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**TO:**     Charlene Frizzera
Acting Administrator
Centers for Medicare & Medicaid Services

**FROM:**     Stuart Wright     /S/
Deputy Inspector General
for Evaluation and Inspections

**SUBJECT:**     Memorandum Report: "Medicare Part D Plan Sponsor Electronic Prescribing Initiatives," OEI-05-08-00322

This memorandum report describes Medicare Part D plan sponsors' voluntary electronic prescribing (e-prescribing) initiatives (hereinafter referred to as initiatives) and implementation strategies to promote e-prescribing adoption. Plan sponsors' initiatives include information technology and support services that may help defray prescribers' (e.g., physicians') costs associated with e-prescribing adoption.[1] While plan sponsors must implement the Centers for Medicare & Medicaid Services (CMS) defined e-prescribing standards, prescribers and dispensers are not required to adopt or support e-prescribing. To encourage prescribers to adopt e-prescribing, some plan sponsors voluntarily offer e-prescribing technology items and services. As such, we provide this memorandum to inform CMS of plan sponsors' efforts to promote e-prescribing. We do not make any assessments about the quality or success of these initiatives.

We found that plan sponsors have launched voluntary e-prescribing initiatives to increase prescriber adoption of e-prescribing. At the time of our data collection in September 2008, approximately 20 percent of plan sponsors reported that they had an initiative and another 18 percent reported that they were planning an initiative. Over half of plan sponsors with an initiative reported average or high prescriber participation levels for their initiatives. Finally, 75 percent of plan sponsors with an initiative did not report a quantifiable benefit because they did not measure outcomes for their initiative. The remaining 25 percent of plan sponsors with an initiative reported that they measured a quantifiable benefit. These plan sponsors most commonly reported that their initiative resulted in an increase in generic substitutions and an increase in formulary compliance.

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[1] As of 2003, an entry level e-prescribing system may cost up to $4,500 plus approximately $1,500 for annual support, maintenance, and licensing fees. The Center for Information Technology Leadership, "The Value of Computerized Provider Order Entry: Executive Preview," 2003. Available online at http://www.citl.org/research/ACPOE_Executive_Preview.pdf. Accessed on June 24, 2009.

In October 2009, the Office of Inspector General (OIG) released a companion report to this memorandum, "Medicare Part D E-Prescribing Standards:  Early Assessment Shows Partial Connectivity" (OEI-05-08-00320).  That study assessed plan sponsors' implementation of CMS-required e-prescribing standards to support connectivity with prescribers and dispensers (e.g., pharmacies).  We found that nearly 80 percent of plan sponsors reported at least partial e-prescribing connectivity but few reported complete connectivity.

## BACKGROUND

E-prescribing occurs when a prescriber uses a computer or an electronic hand-held device, such as a personal digital assistant, to write and send a prescription directly to a dispenser.  Before a prescriber sends a prescription to a dispenser, he or she can request electronic data regarding patient eligibility, formulary and benefits, and medication history from the patient's health insurance plan.

Prescriber access to prescription information, such as medication history and formulary information, has several potential benefits.  With access to medication history, prescribers can potentially avoid adverse drug events, such as drug-to-drug allergies or interactions.  In addition, prescribers can use e-prescribing systems to look up and prescribe lower cost alternative drugs listed on a patient's formulary.  A 2008 study indicated that, with access to formulary information, doctors prescribed less costly medications, leading to an estimated savings of $845,000 per 100,000 patients.[2]

**The Medicare Prescription Drug, Improvement, and Modernization Act of 2003**
The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) established the Medicare prescription drug program, known as Medicare Part D, which provides optional drug benefits to Medicare beneficiaries.[3]  CMS contracts with private health insurance companies, or plan sponsors, to provide prescription drug coverage for beneficiaries who choose to enroll in the program.  Plan sponsors may offer prescription coverage as a stand-alone prescription drug plan or as part of a managed care plan.[4]  As of February 2009, approximately 26.6 million beneficiaries were enrolled in Medicare Part D.[5]

