

Themes and Lessons from E-prescribing Bright Spots

APRIL 2012

How to Use This Document

The Bright Spots Initiative is designed to help identify and disseminate successful implementation practices and approaches worth spreading. To achieve this, we conduct a great deal of research on the environment surrounding a given topic in addition to the great work grantees and other entities are doing in that topic area.

This e-prescribing synthesis document is intended to make available the information we've amassed through this process and help readers:

- ✓ Understand and leverage the data we've used to learn about progress on e-prescribing.
- ✓ Get a sense of the successful and innovative approaches grantees, sub-state exchanges and other stakeholders are engaged in that might be worth replicating.
- ✓ Make connections and reach out to other grantees that have witnessed significant increases in pharmacy adoption.

For detailed information on the successful e-prescribing strategies underway in Minnesota, North Dakota, and Tennessee, see the associated implementation briefs:

- [*Minnesota's success through policy levers and financial incentives*](#)
- [*North Dakota's success through state support and stakeholder outreach*](#)
- [*Tennessee's success through partnerships and incentives*](#)

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Lessons learned from Florida, Guam, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New Mexico, Rhode Island, Tennessee, and Virginia.

Final Thoughts

1. Many factors and actors appear to be accelerating electronic prescribing adoption.
2. E-prescribing initiatives are often group efforts.
3. Financial incentives can be a powerful motivator for adoption.
4. A clear sense of the current landscape is important.

Why E-prescribing?

Each year over a million lives are negatively impacted by medication errors, many of them caused by inadvertent mistakes made across the prescribing and medication filling process. According to an Agency for Healthcare Research and Quality (AHRQ) study, in 2008, 1.9 million people became ill or injured from a variety of consumer errors as well as prescribing and dispensing errors such as prescribing an incorrect drug or dose.¹ These medication errors can cost hospitals billions of dollars a year in treating related injuries.²

And while e-prescribing may not mitigate all medication errors in our complex health care system, electronic prescribing processes can make it easier for prescribers to engage in effective interventions such as medication reconciliation, with potentially more complete patient medication history to check for adverse drug reactions. Researchers at Johns Hopkins reported that the medication reconciliation process helped them identify an average of ten prescriptions that needed to be changed weekly in the ICU after errors were discovered.³ On the pharmacy side, e-prescribing helps mitigate the challenge of interpreting prescriber handwriting, a once error-prone aspect of the prescribing and filling process.

For these reasons and more, e-prescribing has been included as one of the 15 core objectives of meaningful use (MU), elevating its importance in efforts to enhance the quality and cost of care through the adoption of electronic health records. To support the drive toward MU of health information technology, the State HIE Program made e-prescribing a key programmatic priority, with a clear focus on ensuring pharmacies are able to accept electronic prescriptions when prescribers send them.

Where Are We Seeing the Greatest Progress?

Given the State HIE Program’s focus on pharmacy adoption of e-prescribing, we looked to the Surescripts data⁴ to tell us something about which states have the highest rates of pharmacies actively⁵ accepting e-prescriptions on the Surescripts network (see Table 1) and where the proportion of pharmacies actively e-prescribing increased the most since the Program moved into full stride with implementation efforts in mid-2010 (see Table 2).

At the end of calendar year 2011 approximately 92% of the nation’s retail community pharmacies were actively accepting electronic prescriptions on the Surescripts network (see Appendix A). As of February 2012, Rhode Island, Maine, Arizona, Massachusetts, and Delaware are the top five states for overall percentage of pharmacies active on the Surescripts network.⁶ (Please see Appendix B for additional observations regarding these states’ increase in active pharmacies during our target timeframe.)

Table 1. Top Five States with Highest Overall Percentage of Pharmacies E-prescribing

Top states for pharmacies active on Surescripts network	
Rhode Island (n=201)	95.02%
Maine (n=307)	94.79%
Arizona (n=1104)	94.20%
Massachusetts (n=1192)	93.79%
Delaware (n=192)	93.75%

*Surescripts data, February 2012

The five states/territories with the greatest percent increase in pharmacies actively e-prescribing on the Surescripts network between June 2010 and February 2012 are Puerto Rico, North Dakota, Minnesota,

Wyoming, and the District of Columbia (see Table 2). We describe our observations from some of these states with greatest improvements, plus those with the highest current rates and those doing targeted work on e-prescribing in the sections below. We also highlight the work of North Dakota, Minnesota, and Tennessee in bright spots implementation briefs on [State HIE Resources](#) and the [HIT Buzz Blog](#).

