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E-Prescribing Trends in the United States

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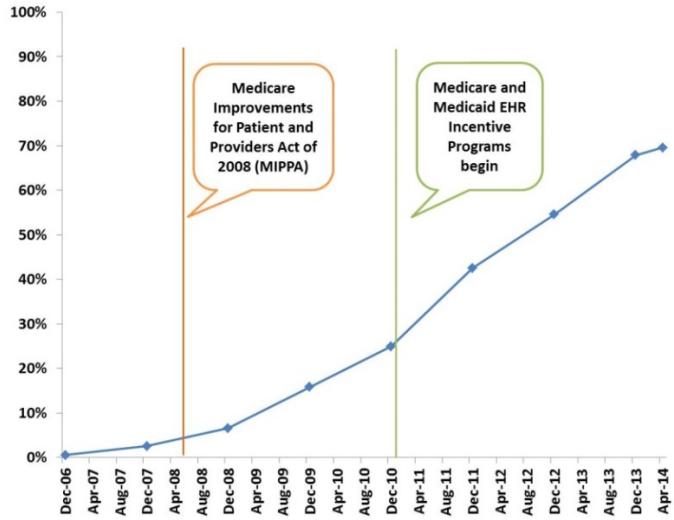
This brief focuses on changes in rates of physician e-prescribing, pharmacy capability to accept e-prescriptions, and the volume of e-prescriptions between 2008 and 2014. During that time period, two important policies that promoted the use of e-prescribing were put into place. The Medicare Improvements for Patients and Providers Act (MIPPA), or the "eRx incentive" program, began in 2008 and offered financial incentives for providers to facilitate the use of e-prescribing. The Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs, or the "meaningful use" program, began in 2011. In order to demonstrate meaningful use, providers must use their EHRs to meet several program objectives, including e-prescribing. This updates a brief released in November 2012[1] and describes changes in e-prescribing at the national and state level through April 2014. The analysis uses data from Surescripts, an e-prescription network used by the majority of all community pharmacies in the U.S. routing prescriptions, excluding closed systems.[2]

The percent of physicians e-prescribing using an EHR has rapidly increased since 2008.

Figure 1. Percent of physicians e-prescribing using an EHR from December 2006 and April 2014.



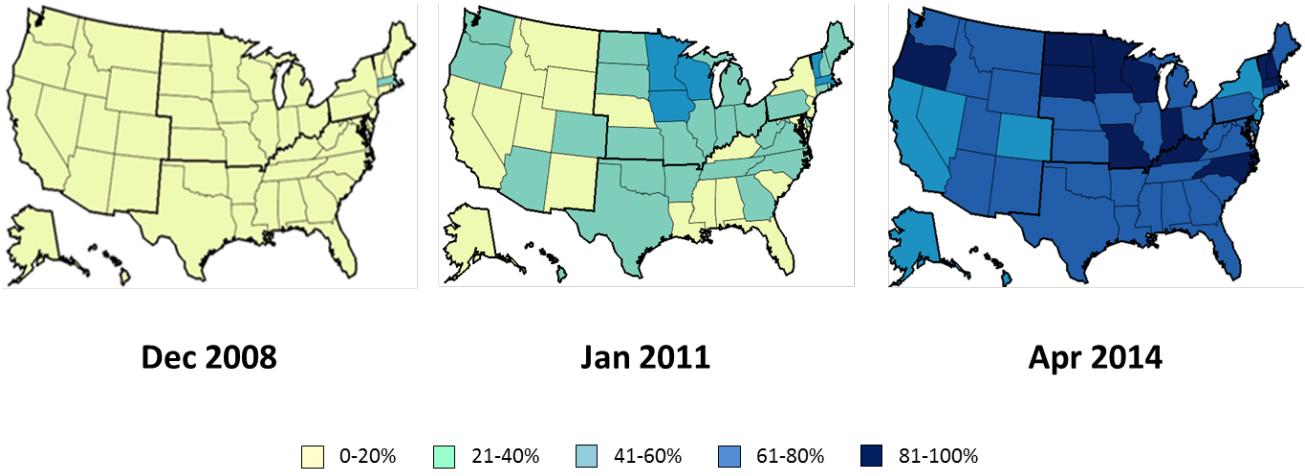
SOURCE: ONC analysis of physician prescriber data from Surescripts. Denominator from SK&A 2011 Office Based Providers Database.