**The Medicare Part D E-Prescribing Program**
The MMA established the Medicare Part D e-prescribing program.[6]  For this program, CMS requires plan sponsors to implement four e-prescribing standards to provide the technical infrastructure that supports interoperable e-prescribing systems.  A standardized technical infrastructure enables plan sponsors, prescribers, and dispensers to exchange prescription information with each other.  Complete implementation of all four standards is necessary for

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[2] M. Fischer, et al., "Effect of Electronic Prescribing With Formulary Decision Support on Medication Use and Cost."  Archives of Internal Medicine, 168 (22), pp. 2433–2439, 2008.

[3] Title I of the MMA, P.L. No. 108-173; Part D of Title XVIII of the Social Security Act; 42 U.S.C. § 1395w-101 et seq.

[4] MMA, P.L. No. 108-173 § 101(a); Social Security Act, § 1860D-1(a)(1); 42 U.S.C. § 1395w-101(a)(1).

[5] CMS, "Total Medicare Beneficiaries With Prescription Drug Coverage," 2009.  Available online at http://www.cms.hhs.gov/PrescriptionDrugCovGenIn/.  Accessed on February 23, 2009.

[6] MMA, P.L. No. 108-173 § 101(a); Social Security Act, § 1860D-4(e); 42 U.S.C. § 1395w-104(e).

complete e-prescribing connectivity between plan sponsors, prescribers, and dispensers.  CMS required plan sponsors to completely implement two standards by January 2006 and the other two standards by April 2009.

Beginning in 2010, plan sponsors will also be required to obtain prescription origin information on new prescriptions to monitor the rate of adoption of e-prescribing in Medicare Part D.[7]  The Prescription Origin Code (POC) is a data field that will be populated by the pharmacist to describe the method in which a prescription was received by the dispenser (i.e., paper, fax, or electronic).  Plan sponsors will obtain the POC data from dispensers and then submit them to CMS for inclusion in Medicare Part D prescription drug event (PDE) data.

**Plan Sponsor E-Prescribing Initiatives**
While plan sponsors must implement CMS-defined e-prescribing standards, prescribers and dispensers are not required to adopt or support e-prescribing.  To encourage prescribers to adopt e-prescribing, some plan sponsors offer e-prescribing initiatives, which include a combination of technology items and services.

To address plan sponsor donations of e-prescribing items and services, the MMA required that OIG establish an e-prescribing safe harbor rule to the antikickback statute, which prohibits payment in return for patient referrals.[8]  The safe harbor rule protects certain low-risk arrangements that encourage prescriber adoption of e-prescribing.  It allows plan sponsors, among other health care entities, to provide prescribers with nonmonetary remuneration including hardware, software, or information technology and training services necessary and used solely to receive and transmit electronic prescription information.[9]  For example, plan sponsors can provide hardware, such as a personal digital assistant or computer.  Plan sponsors can also provide software that has e-prescribing functionality either as a stand-alone program or as part of an electronic medical record.

Plan sponsors may choose to promote e-prescribing by providing prescribers and dispensers with financial incentives.[10]  According to the MMA, payment of financial incentives may take into consideration the cost to implement an e-prescribing program and may also be given to prescribers that have increased their formulary compliance, lowered drug costs, or reduced potential drug interactions.[11]

Plan sponsors' financial incentives may include pay-to-participate, pay-for-performance, and pay-per-transaction incentives.  Pay-to-participate incentives are one-time grants given to prescribers to assist with startup costs.  Pay-for-performance incentives are bonuses paid to prescribers for meeting specified e-prescribing metrics or outcomes.  Pay-per-transaction incentives are bonuses given to prescribers every time they e-prescribe.

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[7] CMS, "Issuance of the 2010 Call Letter," 2009.  Available online at http://www.cms.hhs.gov/PrescriptionDrugCovContra/Downloads/2010CallLetter.pdf.  Accessed on July 9, 2009.

