurer medical and pharmacy claims, and patient lab and demographic data from physician offices and employer on-site settings.

IHIE aggregates CMS claims and administrative data in the demonstration with other data processed in conjunction with its regional health information exchange. Data from the various sources is used to generate patient-level and provider level quality reports, alerts and reminders for participating providers.

Demonstration Design

The demonstration is designed to assess whether the quality of care received by Medicare beneficiaries improves as a result of the demonstration and whether Medicare expenditures decrease as a result of the demonstration. In order to determine if expenditures decrease or

savings occur, a trended baseline method is utilized. The trended baseline method of setting an expenditure target assumes that in the absence of the demonstration, the observed trend in expenditures between a base period and a performance period would be the same in the intervention (or demonstration group) of beneficiaries and a comparison group of Medicare beneficiaries. In other words, it assumes that in the absence of the demonstration the ratio between expenditures in the intervention and comparison groups that occurs in the base period would remain unchanged in any performance period. To calculate the expenditure target for the intervention group, this method applies the ratio of the average base period intervention group expenditure to the average base period comparison group expenditure to the observed average comparison group expenditure in the performance period.

The following are aspects of the demonstration design including attribution of beneficiaries to physicians, minimum savings requirement, demographic adjustments, and quality measurement. CMS and IHIE signed a demonstration agreement defining requirements for both CMS and IHIE.

Beneficiary Attribution

Intervention Group --

There are three steps involved in assigning beneficiaries to the performance year one (PY1) intervention group (IG). They involve identifying participating practices, identifying participating physicians, and identifying IG beneficiaries. The three steps are:

1. Use the list of tax IDs (EINs), sent by IHIE to CMS, to identify participating practices.
2. Identify participating providers defined as any provider who, during PY1, provided a qualifying evaluation and management (E&M) visit to eligible Medicare beneficiaries that was billed through a participating practice within the 9-county Indianapolis area.
3. Identify PY1 IG beneficiaries as beneficiaries who have at least one qualifying evaluation and management (E&M) visit with a participating physician and who meet the general eligibility criteria for the demonstration IG (alive at the beginning of the demonstration year, had at least one month of Part A and B enrollment, resided in Indiana at the end of the demonstration year, was not enrolled in a Medicare Advantage plan during the year, and did not have coverage under an employer-sponsored group during the year).

The IG population consists of Indiana residents who meet general eligibility criteria with at least one qualifying E&M visit with a participating physician. The IG is identified using final action claims with dates of service falling within the start and end dates of the demonstration year and a paid-date within 6 months of the end of the demonstration year.

The same list of participating providers is used to assign beneficiaries to IHIE in the performance year and its corresponding base year (BY), July 1, 2008 to June 30, 2009. That is, the BY IG consists of beneficiaries who received a qualifying E&M visit during the BY from a physician who is a participating PY1 physician, and who meet general BY eligibility criteria for the demonstration.

Comparison Group --

There are two steps involved in assigning beneficiaries to the comparison group (CG). They involve identifying beneficiaries residing in the comparison counties and identifying beneficiaries who meet the assignment criteria. The comparison group beneficiaries must reside in a specified set of counties within the following three areas: Milwaukee, WI, Columbus, OH, and Louisville, KY. These locations were selected based on the similarity to the Indianapolis area of characteristics and utilization patterns of Medicare beneficiaries. The two steps of assignment are:

1. Identify beneficiaries residing in the comparison counties who received at least one qualifying E&M visit during the demonstration year.
2. Among beneficiaries identified in step 1, retain those who meet all other eligibility criteria for the demonstration CG during the demonstration year.

Calculating Medicare Expenditures

To calculate total Medicare expenditures for each beneficiary, the expenditures (Medicare payments) are summed from all of the beneficiary's claims for any provider (hospital outlier payments are excluded). The expenditures are then annualized by dividing them by the fraction the year (fraction of 12 months) each beneficiary was enrolled in Medicare Parts A and B. All further analyses weight the annualized expenditures by this same fraction. Annualization and weighting ensures that payments are correctly adjusted for months of beneficiary eligibility, including new Medicare enrollees and those who died. Weighted mean annualized expenditures divided by 12 yield the "per beneficiary per month" (PBPM) amount.