★ By April 2014, 70 percent of physicians were e-prescribing using an EHR on the Surescripts network (Figure 1).

★ This represents significant increases since the passage of MIPPA in December of 2008 (7%), and when the Medicare and Medicaid EHR Incentive Programs began (24%).

The percent of physicians e-prescribing using an EHR has increased in all 50 states and in the District of Columbia.

Figure 2. Percent of physicians e-prescribing using an EHR through April 2014, by state.

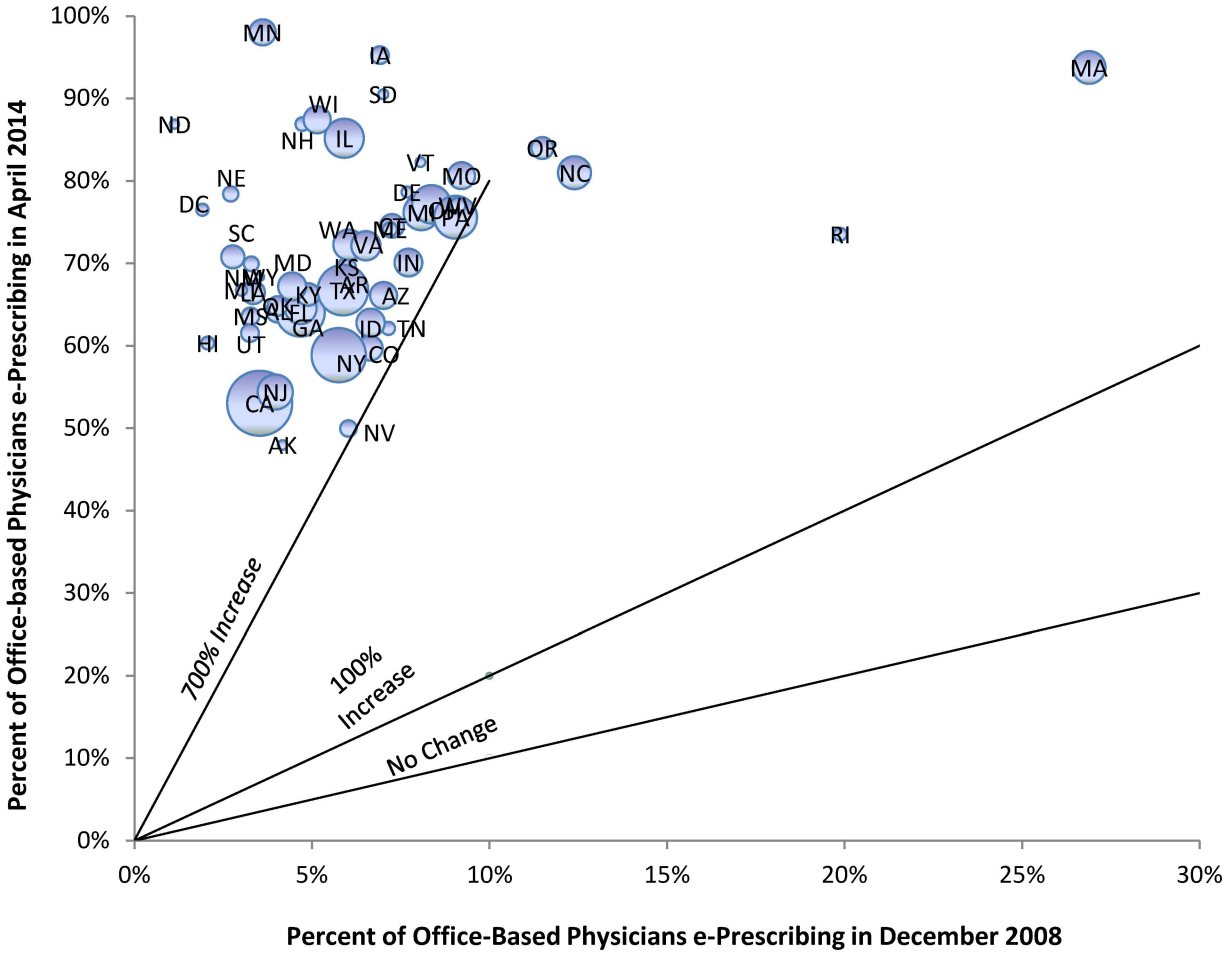


SOURCE: ONC analysis of physician prescriber data from Surescripts. Denominator from SK&A 2011 Office Based Providers Database.

- ★ In December 2008, all but one state had physicians e-prescribing using an EHR at a rate below 20 percent on the Surescripts Network (Figure 2).
- ★ By January 2011, 35 states had physicians e-prescribing using an EHR at a rate above 20 percent, with five states above 40 percent.
- ★ By April 2014, all states had physicians e-prescribing using an EHR at a rate above 40 percent and 28 states had at least 70 percent of their physicians e-prescribing using an EHR.

All States showed double-digit increases in the proportion of physicians e-prescribing using an EHR between December 2008 and April 2014.

Figure 3. Percent of physicians e-prescribing using an EHR in December 2008 and April 2014, by state.



NOTE: Bubble size represents the number of physicians within a state compared to other states.
SOURCE: ONC analysis of annual prescription data from Surescripts Data. Denominator from SK&A 2011 Office Based Providers Database.

- ★ States that had the highest growth in percent of physicians e-prescribing using an EHR include the Iowa, Minnesota, North Dakota, South Dakota, New Hampshire, and Wisconsin from December 2008-April 2014 (Figure 3).
- ★ The range in growth in physicians' e-prescribing at the state-level was 44 to 96 percentage points.
- ★ States that had low rates of physicians' e-prescribing as of December 2008, such as North Dakota (1%), Hawaii and District of Columbia (2%), Utah and Louisiana (3%) all increased by at least 58 percentage points.

As of April 2014, 7 out of 10 physicians e-prescribe through an EHR, representing a ten-fold increase since December 2008.