[8] MMA, P.L. No. 108-173 § 101(a); Social Security Act, § 1860D-4(e)(6); 42 CFR § 1001.952(x).

[9] 42 CFR § 1001.952(x).

[10] MMA, P.L. No. 108-173 § 102(b); Social Security Act, § 1852(j)(7); 42 U.S.C. 1395w-22(j)(7).

[11] Ibid.

**The Medicare Improvements for Patients and Providers Act of 2008**
In other efforts to promote e-prescribing, the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) stipulates that CMS offer financial incentives directly to prescribers. To receive these incentive payments, CMS requires prescribers to meet specified e-prescribing quality measures.[12] Financial incentives are available beginning in 2009 and will continue through 2013.[13]

## METHODOLOGY

### Scope
This memorandum report describes plan sponsors' e-prescribing initiatives and implementation strategies to promote e-prescribing adoption. It does not include information or results from the Medicare e-prescribing incentive program.

### Data Collection and Analysis
Between August and September 2008, we conducted an electronic survey of all plan year 2008 plan sponsors. We surveyed a total of 278 plan sponsors and received responses from 206 plan sponsors for a 74-percent response rate. We identified plan sponsors using July 2008 Part D plan sponsor data from CMS's Health Plan Management System.

The surveys gathered descriptive information about plan sponsors' initiatives. We asked plan sponsors if they had or were planning an initiative to promote prescriber adoption of e-prescribing and to describe their initiatives. We defined an initiative as a plan sponsor program designed to promote e-prescribing that includes any combination of e-prescribing technology items or services. We also asked plan sponsors to describe anything else they offered as part of their initiatives. We refer to the combination of these elements as an initiative package in this memorandum report.

We also asked plan sponsors about any quantifiable benefits that resulted from their initiatives. We requested evidence of the claimed benefits when plan sponsors reported quantifiable benefits resulting from their initiatives. If the plan sponsor could not provide evidence or we could not verify the benefits, we excluded those claimed benefits from our analysis.

To determine prescriber participation in initiatives, we asked plan sponsors to report whether they had low, average, or high participation in their initiatives. The categorization of low, average, or high participation is based on the plan sponsor's perception. We also asked them to provide the specific number of prescribers participating in their initiatives.

To analyze participation in plan sponsor initiatives, we categorized plan sponsors into three categories based on the number of beneficiaries they covered. We did this because participation levels for initiatives are relative to a plan sponsor's size. Table 1 shows the beneficiary ranges we used to categorize plan sponsors.

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[12] MIPPA § 132, P.L. 110-275; Social Security Act, § 1848(m)(3); 42 U.S.C. § 1395w-4(m)(3); 73 Fed. Reg. 69726, 69847 (Nov. 19, 2008).
[13] Ibid.

**Table 1:  Plan Sponsor Size Categories**

| Plan Sponsor Size Category | Number of Beneficiaries Covered by Plan Sponsor |
|---|---:|
| Small | 1–10,000 |
| Medium | 10,001–500,000 |
| Large | 500,000 + |

Source:  OIG analysis of Part D plan sponsor enrollment data, 2009.

We also used survey data from a companion study, "Medicare Part D E-Prescribing Standards: Early Assessment Shows Partial Connectivity" (OEI-05-08-00320), that we collected simultaneously with data for this memorandum report.  We have data from the previous study for 194 of the 206 respondents for this memorandum report.  For these 194 plan sponsors we assessed whether plan sponsors with an initiative also reported implementation of the CMS e-prescribing standards.

Finally, we conducted structured in-person interviews with four plan sponsors that had well-developed initiatives.  We selected these plan sponsors based on their survey responses.  We defined well-developed initiatives based on the duration of the initiative and the number of participating prescribers.  In the interviews, plan sponsors described their initiatives and the benefits and challenges they experienced.

