

Electronic Prescribing Adoption and Use

Electronic prescribing (e-prescribing) is both an essential component of Meaningful Use and an important milestone for health information exchange. According to the [Agency for Healthcare Research and Quality \(AHRQ\)](#), over 770,000 people are harmed or die from adverse drug events in US hospitals each year – many as a result of human error. Electronic health records (EHRs) with electronic prescribing can help monitor prescriptions and prevent these potentially fatal errors. AHRQ estimates that computerized monitoring systems can prevent anywhere from **28 to 98 percent of adverse drug events**, and EHRs with computerized physician order entry (CPOE) can prevent approximately **84 percent of dose, frequency, and route errors**.

Evidence of the benefits of e-prescribing is mounting:

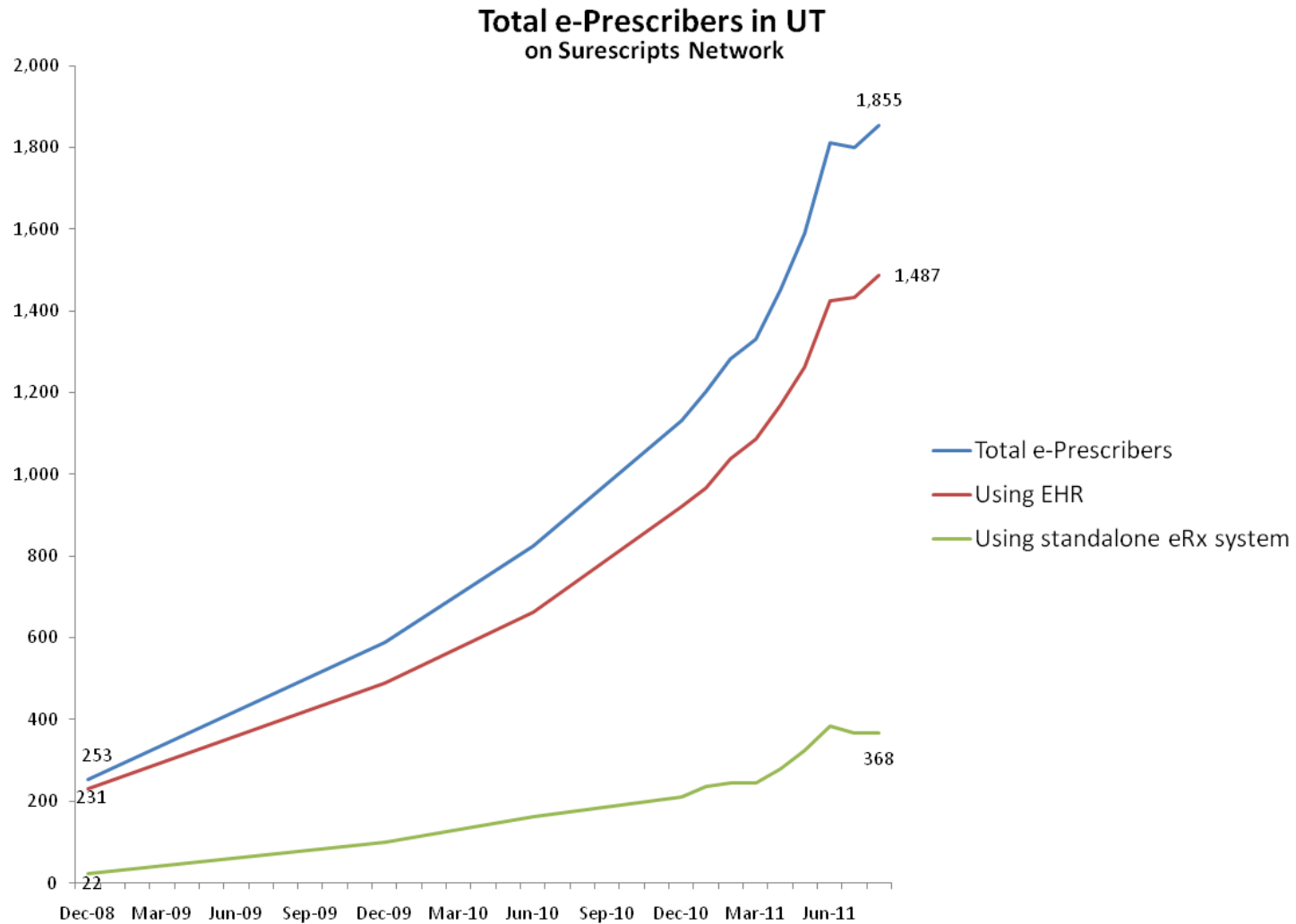
- [Kaushal et. al \(2010\)](#) found that e-prescribing **reduced prescription errors in community-based practices nearly sevenfold and completely eliminated prescription errors due to illegibility**.
- Similarly, [Devine et. al \(2010\)](#) found that a basic CPOE system in a community setting **reduced the odds of medication errors by 70%**. The biggest improvements were seen in errors attributable to illegibility (97% reduction), use of inappropriate abbreviations (94%), and missing information (85%).
- Researchers at the [Center for IT Leadership \(2010\)](#) studied the US Department of Veterans Affairs, an early adopter of health IT and exchange, and estimated that savings from preventing adverse drug events alone totaled **\$4.64 billion**.
- [Persell et. al \(2011\)](#) found that electronic health records improve the quality of care significantly when **doctors accessing patients' medical histories are reminded of the best methods of care**.