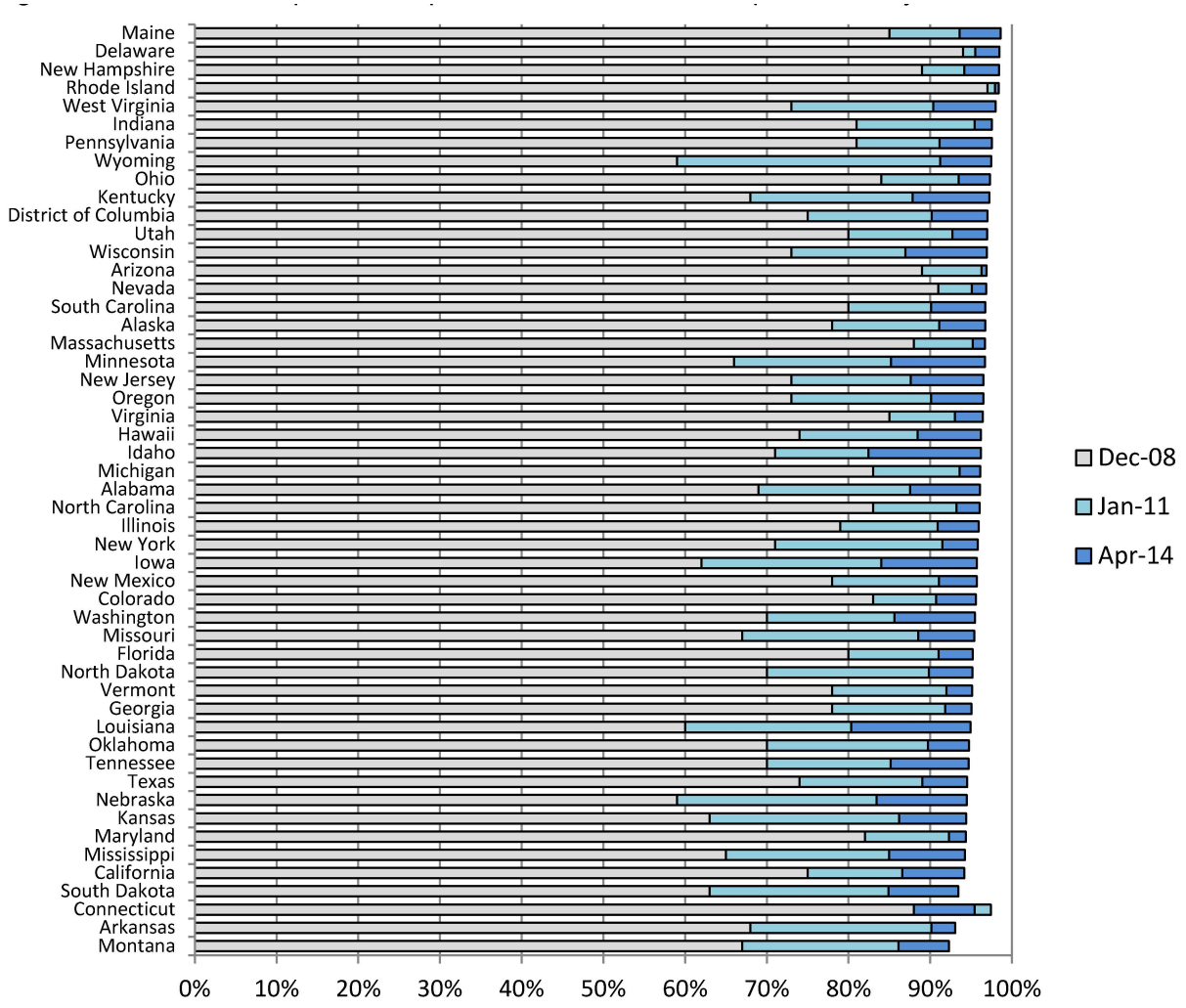
Table 1: Percent of physicians e-prescribing through an EHR; December 2008 and April 2014, by state.

State	Dec 2008	April 2014	Percentage Point Increase	State	Dec 2008	April 2014	Percentage Point Increase
United States	**7%**	**70%**	**63**	Missouri	9%	81%	53
Alabama	4%	64%	60	Montana	3%	67%	64
Alaska	4%	48%	44	Nebraska	3%	78%	75
Arizona	7%	66%	59	Nevada	6%	50%	44
Arkansas	6%	67%	61	New Hampshire	5%	87%	82
California	4%	53%	49	New Jersey	4%	54%	50
Colorado	7%	60%	53	New Mexico	3%	70%	67
Connecticut	7%	75%	68	New York	6%	59%	53
Delaware	8%	79%	71	North Carolina	12%	81%	69
District of Columbia	2%	76%	74	North Dakota	1%	87%	86
Florida	5%	64%	59	Ohio	8%	77%	69
Georgia	5%	65%	60	Oklahoma	4%	65%	61
Hawaii	2%	60%	58	Oregon	11%	84%	73
Idaho	7%	62%	55	Pennsylvania	9%	76%	67
Illinois	6%	70%	64	Rhode Island	20%	74%	54
Indiana	8%	95%	87	South Carolina	3%	71%	68
Iowa	7%	70%	63	South Dakota	7%	90%	83
Kansas	6%	66%	60	Tennessee	7%	63%	56
Kentucky	5%	85%	80	Texas	6%	67%	61
Louisiana	3%	66%	63	Utah	3%	62%	59
Maine	7%	74%	67	Vermont	8%	82%	74
Maryland	4%	67%	63	Virginia	6%	72%	66
Massachusetts	27%	94%	67	Washington	7%	72%	65
Michigan	8%	76%	68	West Virginia	9%	77%	68
Minnesota	4%	100%	96	Wisconsin	5%	87%	82
Mississippi	3%	64%	61	Wyoming	4%	68%	64

SOURCE: ONC analysis of annual prescription data from Surescripts Data. Denominator from SK&A 2011 Office Based Providers Database.

