

Table 1

## Benefits and Barriers to the Adoption of E-prescribing

Author and Year	Study Design	Result
McMullin, Lonergan, and Rynearson (2005)	Follow-up analysis with two database queries to identify additional prescription claims data for all Network Health Plan patients included in the authors' original six-month study.	Found a 17.5 percent decrease in prescriptions for high-cost drugs among the intervention group compared to the control group, which resulted in a savings of \$109,897 on new prescriptions in 12 months.
Weingart et al. (2009)	Study of 279,476 alerted prescriptions from Massachusetts ambulatory care clinicians using a single e-prescribing system to estimate the likelihood and severity of an ADE with each alert.	Each hospitalization due to an ADE costs about \$9,000; each emergency room visit, \$427; and each visit to the doctor's office, \$111. An annual estimated savings of \$402,619 was found on the basis of these numbers.
Devine et al. (2010)	A direct observation and time-motion study conducted in three community-based primary care clinics to evaluate the impact of e-prescribing on prescriber efficiency.	Prescribers spent more time on the computer. On average, prescribers spent an extra 6 minutes per day, or 20 seconds per patient for prescribers seeing 20 patients per day.
Kaushal et al. (2010)	Nonrandom prospective study of 15 providers who adopted e-prescribing compared with 15 providers who still used paper prescriptions to monitor prescribing error rates.	Prescribing error rates decreased from 42.5 per 100 prescriptions to 6.6 per 100 prescriptions in one year, nearly a seventh of the previous level, after the adoption of e-prescribing.
Abramson et al. (2011)	Prospective case study of 17 physicians in an academic-affiliated ambulatory clinic with an enhanced clinical decision support e-prescribing system to observe prescribing errors.	Prescribing error rates decreased from 35.7 per 100 prescriptions to 12.2 per 100 prescriptions after one year of e-prescribing.
Kannry (2011)	Literature review of e-prescribing with MDS to determine where MDS enhances patient safety.	Found little evidence that e-prescribing with a MDS program is more beneficial to patient safety and reduction of medication errors than when e-prescribing is part of a stand-alone system.
Surescripts (2012)	Reviewers analyzed de-identified data sets from 40 million prescription records that compared medication adherence in patients with e-prescriptions vs. paper, phoned-in, and faxed prescriptions.	\$140 billion to \$240 billion in estimated savings and improved patient health outcomes, mainly through improved medication adherence, over ten years. Increase of 10 percent in prescriptions picked up when e-prescribed compared to written prescriptions.
Health Resources and Services Administration (2013)	Case study that examined the implementation and costs of an e-prescribing system in a 10-FTE practice of psychiatrists in a nonprofit public mental health agency.	Found a cost of \$42,332 to implement an e-prescribing system, with annual costs after implementation of about \$14,725 per year.
Jariwala et al. (2013)	Internet survey administered to a national convenience sample of physicians to observe e-prescribing implementation.	Reasons to stop using e-prescribing software included hardware problems (12.4 percent), workflow issues (27.9 percent), software problems (34.0 percent), and other problems (25.5 percent), such as time consumption and connection issues.