Table 2. Percent Change in Pharmacies Actively E-prescribing by State

Actively E-prescribing			
State	10-Jun	12-Feb	Percent Improvement
Puerto Rico (n=958)	34.64%	87.16%	52.52%
North Dakota (n=182)	47.02%	89.01%	41.99%
Minnesota (n=1120)	69.36%	88.13%	18.76%
Wyoming (n=119)	78.26%	91.60%	13.34%
District of Columbia (n=127)	81.15%	93.70%	12.55%
Mississippi (n=809)	77.15%	89.00%	11.84%
South Dakota (n=209)	75.26%	87.08%	11.82%
Idaho (n=302)	76.62%	88.08%	11.46%
Vermont (n=141)	82.71%	93.62%	10.91%
Nebraska (n=456)	75.68%	85.96%	10.28%
Kentucky (n=1135)	81.04%	90.93%	9.89%
Kansas (n=628)	80.43%	90.13%	9.70%
Iowa (n=761)	77.68%	86.86%	9.17%
New York (n=4842)	83.87%	92.65%	8.77%
South Carolina (n=1132)	81.08%	89.84%	8.76%
Arkansas (n=750)	80.31%	88.67%	8.36%
California (n=5853)	79.33%	87.58%	8.25%
Louisiana (n=1143)	76.01%	83.99%	7.98%
New Jersey (n=2015)	83.17%	91.02%	7.85%
Tennessee (n=1656)	80.28%	87.98%	7.71%
New Mexico (n=312)	85.47%	92.95%	7.48%
Illinois (n=2394)	83.67%	91.10%	7.43%
Missouri (n=1301)	82.28%	89.55%	7.27%
Alabama (n=1327)	83.24%	89.98%	6.74%
West Virginia (n=582)	84.64%	91.07%	6.42%
Washington (n=1286)	79.82%	86.00%	6.18%
Texas (n=4566)	83.43%	89.14%	5.71%
Oklahoma (n=862)	84.12%	89.56%	5.44%
Utah (n=469)	83.86%	89.11%	5.26%
Maine (n=307)	89.86%	94.79%	4.92%
Wisconsin (n=1138)	83.54%	88.31%	4.78%
Montana (n=271)	75.41%	80.07%	4.66%
Oregon (n=681)	85.16%	89.57%	4.42%
Colorado (n=829)	86.90%	90.95%	4.05%
Pennsylvania (n=3001)	88.26%	92.27%	4.01%

Table 2. Percent Change in Pharmacies Actively E-prescribing by State

Actively E-prescribing			
State	10-Jun	12-Feb	Percent Improvement
Georgia (n=2261)	87.70%	91.51%	3.81%
Indiana (n=1239)	88.77%	92.17%	3.40%
Maryland (n=1179)	88.16%	91.18%	3.02%
Florida (n=4803)	86.42%	89.28%	2.85%
North Carolina (n=2113)	89.80%	92.52%	2.72%
Michigan (n=2490)	89.72%	92.37%	2.65%
Virginia (n=1575)	90.39%	92.19%	1.80%
Ohio (n=2369)	91.12%	92.57%	1.45%
Hawaii (n=212)	80.21%	81.60%	1.39%
Connecticut (n=706)	88.81%	89.80%	0.99%
Nevada (n=458)	90.21%	91.05%	0.84%
Arizona (n=1104)	93.71%	94.20%	0.49%
Massachusetts (n=1192)	93.39%	93.79%	0.40%
New Hampshire (n=269)	92.37%	92.57%	0.20%
Delaware (n=192)	95.40%	93.75%	-1.65%
Rhode Island (n=201)	97.37%	95.02%	-2.34%
Alaska (n=110)	87.64%	84.55%	-3.09%

*Guam, Northern Mariana Islands, and Virgin Islands not included.

Through our research and interview process, we've learned that many states use additional data sets (e.g., pharmacy association data) to track their level of e-prescribing adoption. For more information, please see Theme 3, Leveraging Partnerships, Workgroups, and Data below.