The following graphs provide an overview of (1) the growth of e-prescribing adoption in Utah between December 2008 and August 2011 and (2) how e-prescribing was utilized in Utah in August 2011. ONC acquired these data from Surescripts, the nation's leading e-prescription network.

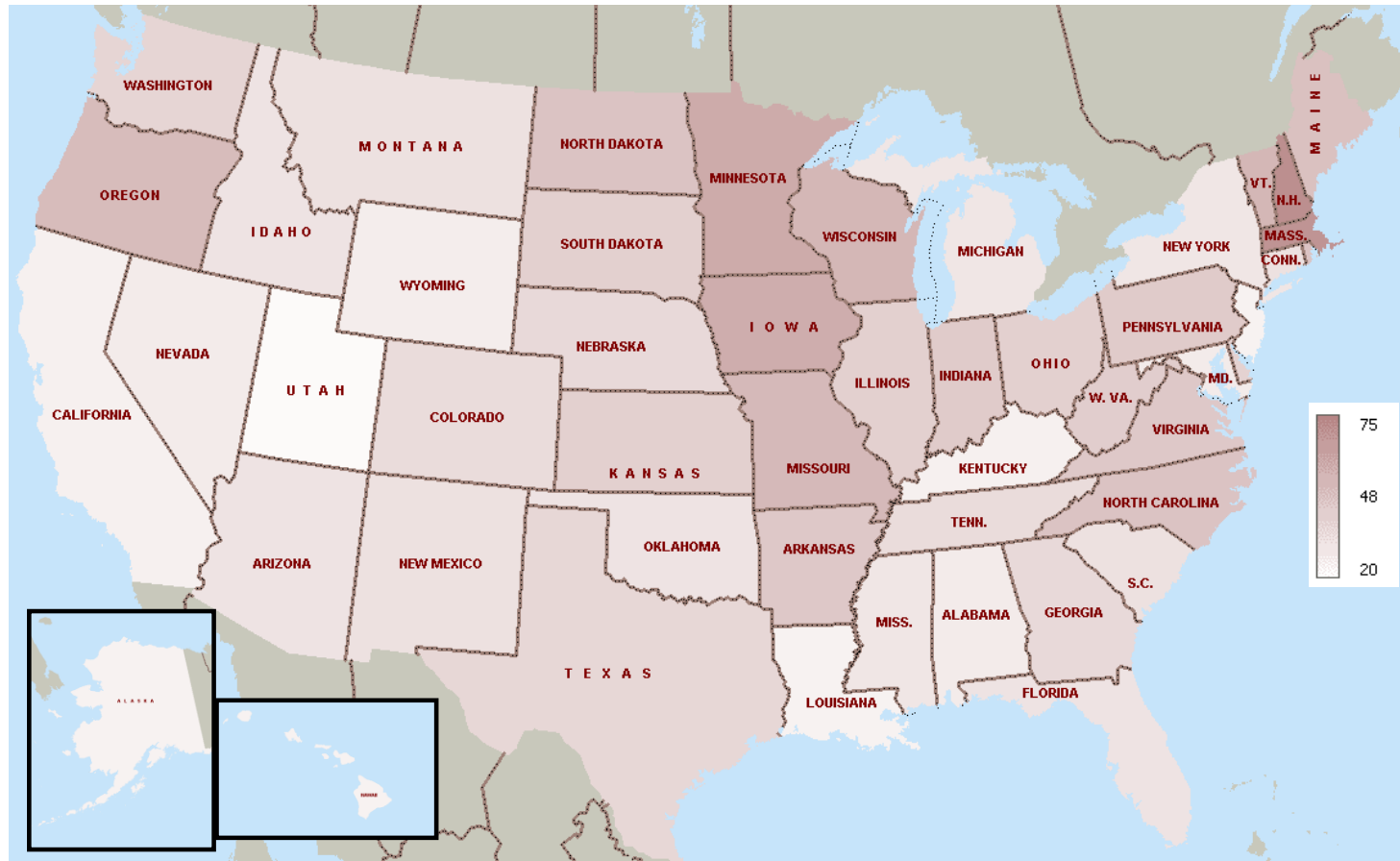
On the HITRC website you will be able to download the complete Surescripts data files for your state for June 2011, July 2011, and August 2011. The transfer of these data assumes that as a grantee of the ONC, you will abide by the terms of use as agreed upon by the ONC and Surescripts. Particularly, ONC grantees and their affiliates will not share data files with outside entities, use data for work not associated with ONC, or post or disclose publicly the names of pharmacies not participating in the Surescripts network. Violating these terms and conditions will jeopardize future data deliveries.