**Limitations**
This report relies on self-reported data.  Other than plan sponsors' reported quantifiable benefits, we did not verify plan sponsors' responses.

**Standards**
This study was conducted in accordance with the "Quality Standards for Inspections" approved by the Council of the Inspectors General on Integrity and Efficiency.

**RESULTS**

**Approximately 20 percent of plan sponsors have voluntary e-prescribing initiatives, which most commonly include the provision of training and software**
Twenty-one percent of plan sponsors (44 plan sponsors) reported that they have an initiative to promote prescriber adoption of e-prescribing.  Another 18 percent of plan sponsors (36 plan sponsors) reported that they were planning to offer an initiative.  Initiatives consist of any combination of free or discounted software, hardware, Internet connectivity, financial incentives, and educational materials (e.g., newsletters).

*Although plan sponsors most commonly provide training and software, there is no prevailing model for an initiative.*  Among the 44 plan sponsors with an initiative, there were 20 different initiative packages.  Initiative packages most commonly included one to three different elements, but some had up to six different elements, such as hardware, software, training, and financial incentives.

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Despite the variety of initiative packages, two-thirds of plan sponsor initiative packages (29 plan sponsors) included a basic package of free or discounted training and software. Over half of planned initiatives (21 plan sponsors) will also include a basic package of training and software. Chart 1 shows the number and type of elements plan sponsors currently offer or plan to offer in their initiatives.

**Chart 1. Elements of Plan Sponsor Initiatives**
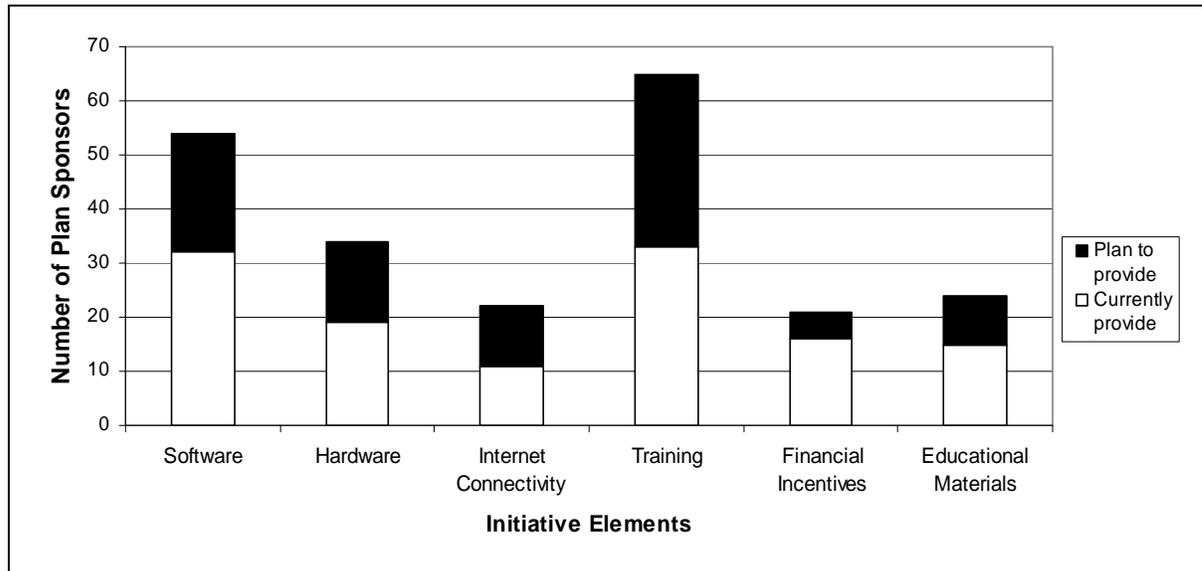


Source: OIG analysis of survey data, 2009.

Additional patterns emerged among plan sponsors' initiative packages. The most frequent initiative package, offered by eight plan sponsors, includes training, software, and hardware. These are some of the most basic elements required to e-prescribe. If a prescriber already had Internet connectivity, these items and services would be sufficient for a prescriber to start e-prescribing.