Key E-prescribing Implementation Themes and Practices

The following information reflects a compilation of observations from our efforts to understand what might be happening in states that have witnessed significant increases in pharmacies actively e-prescribing since June 2010 or that have high levels of e-prescribing adoption overall. These observations are not intended to draw conclusions about causal relationships between specific actions and specific increases in pharmacy adoption of e-prescribing.

Observations and associated descriptions are organized within three general themes. Many of the states profiled exhibit varying combinations of the following:

1. Creating an environment that encourages e-prescribing
2. Overcoming barriers through financial and technical assistance
3. Leveraging partnerships, work groups, and data

Theme 1: Creating an Environment the Encourages E-prescribing

As we spoke with state teams and subject matter experts on e-prescribing, it became clear that many factors and actors have been at work supporting e-prescribing acceleration over the years, with demonstrated commitments across both public and private sectors to educate stakeholders and remove barriers to adoption. Federally commissioned studies, programs, and legislation have been noted as contributors to an increased awareness of e-prescribing's benefits. In 2006, the Institute of Medicine (IOM) reported that e-prescribing could be a key in reducing the high costs and adverse patient outcomes associated with medication errors.⁷ The study's findings—commissioned by the Centers for Medicare and Medicaid Services (CMS)—ultimately led IOM to recommend that all providers utilize e-prescribing systems by 2010. In addition, some barriers to e-prescribing adoption have decreased significantly with nationwide regulatory changes. The significant national

commitment to the adoption of health information technology through the Health Information Technology for Economic and Clinical Health Act (HITECH Act)—and ONC's grant programs that followed (including the State Health Information Exchange Cooperative Agreement Program)—have solidified the importance of e-prescribing to enhancing quality of care while reducing costs. These programs, incentives, and regulatory changes have provided the necessary momentum for prescribers and pharmacies to increasingly adopt e-prescribing technology over the years.

Policy changes implemented by states have also addressed a range of factors relevant to pharmacy adoption of e-prescribing, including mandates that affect prescribers, pharmacies themselves, and general requirements that could impact adoption. For example, Puerto Rico (the territory at the top of the improvement list in Table 1) passed legislation SB 350⁸ in 2010, which softened requirements that previously made it exceedingly difficult for providers in **Puerto Rico** to e-prescribe while complying with the law. **Minnesota**, the state with the third highest increase in active e-prescribing pharmacies also made state-level policy changes that became effective in 2011 to encourage e-prescribing.

Other states with high rates of pharmacies active on the Surescripts network have also taken policy approaches that encourage e-prescribing:

- **New Hampshire's** governor issued an Executive Order in 2006 mandating that pharmacies and/or providers have the capacity to e-prescribe.⁹ The order was championed by the NH Citizens Health Initiative, a group created by the Governor the year prior, under the NH Department of Health and Human Services. The group, comprising citizen representatives, business owners, medical providers, and community agencies also helped put forward an e-prescribing strategy in their 2009 strategic plan.¹⁰ (New Hampshire currently has >92% of their pharmacies active on the Surescripts network.)
- **Arizona** focused attention on e-prescribing as it relates to patient safety through Executive Order 2008-21, which tasked the Arizona Health-e Connection with increasing e-prescribing adoption with

Legislating E-prescribing Minnesota

In 2008, Minnesota's state legislature passed the e-Prescribing Mandate (Statute 62J.497) which requires that "Effective January 1, 2011, all providers, group purchasers, prescribers, and dispensers must establish and maintain an electronic prescription drug program that complies with the applicable standards in this section for transmitting, directly or through an intermediary, prescriptions and prescription-related information using electronic media."^a This legislation—declaring the state's support for the adoption of electronic prescribing—helped shape an environment conducive to further improvements. For more detail about Minnesota's efforts to increase pharmacy adoption of e-prescribing see their State HIE bright spots implementation brief also posted <http://statehieresources.org/bright-spots/>.

^a MN Statute 62J.497

the end goal of “improv[ing] patient safety and control[ing] costs.”¹¹ (Arizona currently has >94% of their pharmacies active on the Surescripts network.)

- **Rhode Island** worked with their Board of Medical Licensure and Discipline and the Board of Pharmacy to develop policy statements that are supportive of the adoption of e-prescribing. (Rhode Island currently has >95% of their pharmacies active on the Surescripts network.)
- The **US Virgin Islands** passed Bill 28-0041 in 2009 requiring all licensed physicians to electronically transmit patient prescriptions to pharmacists according to national standards. (Surescripts data not included in this document.)