The HITRC website also contains answers to some frequently asked questions about the Surescripts data. Should you have any additional questions, please do not hesitate to contact your Project Officer. We want these reports to be helpful to you in your efforts, and welcome your input on their measures and format.

Across the nation, the number of prescribers sending electronic prescriptions has skyrocketed since 2008. Recently, in correlation with the roll-out of Meaningful Use, this growth has been particularly driven by adoption of EHRs. Standalone e-prescribing has actually dropped slightly, likely due to movement towards EHRs.



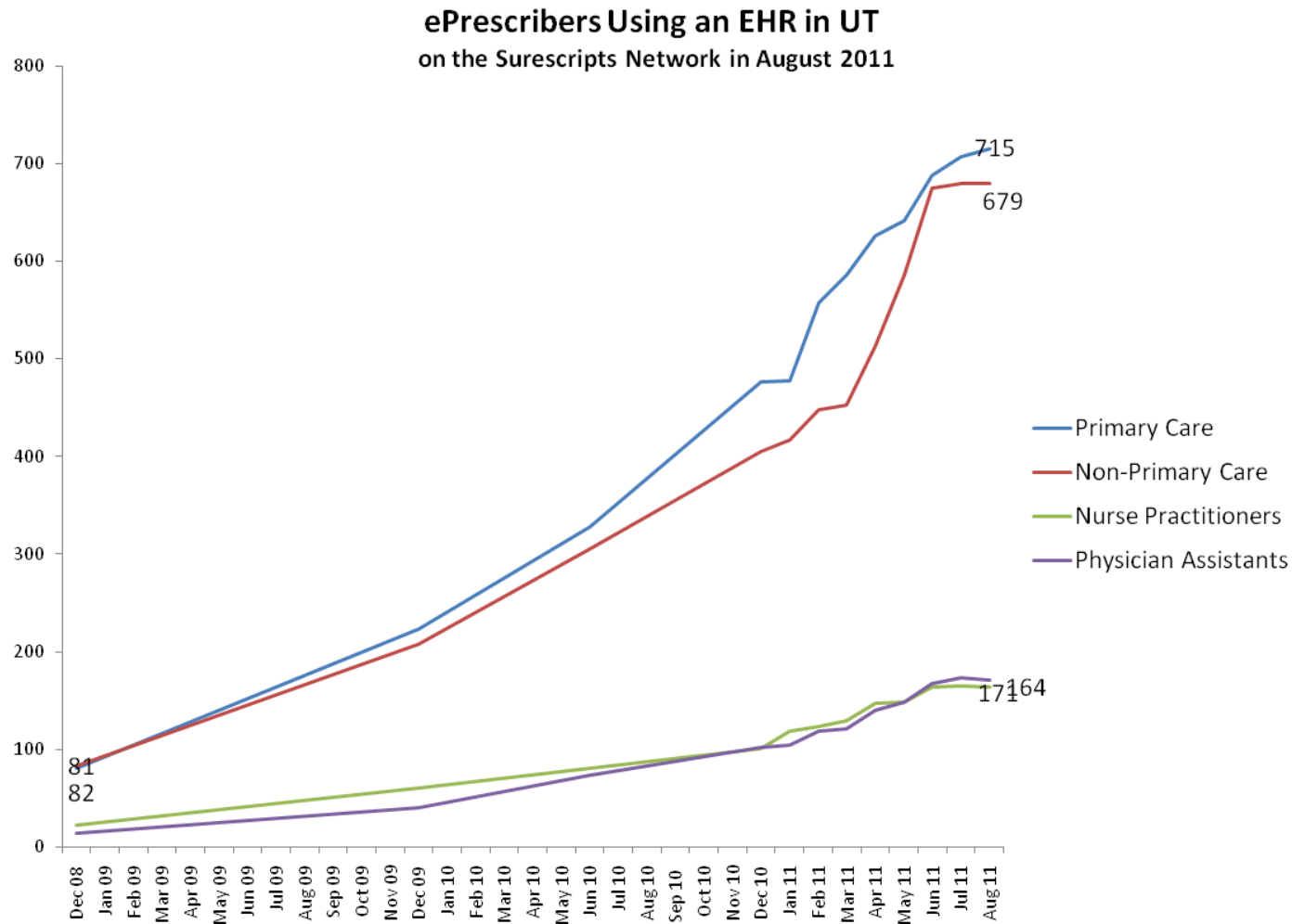
Percent of Office-Based Physicians e-Prescribing Using an EHR on the Surescripts Network August 2011



On August 31, 2011, **22.6%** of office-based physicians in Utah sent an electronic prescription on the Surescripts network using an EHR. Nationwide, **37.6%** of office-based physicians e-prescribed through an EHR on the Surescripts network.

*Note: denominator of office-based physicians from SK&A data.