To prevent extremely costly beneficiaries from significantly affecting average expenditures, the annualized expenditures are capped. Annualized expenditures for covered services incurred by beneficiaries without end stage renal disease (ESRD) are capped at \$100,000 and expenditures for covered services that are incurred by beneficiaries with ESRD are capped at an annualized value of \$200,000.

Demographic Adjustment

Differences in the composition of the IG and CG may affect expected expenditures. To account for this, a demographic factor is used to adjust expenditures for the demographic composition of the IG and the CG:

$$\text{Demographic Adjusted Expenditures} = \text{Expenditures} / (\text{Demographic Factor}).$$

The demographic factors are established each year for the set of beneficiaries based on age, sex, and ESRD entitlement status. To calculate the demographic factors the contractor used 2007 Medicare claims for a 5 percent national sample of beneficiaries to estimate an ordinary least squares regression with expenditures as the dependent variable and independent variables representing age/gender categories. Separate regressions were run for ESRD and non-ESRD

beneficiaries and the regression coefficients were divided by the pooled (ESRD and non-ESRD) mean expenditures to generate age/gender demographic factors.

The demographic factors are estimates of the ratio of a beneficiary's expected expenditures with the indicated enrollment characteristics relative to the mean expenditures for the entire Medicare fee-for-service (FFS) population. For example, a demographic factor of 1.0 indicates a beneficiary with expected costliness equal to the national FFS average. A factor of 1.10 indicates a beneficiary with expected costliness 10 percent above the FFS average, and a factor of 0.90 indicates a beneficiary with expected costliness 10 percent below the FFS average. The same factors were used for both the BY and the PY so that the demographic factor only measures changes in expected costliness due to changes in the demographic composition of a group.

To calculate the weighted demographic factor for a group, each age/gender demographic factor is multiplied by the proportion of group beneficiary months that fell into the age/gender category and summed across categories. This was done separately for the BY and PY1 for each group.

Minimum Savings Requirement

The minimum savings requirement (MSR) is used in determining shareable savings in each performance year. The MSR is a margin of error calculation required because all results are based on sample information. IHIE will receive savings exceeding the MSR. The minimum savings requirement is based on the 95 percent confidence interval for the difference between actual expenditures for the intervention group and the expenditure target.

$$\text{Minimum Required Savings Rate} = 1.96 \times CV \sqrt{2 \times \left(\frac{1}{n_i} + \frac{1}{n_c} \right)}$$

where CV, the coefficient of variation, is the standard deviation of base year expenditures for the pooled IG and CG sample divided by the base year mean expenditures for the pooled sample, n_i is the number of beneficiary-years assigned to the IG in the performance period, and n_c is the number of beneficiary-years assigned to the CG in the performance period. The MSR for PY1 is 1.78 percent.

Quality Measurement

The Quality Health First (QHF) Program is the focus of IHIE's demonstration. QHF reports are provided to practitioners and consist of:

- Attribution Report -- a list of patients attributed to each physician practice.
- Patient Care Report -- provides alerts and reminders about upcoming or past due needed care at the individual patient level. Physicians use this report to check against their own medical records and correct any data that may be missing or inaccurate.
- Provider Summary Report -- provides a summary of monthly and quarterly quality measures performance scores at several levels, including scores for individual physicians, practice settings, and physician groups.
- Measure Metrics Report -- includes a more detailed report on quality measure data and performance scores with detailed data on all 20 quality measures and breakdowns by

payers. These reports are also produced at the individual physician, practice setting, and physician group level.

For the Medicare demonstration, the focus for the first two performance years has been on 14 quality measures that are oriented toward the diseases common among Medicare beneficiaries. Ten measures were reported to CMS for PY1. Over the course of the demonstration, additional quality measures will be added and it is anticipated that a total of 30 quality measures will be used by the fifth year.