National financial incentives and penalties for provider e-prescribing were also mentioned many times during our research as an important environmental factor related to provider use of e-prescribing and demand on pharmacies to participate. Part of CMS’ e-Prescribing Incentives Program for Medicare professionals specifies that in 2012 a payment adjustment will be applied to those eligible professionals who are not successful electronic prescribers on their Medicare Part B services.

Theme 2: Overcoming Barriers through Financial and Technical Assistance

Some states have used funding initiatives (enabled through state appropriations, grants, or loans) to help alleviate the financial burden that may occur when purchasing software/hardware or paying for transaction fees associated with e-prescribing.

- In 2009, **North Dakota’s** legislature passed Senate Bill 2332, establishing a revolving loan fund from the Bank of North Dakota to provide low-interest loans to health care entities to adopt health information technology and enable capabilities such as e-prescribing. To date, North Dakota has given out approximately six million of the ten million dollars available. North Dakota has leveraged the loan program to help spur e-prescribing adoption efforts; however, the emphasis has not been pharmacies. North Dakota completed outreach to pharmacies not e-prescribing and found that low

prescriber adoption was a critical factor in a pharmacy’s decision to adopt and utilize e-prescribing. Since this discovery, North Dakota has used this information to educate prescribers about the loan program and—as a result—has increased e-prescribing adoption significantly. (North Dakota has experienced a ~42% improvement in pharmacies active on the Surescripts network from June 2010 to February 2012, and now has 89% active.)

Support through Financial Incentives Tennessee

In 2008, Tennessee’s Office of eHealth Initiatives (OEHI) partnered with the educational arm of the Tennessee Pharmacists Association’s (TPA), the Tennessee Pharmacists Research and Education Foundation (TPREF), to manage a \$675,000 grant program to fund pharmacy purchase of e-prescribing systems. TPREF identified independent community pharmacies in the state that were not actively e-prescribing and conducted educational outreach about the grant opportunity. TPREF also provided a dedicated staff member for pharmacy outreach, primarily conducted via phone. The state reduced the number of independent community pharmacies that do not accept electronic prescriptions to only 43. For more detail about Tennessee’s partnerships and pharmacy funding program see their State HIE bright spots implementation brief about their approach also posted on <http://statehieresources.org/bright-spots/>.

- **North Carolina** also focused their e-prescribing efforts on prescribers. Beginning in October 2007, the NCHIE partnered with Community Care of North Carolina’s (CCNC)¹² 14 network entities to support providers on e-prescribing implementation, including work flow, process analysis and system training. CCNC hired eight training facilitators, distributed across the state, to provide training in provider offices. To ensure adoption efforts were sustained, CCNC staff conducted multiple rounds of follow-up after onsite support. These training services

were provided free of charge. (North Carolina currently has >92% of their pharmacies active on the Surescripts network)

Other states such as **Kentucky, Minnesota, North Carolina, Tennessee,** and **Pennsylvania** have also provided financial assistance and training to both pharmacies and providers looking to adopt e-prescribing. Assistance has ranged from grants in varying amounts to supporting the actual implementation of e-prescribing software to ensure a smooth transition from paper-based workflows. States have been very deliberate in targeting their financial incentives, some choosing to focus on the area where they see the most significant gap in e-prescribing.

- **Minnesota** focused on adoption of e-prescribing by pharmacies located in rural communities. A key eligibility requirement for their 2011 e-Health Connectivity Grant Program was that pharmacies had to serve ambulatory patients in cities with populations of less than 10,000. Most grants programs we learned about—including Minnesota's—were time-bound (i.e., defined start and end dates), which served to create a sense of urgency around the incentives.

Theme 3: Leveraging Partnerships, Workgroups, and Data.

Many states have partnered with state pharmacy associations, universities, medical management entities, and hospital associations for outreach and engagement in support of e-prescribing goals and initiatives.