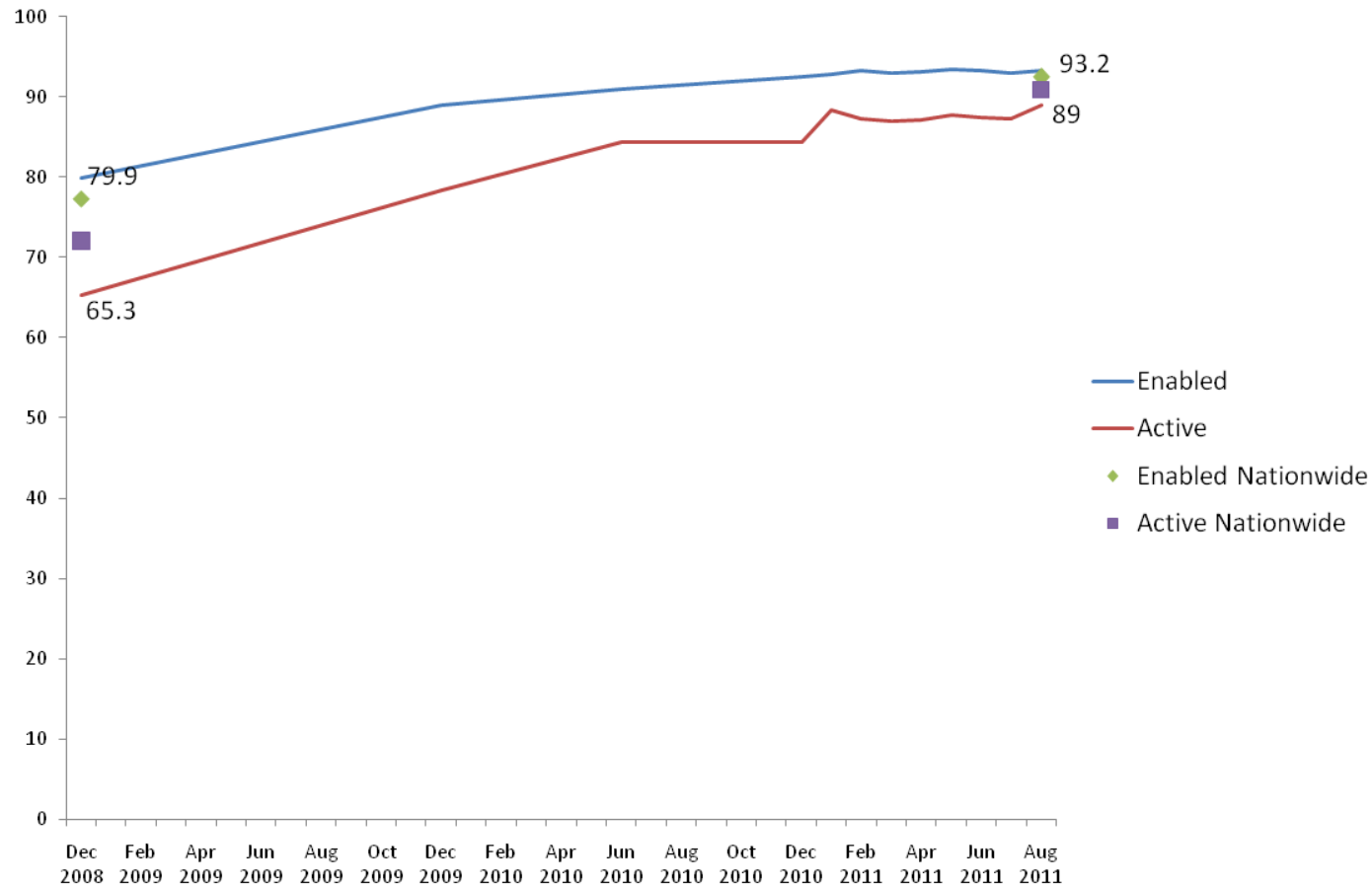
Nationwide, e-prescribing has increased among prescribers in primary care and non-primary care specialties, and among nurse practitioners and physician assistants.



*Note: Primary care includes all providers self-identifying as self-reporting as a general practitioner, family practitioner, pediatrician, or obstetrician gynecologist. Nurse practitioners and physician assistants may also be included in primary care and non-primary care specialties, depending on their self-reporting.