Improvements in the quality of care provided to Medicare beneficiaries are based on the extent to which IHIE participating physicians are able to reduce the gap between the maximum attainable level for a quality measure and the baseline performance for the quality measure. For each performance measure, a performance score is calculated by dividing the number of beneficiaries in the attribution population for whom the measure was applicable and who received the measure by the number of beneficiaries in the attribution population for whom the measure was applicable.

A straight line method was used to set targets for Medicare quality measures. A difference is calculated between the current QHF program Medicare scores and a 75th percentile NCQA HEDIS benchmark score, assuming a goal of improving toward the target in increments over 5 years. If a measure was not comparable to HEDIS, the target was improvement to 2 percent and a minimum of 1 percent improvement. As more Medicare data become available, targets will be set using historical Medicare scores along with QHF program scores.

Composite performance scores are calculated reflecting which individual targets are met and the weights assigned to measures.

- Four points are assigned to a measure that is used in the QHF pay for performance program.
- Two points are assigned to a measure that is included in the reports provided to physicians but not used in the pay for performance program.
- One point is assigned to a measure that is used to distribute any savings but is not used in the QHF pay for performance system or reports.

Performance Year One Results

Detailed results and calculations are included in a report prepared by the CMS contractor RTI International. Please see "Indiana Health Information Exchange Health Care Quality 646 Demonstration Performance Year One Financial Results" located at (url to be specified).

The first performance year ended June 30, 2010 and Medicare expenditures in the demonstration group were compared to targeted expenditures based on the annual trend of the comparison group. The calculations for the demonstration are based on expenditures for 122,501 Medicare beneficiaries seen by 1,100 participating physicians in 111 participating practices. The calculations for the comparison group are based on 341,637 Medicare beneficiaries. Demonstration expenditures, measured on a per member per month (PMPM) basis, were not lower than the target amount.

The performance payment results in the attached table provide information regarding shareable savings from the first performance year of the demonstration. In PY1, IHIE's standardized actual expenditure per beneficiary per month (PBPM) was calculated to be \$835.46. The standardized target expenditure PBPM, based on comparison group and a trended baseline, was \$825.23. IHIE actual expenditures exceeded target expenditures by \$10.23 PBPM. Had IHIE generated savings, 50 % of the savings would have been paid to IHIE based on efficiency. IHIE did not earn an efficiency payment since there were no savings.

PY1 included 14 measures of ambulatory provider quality performance. IHIE implemented and produced quality performance results for 10 of the 14 measures. IHIE experienced challenges in getting the four additional measures operational due to system and resource constraints. Of the 10 operational measures, IHIE achieved target quality performance on five of them, earning a composite score of 20 out of 35 points (57%). The composite score reflects weights assigned to measures for targets met. Had IHIE generated savings, 50% of the sharable savings would have been paid based on its quality performance. In such a case, IHIE would have received 28.5% of savings based on quality. IHIE did not earn a quality payment since there was no savings.

**IHIE Health Care Quality Demonstration Performance Payment Results,
Performance Year 1**

	Baseline	PY1
<i>Intervention Group (IG) Beneficiaries</i>		
PBPM Expenditures	\$793.89	\$834.27
Demographic Factor	0.99561	0.99858
Standardized PBPM Expenditures	\$797.39	\$835.46
Number of Beneficiary Months	1,383,022	1,433,639
<i>Comparison Group (CG) Beneficiaries</i>		
PBPM Expenditures	\$789.40	\$821.82
Demographic Factor	1.02103	1.02710
Standardized PBPM Expenditures	\$773.15	\$800.14
Number of Beneficiary Months	4,138,824	3,973,556
<i>Performance Payment Results</i>		
Standardized Expenditure Ratio	1.031	
Standardized Target	--	\$825.23
PBPM Standardized Actual Expenditures	--	\$835.46