- Programs such as ePrescribe **Florida, Virginia's** CommonwealthRx, and **Massachusetts** eHealth Collaborative are examples of how public-private partnerships are collaboratively working together to implement incentive programs that help accelerate e-prescribing adoption. (For these three states, 89%, 92%, and 93% of pharmacies are active on the Surescripts network, respectively.)
- States such as **Michigan, New Hampshire, New Mexico** and **Nevada**,¹³ all of which have > 90% of pharmacies active on the Surescripts network, have also offered financial incentives through Medicaid programs.
- Some large employers are building partnerships to initiate e-prescribing programs. The **Southeast Michigan ePrescribing Initiative (SEMI)** is one of the largest employer-driven e-prescribing initiatives in the country. A joint collaboration between some of the state's largest employers like General Motors, Ford Motor Company, Chrysler LLC, the United Auto Workers (UAW) as well as major healthcare companies like Blue Cross Blue Shield of Michigan, Health Alliance Plan, Henry Ford Medical Group, Medco Health Solutions, Inc., CVS Caremark Corporation, and Surescripts – SEMI has made significant progress. They estimate \$3.1 million in pharmacy cost savings in the first year of the program from increasing the overall generic use rate by 7.3 %.¹⁴ (Michigan currently has >92% of their pharmacies active on the Surescripts network.)

In addition to formal partnerships, some states have launched e-prescribing task forces and/or work groups, which enable collaborative strategic planning and effective pharmacy and provider outreach. These groups often comprise key health care stakeholders such as pharmacy associations, hospitals, payers, state government, and HIE entities. States that have benefited from these kinds of dedicated groups include **Guam, Ohio,** and **Rhode Island.**

States are working through these partnerships for a variety of reasons, including the benefit of additional data that partners may provide to help ensure information used for outreach and tracking is more precise and accurate. Accurate data are helping to better target pharmacies and providers for incentive programs, establish goals and monitor progress, and provide a mechanism for showcasing successes around e-prescribing adoption efforts.

We have found that when some states have access to additional data sets from pharmacy associations or other partners, they uncover discrepancies in Surescripts data. In these cases, many states use a

reconciliation process to determine accurate e-prescribing rates and targets for outreach/communication. In addition to referencing the Surescripts data in Table 2 above, some states have listed their own e-prescribing rates on their State HIE program websites, pharmacy association websites, etc.

- The **Tennessee** Office of eHealth Initiatives created a partnership with the state's pharmacy association to leverage their established contacts, communication channels, and their trusted relationship with pharmacies. They also used the pharmacy association's data to reconcile their own data from Surescripts, verify pharmacy status and identify gaps in e-prescribing adoption in independent community pharmacies. Tennessee used this process iteratively to identify target pharmacies to conduct outreach regarding their grant program.
- **Minnesota** e-Health uniformly collects data on pharmacies enabled for e-prescribing and e-prescription rates to track progress, determine gaps in e-prescribing capability, identify priority pharmacies, and share updates with communities to develop strategies and guide decisions and policies. Minnesota e-Health used their own data as well as Surescripts data to determine priority pharmacies for their 2011 e-Health Connectivity Grant program and performed geospatial analysis to identify leverage points and conduct outreach. Minnesota continues to use data to determine eligibility for their ongoing grant programs. Depending on the gaps and priority areas identified through future data, Minnesota plans to consider broadening eligibility for future grant programs, perhaps to pharmacies located in more metropolitan areas.

An Effective E-prescribing Committee Rhode Island

The Rhode Island Quality Institute's e-Prescribing (RIQI) efforts include an e-prescribing committee chaired by the State Director of Health. The committee examined monthly Surescripts data to determine barriers and established actionable, public goals for increasing e-prescribing accessibility and utilization in the state. RIQI attributes the success of its outreach efforts to the state's pharmacy and provider communities. Based on data collected by RIQI, 100% of Rhode Island's retail pharmacies are capable of electronic prescribing as of 2009, and 67.5% of the state's prescribers are currently e-prescribing. For the past three years, Rhode Island has received a Surescripts Safe Rx award for being one of the country's top two electronic prescribing states. RIQI continues to drive the state's e-prescribing campaign through a multi-pronged education and outreach approach in collaboration with the State's Office of Medicaid, Surescripts, docEHRtalk.org, and Regional Extension Center (REC) efforts.