Nationwide, **92.4%** of retail community pharmacies are connected to the Surescripts network and able to e-prescribe (enabled) as of August 31, 2011. **90.0%** of retail community pharmacies nationwide processed an electronic prescription in August 2011 (active).

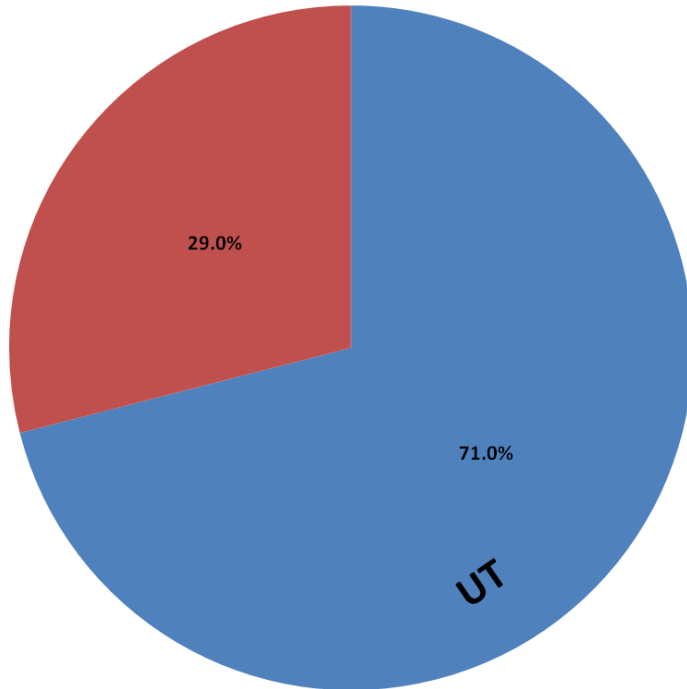
Percent of Retail Community Pharmacies Enabled to e-Prescribe and Actively e-Prescribing on the Surescripts Network in UT