- ★ In April 2014, state rates of physicians e-prescribing through an EHR ranged from 48 percent to 100 percent (Table 1).
- ★ Minnesota (100%), Iowa (95%), and Massachusetts (94%) had the highest rate of physicians e-prescribing through an EHR in April 2014.
- ★ From December 2008 to April 2014, forty-eight states increased the percent of physicians e-prescribing through an EHR by at least 50 percentage points.

In 2014, nearly all community pharmacies across the country are enabled to accept e-prescriptions.

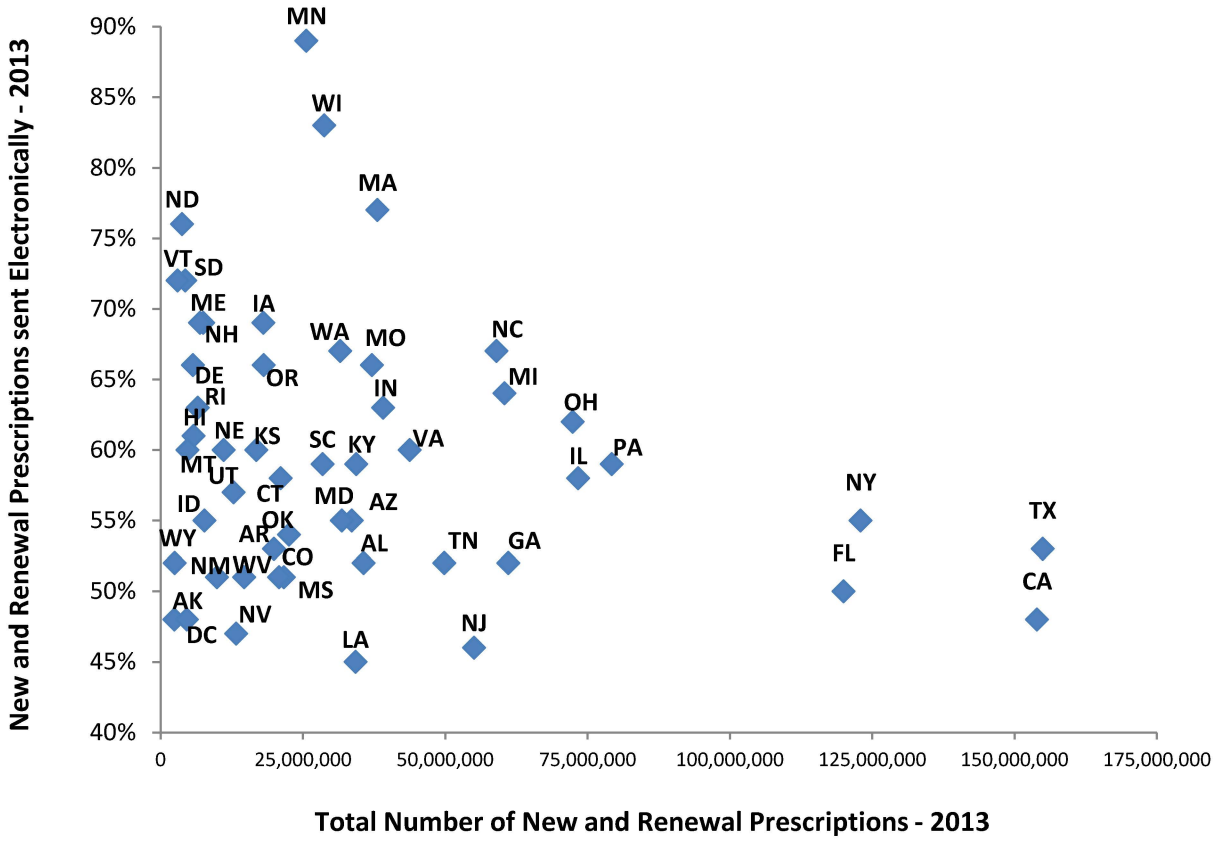


NOTE: Connecticut decreased from 95% to 93% between reporting periods.
SOURCE: ONC analysis of pharmacy data from Surescripts.