Sixteen plan sponsors with an initiative reported that they currently offer prescribers a financial incentive for e-prescribing. Thirteen of these plan sponsors reported offering pay-for-performance financial incentives to prescribers. Seven plan sponsors reported offering prescribers a combination of financial incentives. For example, some plan sponsors provided prescribers both pay-to-participate and pay-for performance incentives.

*Almost all plan sponsors with an initiative reported implementing some of the technical infrastructure to support e-prescribing but only one reported complete implementation.* Almost all plan sponsors with an initiative (36 plan sponsors) reported implementing at least some of the standards that support the technical infrastructure to deliver e-prescribing information, such as medication history, eligibility, and formulary information to prescribers. Of the remaining eight plan sponsors with an initiative, four reported that they had not implemented any of the standards that support the technical infrastructure for e-prescribing and four did not provide information about their implementation.

Among the 36 plan sponsors that reported some implementation, one plan sponsor reported completely implementing all of the standards that support e-prescribing. The other 35 plan sponsors with initiatives have not completely implemented all of the standards that support e-prescribing.

Plan sponsors that have not completely implemented the four CMS-defined e-prescribing standards do not completely support the technical infrastructure required for interoperable e-prescribing systems. Plan sponsors' e-prescribing systems must be interoperable to maximize e-prescribing benefits. Plan sponsor systems that are not fully compliant with all e-prescribing standards limit the types of e-prescribing information available to prescribers.

For more detail about plan sponsors' implementation of e-prescribing standards, see OIG's companion report, "Medicare Part D E-Prescribing Standards: Early Assessment Shows Partial Connectivity" (OEI-05-08-00320).

**Over half of plan sponsors with an initiative reported average or high prescriber participation in their initiatives**
Twenty-seven plan sponsors with an initiative reported average or high levels of prescriber participation in their initiatives. Small plan sponsors reported high prescriber participation more often than medium or large plan sponsors. This may be because small plan sponsors interact with fewer prescribers. Small plan sponsors can more easily reach their entire network of prescribers compared to medium and large plan sponsors. Plan sponsors reported participation ranging from 4 to 13,000 prescribers.

*Some plan sponsors attributed their high levels of prescriber participation to implementation strategies that they used to promote their initiatives.* Some plan sponsors reported using implementation strategies to reach more prescribers, including creating mandates for staff physicians to use e-prescribing technology, tying other quality bonuses to e-prescribing, extending a financial incentive to pharmacies, and partnering with other health care organizations. In structured interviews, three plan sponsors with high prescriber participation described their strategic approaches.

> Sierra Health Services
> Sierra Health Services (Sierra) offered all Nevada prescribers free, stand-alone e-prescribing software as part of its initiative to promote the adoption of e-prescribing. Only prescribers that were part of a large medical group owned by Sierra, Southwest Medical Associates (SMA), took advantage of the initiative. However, even with free software, SMA prescribers were slow to adopt e-prescribing.
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> SMA increased e-prescribing in its practice by making two changes. First, SMA integrated e-prescribing into its electronic health record system. Second, SMA changed its prescriber bonus structure so that only prescribers who were 100-percent compliant with SMA's e-prescribing program were eligible for bonuses. Within 1 month of this change, the number of e-prescriptions went from 0 to 80,000. As of September 2008, almost all prescriptions generated by SMA were electronic.

Blue Cross Blue Shield of Massachusetts
Blue Cross Blue Shield of Massachusetts (BCBS-MA) is a founding member of the eRx Collaborative (Collaborative), a collaboration of three local health plans in Massachusetts.[14] The Collaborative's initiative to promote the adoption of e-prescribing includes free stand-alone software, hardware, Internet connectivity, and staff training. BCBS-MA also offers its prescribers financial incentives based on e-prescribing use.