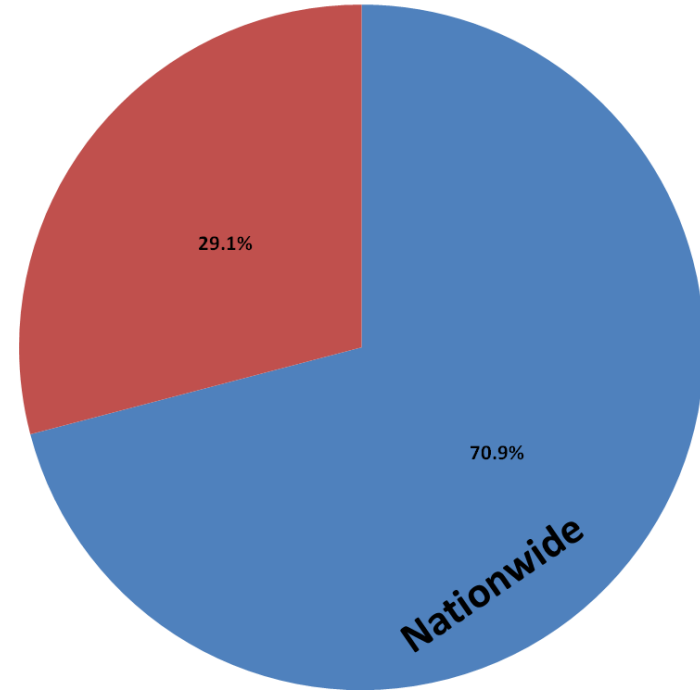
*Note: Denominator of pharmacies is provided to Surescripts by the National Council for Prescription Drug Programs and includes all pharmacies self-reporting a pharmacy class of "chain," "franchise," or "independent," and a dispenser type of "retail," "HMO pharmacy," "mail order," "clinic pharmacy," "specialty pharmacy," or "unknown."

Tracking e-prescribers who send more than 20 e-prescriptions in a month is a useful way to gauge how e-prescribers are using the Surescripts network. In the future, we would hope to see a larger and larger proportion of e-prescribers sending 20 or more e-prescriptions a month:

e-Prescribers using an EHR by Volume of e-Prescriptions in UT
on the Surescripts Network August 2011