- ★ From December 2008 through April 2014, community pharmacies enabled to accept e-prescriptions increased from 76 percent to 96 percent.
- ★ Wyoming experienced the largest increase in community pharmacies enabled to accept e-prescriptions from 2008-2014 (39 percentage points), conversely, Rhode Island remained relatively stable with almost all of pharmacies enabled to accept e-prescriptions during the study period. (Figure 4).
- ★ As of April 2014, every state has at least nine in ten community pharmacies enabled to accept e-prescriptions.

In 2013, more than half (57 percent) of new and renewal prescriptions were sent electronically.

Figure 5: Percent of new and renewal prescriptions sent electronically in 2013, by state.



SOURCE: ONC analysis of annual prescription data from Surescripts, June 2012

- ★ In 2013, of the 1.8 billion new and renewal prescriptions, 1 billion were sent electronically
- ★ Nationally, 57 percent of new and renewal prescriptions were sent electronically in 2013.
- ★ In most states (45), over half of new and renewal prescriptions were sent electronically in 2013. (Figure 5).
- ★ The four states with the highest volume of prescriptions are below the national average for new and renewal prescriptions sent electronically.

The volume of new and renewal prescriptions sent electronically has increased thirteen-fold from 2008 through 2013.

Table 2: Volume of New and Renewal Prescriptions Sent Electronically in 2008 and 2013, by state.

State	New and Renewals 2008	New and Renewals 2013	Percentage Point Increase	State	New and Renewals 2008	New and Renewals 2013	Percentage Point Increase
United States	**4%**	**57%**	**53**	Missouri	4%	66%	62
Alabama	2%	52%	50	Montana	1%	60%	59
Alaska	2%	48%	46	Nebraska	2%	60%	58
Arizona	6%	55%	49	Nevada	9%	47%	38
Arkansas	2%	53%	51	New Hampshire	3%	69%	66
California	3%	48%	45	New Jersey	5%	46%	41
Colorado	4%	51%	47	New Mexico	2%	51%	49
Connecticut	6%	58%	52	New York	3%	55%	52
Delaware	7%	66%	59	North Carolina	6%	67%	61
District of Columbia	3%	48%	45	North Dakota	0%	76%	76
Florida	4%	50%	46	Ohio	4%	62%	58
Georgia	2%	52%	50	Oklahoma	2%	54%	52
Hawaii	1%	61%	60	Oregon	4%	66%	62
Idaho	4%	55%	51	Pennsylvania	6%	59%	53
Illinois	4%	58%	54	Rhode Island	17%	63%	46
Indiana	3%	63%	60	South Carolina	1%	59%	58
Iowa	2%	69%	67	South Dakota	1%	72%	71
Kansas	3%	60%	57	Tennessee	4%	52%	48
Kentucky	3%	59%	56	Texas	3%	53%	50
Louisiana	3%	45%	42	Utah	1%	57%	56
Maine	6%	69%	63	Vermont	4%	72%	68
Maryland	5%	55%	50	Virginia	3%	60%	57
Massachusetts	20%	77%	57	Washington	4%	67%	63
Michigan	8%	64%	56	West Virginia	3%	51%	48
Minnesota	4%	89%	85	Wisconsin	2%	83%	81
Mississippi	1%	51%	50	Wyoming	2%	52%	50

SOURCE: ONC analysis of annual prescription data from Surescripts Data

- ★ In 2013, state rates of new and renewal prescriptions sent electronically ranged from 48 percent to 89 percent. In 2008, the rate ranged from 1 percent to 20 percent (Table 2).
- ★ Minnesota (89%), Wisconsin (83%), and Massachusetts (77%) had the highest rate of new and renewal prescriptions sent electronically in 2013.
- ★ 57 percent of new and renewal prescriptions were sent electronically in 2013.

Summary

In this brief, we examined changes in rates of physician e-prescribing, pharmacy capability to accept e-prescriptions, and the volume of e-prescriptions after the Medicare Improvements for Patients and Providers Act (MIPPA) and the Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs. The percent of physicians e-prescribing using an EHR increased from 7 percent in December 2008 to 70 percent in April 2014.