The Collaborative rolled out its e-prescribing initiative in two phases. First, the Collaborative targeted high-volume and specialty prescribers (e.g., an allergist). The Collaborative found that more high-volume prescribers adopted e-prescribing than specialty prescribers. Specialty prescribers were less likely to adopt e-prescribing because they did not see patients regularly. Second, the Collaborative offered its initiative to any interested prescriber in Massachusetts.

The Collaborative also invited two e-prescribing software vendors to help recruit prescribers to adopt e-prescribing. Because e-prescribing was a relatively new technology, software vendors gave in-office demonstrations and explained the features and benefits of e-prescribing. The Collaborative found this approach successful in recruiting prescribers to adopt e-prescribing.

Since 2003, the Collaborative's initiative has assisted more than 6,000 prescribers to adopt e-prescribing. In 2008, Collaborative prescribers transmitted more than 4 million electronic prescriptions. Collaborative prescribers have transmitted 17.8 million electronic prescriptions between 2003 and 2008.

Within the BCBS-MA provider network, approximately 13 percent of prescriptions in 2008 were electronic prescriptions, up from 5 percent in 2005. To further promote e-prescribing adoption, BCBS-MA announced that beginning in 2011, prescribers must e-prescribe to participate in any BCBS-MA physician incentive program.

Blue Cross Blue Shield of North Carolina
To extend its initiative's reach, Blue Cross Blue Shield of North Carolina (BCBS-NC) partnered with a large medical group and the Community Care Network of North Carolina (CCN). CCN is an affiliation of medical group practices that includes physicians and pharmacists. BCBS-NC's initiative includes free Web-based e-prescribing software, discounted hardware, Internet connectivity, training, and financial incentives.

BCBS-NC also extended a one-time financial incentive for pharmacies to update their computer systems. BCBS-NC found that some prescribers stopped e-prescribing because pharmacies were not equipped to accept electronic prescriptions. BCBS-NC found that pharmacies were receptive to the financial incentive, which led to an increase in the number of pharmacies connected for e-prescribing. BCBS-NC reported that its efforts encouraged approximately 2,500 prescribers to e-prescribe in 2008.

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[14] The Collaborative was formed in 2003, before the creation of Medicare Part D plan sponsors.

**Seventy-five percent of plan sponsors with an initiative could not report the quantifiable benefits of their initiatives because they did not measure outcomes**
Thirty-three plan sponsors could not report any quantifiable benefits from their initiatives because they did not measure the outcomes of their initiatives. Plan sponsors' initiatives are voluntary and there are no requirements to report outcomes. However, measuring the outcomes of e-prescribing is the only way to determine whether e-prescribing leads to lower costs and improved quality. Possible outcome measures may include increased generic substitution, increased formulary compliance, or decreased medication errors.

Some plan sponsors reported that they did not measure outcomes because e-prescribing data were not readily available, which hindered their ability to measure the impact of their initiatives. Specifically, some plan sponsors reported that they do not have adequate data because their metrics are under development or their prescription volume is too low to measure outcomes. In structured interviews, two plan sponsors described obstacles to obtaining e-prescribing data and measuring outcomes.