Final Thoughts

Through our research, we uncovered several overarching themes and lessons:

1. **Many factors and actors appear to be accelerating electronic prescribing adoption.** From federally-funded initiatives like CMS' incentive programs to state government-led efforts, to public-private partnerships, stakeholders on many levels are taking steps to drive the adoption of electronic prescribing. The advent of HITECH and meaningful use has further created an environment that readily accepts (and often demands) the adoption and use of health information technology, including e-prescribing.
2. **E-prescribing initiatives are often group efforts.** The actors involved in e-prescribing initiatives rarely go it alone. We found that when starting and managing e-prescribing initiatives, collaboration and partnerships are key to success.
3. **Financial incentives can be a powerful motivator for adoption.** Various studies discuss the barriers to HIT adoption, including high implementation costs, stakeholder resistance, and workflow

challenges. These studies also cite the use of financial assistance programs to remove barriers and promote the adoption of HIT. Indeed, our research and conversations with grantees showed that incentive programs were common in overall strategies to increase pharmacy and prescriber adoption among several states with high rates of pharmacy adoption or significant increases between June 2010 and February 2012.

4. **A clear sense of the current landscape is important.** Engaging in HIT environmental assessments not only provides states with a sense of identity, but also provides the context for targeting energy and efforts. We have learned that many leading states are using data and constantly assessing e-prescribing environments to identify where adoption is occurring and where opportunities for improvement exist.

Appendix A. Broader Snapshot of E-prescribing Progress

The number of pharmacies accepting electronic prescriptions has increased significantly over the last three years. As seen in Figure 1 below, Surescripts data indicate that from December 2008 to December 2011 the national percentage of retail community pharmacies actively accepting electronic prescriptions on the Surescripts network rose from 72% to 92%. During the same period, the national percentage of retail community pharmacies connected to the Surescripts network in **rural counties** increased from 68.1% to 90.7% (Figure 2), reducing the gap between urban and rural pharmacy adoption to just under 3%.

Figure 1. Enabled v. Active Retail Community Pharmacies on Surescripts Network

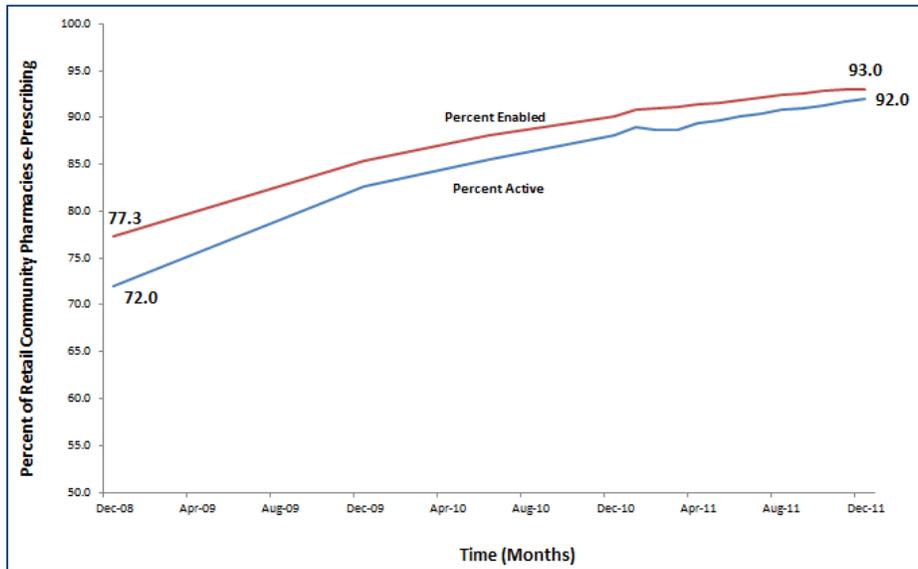
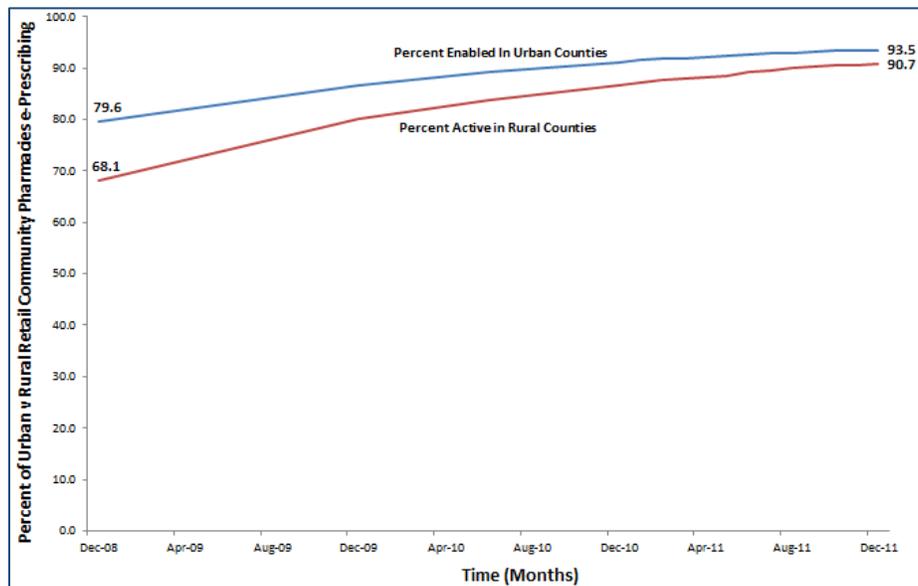