The growth in e-prescribing has not been limited to physicians. In the same period, the percent of community pharmacies enabled to accept e-prescriptions grew from 76% to 96%. Nearly all community pharmacies are enabled to accept e-prescriptions in Delaware (99%) and Maine (99%).

The growth of physicians and pharmacies e-prescribing has corresponded with a thirteen-fold increase in the growth of new and renewal prescriptions sent electronically. In 2008, only 4% of new and renewal prescriptions were sent electronically. In 2013, 57% of new and renewals prescriptions were sent electronically. Minnesota (89%), Wisconsin (83%), and Massachusetts (77%) had the highest rate of new and renewals sent electronically. However, the four states with highest volume of prescriptions -- California, Texas, New York, and Florida -- are all below the national average. This presents an opportunity to increase the proportion of new and renewals sent electronically among these states.

Data Source and Methods

This study examined trends in e-prescribing using data from Surescripts, an e-prescribing network. Surescripts is an e-prescription network used by the majority of all community pharmacies in the U.S. routing prescriptions, excluding closed systems such as Kaiser Permanente.[2] All 50 states and the District of Columbia were included in the analysis. This analysis included chain, franchise, and independently owned pharmacies. Medical device manufacturers, nuclear, government/military, and infusion pharmacies are excluded using pharmacy type variables provided by National Council for Prescription Drug Programs.

Data for annual percentages of new and renewal prescriptions routed through the Surescripts network data exclude controlled substances.

Physician denominators was developed using the SK&A Office Based Providers Database using a combination of the title and specialty variables.[3] The counts were de-duplicated to correct for individual providers who are observed at multiple sites.

Definitions

E-Prescribing: the electronic transmittal of a prescription to a pharmacy from the prescriber.

Enabled pharmacy: Pharmacy that has connected with the Surescripts network and is capable of receiving e-prescribing transactions.

Community pharmacy: A chain, franchise, or independently owned pharmacy. Dispenser types such as retail, mail order, clinic, or specialty pharmacies are included. Medical device manufacturers, nuclear, government/ military, and infusion pharmacies are excluded.

New prescription: New prescriptions electronically routed from prescribers to pharmacies (including mail order).

Renewal prescription: Renewal responses electronically routed between prescribers and pharmacies (including mail-order).

Electronic health record: A collection of electronic health information that is capable of being shared across different health care settings. Electronic health records may include patient demographics, medical history, medications, allergies, immunization status, laboratory test results, radiology images, and vital signs.

Medicare and Medicaid EHR Incentive Program: The Medicare and Medicaid EHR Incentive Programs provide incentive payments to eligible professionals, eligible hospitals, and critical access hospitals as they adopt, implement, upgrade or demonstrate meaningful use of certified EHR technology.[4] In order to demonstrate meaningful use, providers must use their EHRs to meet several program objectives, including e-prescribing.

Medicare Improvements for Patients and Providers Act: The act established a program in 2008 to encourage the adoption of e-prescribing technology. The program offered financial incentives to "eligible professionals" (health care providers who provide reimbursable services to Medicare beneficiaries) for e-prescribing beginning in 2009, with penalties for non-participation in e-prescribing beginning in 2012.[5]

References

1. Hufstader M, Swain M, Furukawa MF. State Variation in E-Prescribing Trends in the United States. ONC Data Brief, no. 4. Washington, DC: Office of the National Coordinator for Health Information Technology, November 2012.
2. Surescripts. http://www.surescripts.com
3. SK&A, A Cegedim Company. http://www.skainfo.com
4. Centers for Medicare & Medicaid Services. [Medicare and Medicaid] EHR Incentive Programs. Available from: http://www.cms.gov/ehrincentiveprograms
5. Joseph SB, Sow MJ, Furukawa MF, Posnack S, Daniel JG. E-Prescribing Adoption And Use Increased Substantially Following The Start Of A Federal Incentive Program. Health Affairs. July 2013; vol. 32, no. 7:1221-1227

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The authors are with the Office of the National Coordinator for Health Information Technology, Office of Planning, Evaluation, and Analysis.

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