> BCBS-NC
> BCBS-NC reported difficulty obtaining e-prescribing data because prescribers participating in its initiative used different e-prescribing software platforms. Initially, BCBS-NC partnered with three e-prescribing vendors to offer e-prescribing software to prescribers. Limiting the vendor options helped BCBS-NC track e-prescribing volume because it only had to collect data from three vendors.
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> In 2008, BCBS-NC pursued a vendor-neutral strategy so prescribers would have a wider choice of e-prescribing software. With so many vendors, BCBS-NC tried to obtain e-prescribing data from a single source, RxHub,[15] but the data were incomplete and inconsistent. Vendors have to undergo certification with RxHub to properly transmit e-prescribing data for reporting purposes, but BCBS-NC found that not all vendors had undergone certification. As a result, BCBS-NC had to coordinate data collection from multiple vendors and then manually aggregate the data. It had to contact several vendors for data and did not consistently receive data in a timely fashion.
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> Inconsistent and incomplete e-prescribing data created two problems for BCBS-NC. First, BCBS-NC had trouble quantifying its e-prescribing benefits. BCBS-NC found that when data were collected from multiple vendors, the reporting of potentially avoided drug-drug allergy interactions was not consistent. The vendors often did not capture all of this information and many times were not able to report the number of prescription changes or cancellations that occurred as a result of the e-prescribing transaction. Second, inaccurate e-prescribing data complicated BCBS-NC's ability to track prescribers who were eligible to receive financial incentives. BCBS-NC rewarded prescribers with a $1,000 bonus for viewing the medication history of 20 patients. Because of difficulty acquiring accurate data, BCBS-NC modified the financial incentive by rewarding prescribers that e-prescribed for 20 patients.

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[15] E-prescribing software systems query RxHub for medication history and formulary and benefits information from plan sponsors.

> Medco Health Solutions
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> Medco Health Solutions (Medco) also reported problems obtaining e-prescribing data and measuring initiative outcomes. Prescribers participating in Medco's Southeast Michigan E-Prescribing Initiative (SEMI) can choose software from several e-prescribing software vendors. Similar to BCBS-NC, Medco had to pursue several vendors for e-prescribing data. Medco could not aggregate the e-prescribing data because the software vendors did not have a uniform way to report e-prescribing information. Without consistent and complete e-prescribing data, Medco reported difficulty quantifying benefits of SEMI. Medco reported that pharmacy use of the POC would greatly improve its ability to track e-prescribing volume and benefits.

In the future, e-prescribing data may be more widely usable if pharmacies populate the POC field. With accurate POC data, CMS and plan sponsors could get e-prescribing volume data from PDE data. The accuracy of the POC data depends on accurate pharmacy entry, which may be complicated by some pharmacy operations. For example, if an electronic prescription is transferred from one pharmacy to another, the second pharmacy may not recognize it as an electronic prescription and enter the wrong code in the POC field. Any inaccuracies in the POC data may affect CMS's ability to track e-prescribing.

*Twenty-five percent of plan sponsors with an initiative reported that they measured for and saw a quantifiable benefit.* These 11 plan sponsors reported that they were able to track e-prescribing volume and use the data to assess the impact of their initiative. Eight plan sponsors reported an increase in generic substitutions and an increase in formulary compliance. Five plan sponsors reported a decrease in medication errors as measured by the number of prescriptions changed because of medication alerts. Two plan sponsors also reported cost savings from their initiatives.

**CONCLUSION**

Some plan sponsors have launched voluntary e-prescribing initiatives to increase prescriber adoption of e-prescribing. As of September 2008, approximately 20 percent of plan sponsors had an initiative and an additional 18 percent were planning an initiative. Although the composition of plan sponsors' initiatives varied, most offered free or discounted software and training. Despite efforts to promote e-prescribing, not all plan sponsors with initiatives have completely implemented e-prescribing standards, which may limit e-prescribing benefits.

Over half of plan sponsors with an initiative reported average or high prescriber participation levels for their initiatives. Some plan sponsors attributed their high levels of participation to implementation strategies they used to promote their initiatives. Some of these additional strategies include creating mandates for staff physicians to use e-prescribing technology, tying other quality bonuses to e-prescribing, extending a financial incentive to pharmacies, and partnering with other health care organizations to reach more prescribers.

Most plan sponsors were unable to measure outcomes for their initiatives. Three-quarters of plan sponsors with an initiative could not report a quantifiable benefit because they did not measure outcomes for their initiatives. Plan sponsors that were able to measure outcomes from their initiatives reported an increase in generic substitution and formulary compliance.

This report is being issued directly in final form because it contains no recommendations.  If you have comments or questions about this report, please provide them within 60 days.  Please refer to report OEI-05-08-00322 in all correspondence.