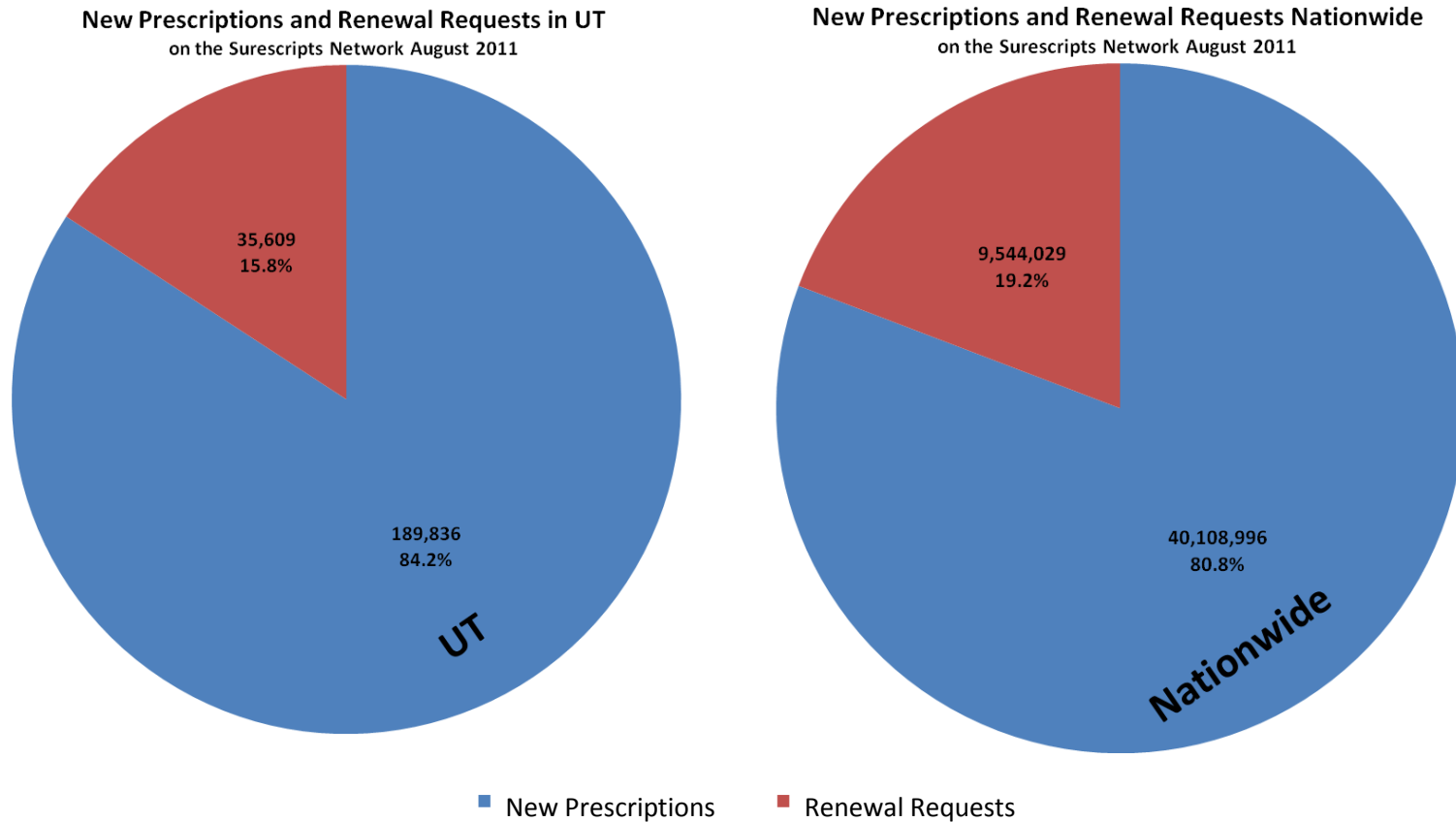
e-Prescribers using an EHR by Volume of e-Prescriptions Nationwide
on the Surescripts Network August 2011