Figure 2. Urban v. Rural Retail Community Pharmacies Enabled on Surescripts Network



Appendix B. Additional Observations from States with High Rates of Pharmacies Active on Surescripts Network

For this bright spots effort, we focused research efforts primarily on states with the greatest active pharmacy **increase** since June 2010, but also looked at the states with the highest percentage of pharmacies active on the Surescripts network overall (current value, not change over time) to learn as much as possible.

As Table 1 in the narrative of the synthesis and repeated below shows, Rhode Island, Maine, Arizona, Massachusetts, and Delaware are the top five states for overall percentage of pharmacies active on the Surescripts network.

Table 1. Top Five States with Highest Overall Percentage of Pharmacies E-prescribing

Top states for pharmacies active on Surescripts network	
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*Surescripts data, February 2012

When we compared this breakdown to Table 2 displaying change over time, we discovered that four of these overall top-ranking states actually fall within the bottom 6 states for increases in pharmacy adoption since June 2010. And although many states have had very active e-prescribing initiatives over the last 2+ years, no state that started with 92% or more of their pharmacies active on the Surescripts network in June 2010 (n=5) witnessed more than a .49% increase during the timeframe we reviewed.

Furthermore, the data show that increases greater than 2% over the timeframe we reviewed only occurred in states that started with less than 90% of pharmacies active on the Surescripts network.

Many factors could be at play in these data; however, this trend is important to note as it may signal slower growth in general in the proportion of pharmacies actively e-prescribing once ~90% of the pharmacy population in a given state is active.

¹ <http://well.blogs.nytimes.com/2011/04/14/medication-related-injuries-on-the-rise/?partner=rss&emc=rss>

² <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=11623>

³ <http://www.ncbi.nlm.nih.gov/pubmed/14691892?dopt=Abstract>

⁴ We use Surescripts data because they reflect approximately 95% of the e-prescribing market across the United States; however, we recognize that these data may not reflect the full e-prescribing landscape in each state, as there are other options for providers and pharmacies to use for e-prescribing.

⁵ Active is defined as having processed at least one prescription electronically during the prior month.

⁶ To support a realistic denominator of pharmacies that could e-prescribe on the Surescripts network, the analysis included Chain, Franchise, and Independent Pharmacies. Medical Device Manufacturers, Nuclear, and Infusion and Government/Military pharmacies were excluded

⁷ <http://www.iom.edu/~media/Files/Report%20Files/2006/Preventing-Medication-Errors-Quality-Chasm-Series/medicationerrorsnew.pdf>

⁸ <http://www.oslpr.org/download/en/2009/A-0138-2009.pdf>

⁹ http://www.chrt.org/assets/policy-papers/CHRT_E-Prescribing-Barriers-and-Opportunities.pdf

¹⁰ <http://citizenshealthinitiative.org/about-us>

¹¹ http://www.azgita.gov/tech_news/2008/08-05-02%202008-21%20e-Perscribing%20EO.PDF

¹² Community of Care of North Carolina is a public-private partnership, made up of 14 regional networks of physicians, nurses, pharmacists, hospitals, health departments, social service agencies and other community organizations.

¹³ <http://www.nga.org/files/live/sites/NGA/files/pdf/0907EPRESCRIBING.PDF>

¹⁴ http://www.healthtransformation.net/cs/transforming_solutions/pt/southeast_michigan_eprescribing_initiative_semi