■ e-Prescribers sending 20 or more e-prescriptions in August 2011

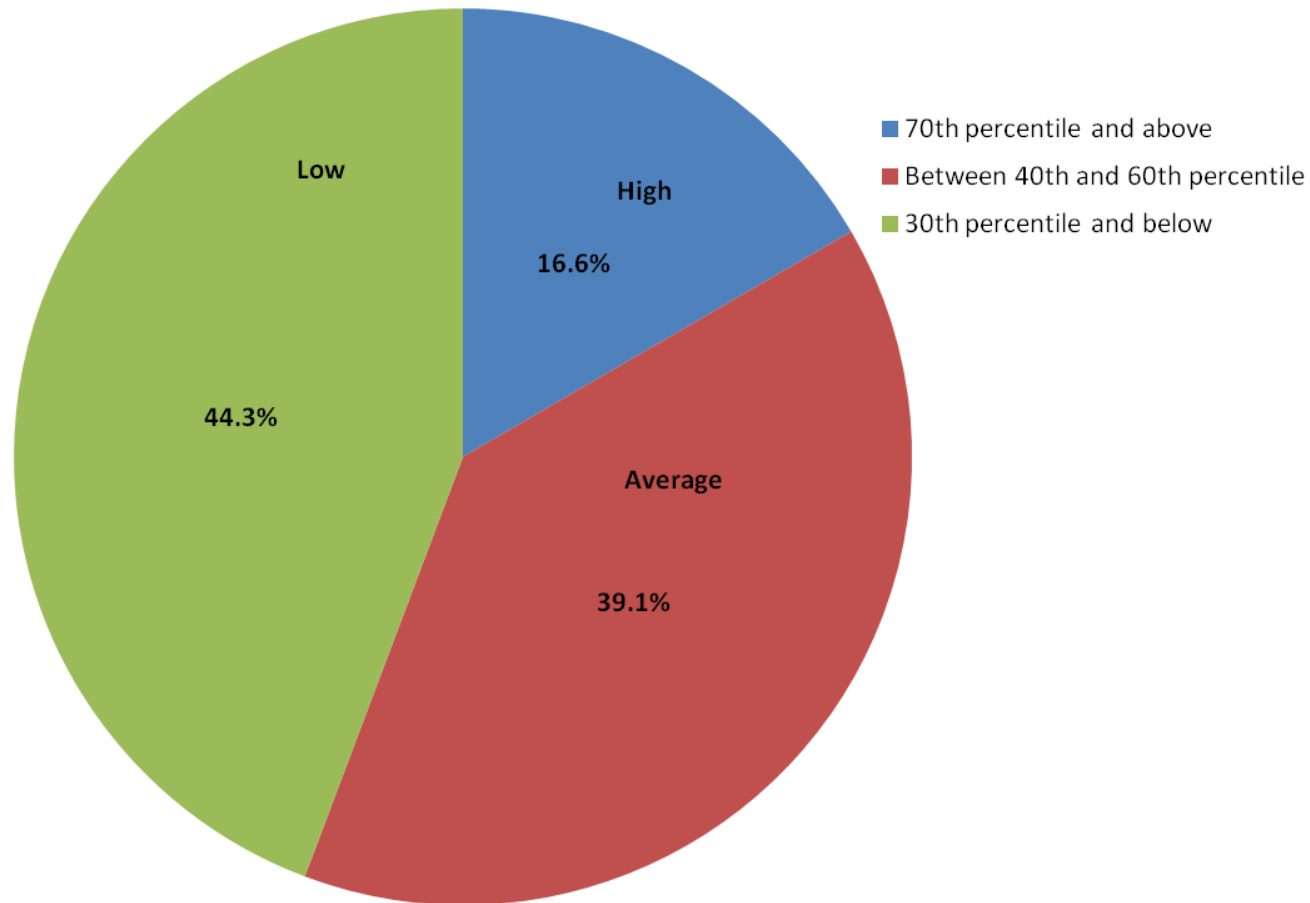
■ e-Prescribers sending fewer than 20 e-prescriptions in August 2011

Tracking the distribution of new prescriptions and renewal requests on the Surescripts network is a useful way to assess the robustness of health information exchange. Renewal requests are more complicated than new prescriptions because in order to complete a renewal a pharmacist must identify and locate the original prescriber (who may have moved since the first prescription) and obtain the renewed prescription. Unlike new prescriptions, renewal requests are a "two-way" communication between pharmacist and prescriber.



Finally, ranking pharmacies nationwide by the number of e-prescriptions they process in a month (see appendix) allows us to understand how pharmacies in Utah compare nationwide. The following shows the distribution of high-volume (70th percentile and above), average-volume (between 40th and 60th percentile), and low-volume (30th percentile and below) pharmacies in terms of the number of e-prescriptions processed:

Pharmacies by Volume of e-Prescriptions in UT
Compared to National Percentiles on the Surescripts Network, August 2011



Appendix: Summary of Nationwide Percentiles/Deciles in August 2011:

Percentile/ Decile	Average e-Prescriptions August 2011	Range of e-prescriptions August 2011
90 th /1	2,976	1,740-13,769
80 th /2	1,453	1,227-1,739
70 th /3	1,062	921-1,227
60 th /4	802	696-921
50 th /5	603	516-696
40 th /6	438	364-516
30 th /7	295	228-364
20 th /8	162	94-228
10 th /9	33	0-94
Bottom/10	0	0-0