Factors Affecting Adoption of e-Prescribing in High-Need Settings: Solo Practices and Safety Net Clinics Serving Urban Medicaid Patients

Accreditation of Medi-Cal, Healthy Kids and Healthy Families Program.

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Topic: Quality Improvement -- Electronic Medical Records and e-Prescriptions

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Clare Tian, MPPM,[1]*
Philip W. Banks, Pharm.D.[2]*
S. Rae Starr, M.Phil, M.OrgBehav.[3]
Qiaowu (Zoe) Li, M.S.[1]*

1 **Kaiser Permanente**
2 **Porter Ranch Pharmacy**
3 **L.A. Care Health Plan**

•*Affiliated with L.A. Care Health Plan during the study.*

L.A. Care HEALTH PLAN

Presenter Disclosures

S. Rae Starr

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

I am employed as a Senior Biostatistician at L.A. Care Health Plan – the Local Initiative Health Authority of Los Angeles County, California.

L.A. Care is a public entity competing with commercial insurers in the Medicaid and S-CHIP markets in L.A. County.

Outline

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II. Background on L.A. Care Health Plan
III. Goals and Potential Benefits of e-Prescribing
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I. Learning Objectives

1. Describe provider assessments about the impact of e-prescribing on patient safety, provider efficiency, and provider satisfaction with the prescribing process.
2. Describe weaknesses in conventional wisdom on recruiting doctors as early adopters or physician champions.
3. Identify implementation barriers that reduce provider participation in e-prescribing.
4. Identify factors that improve providers' likelihood to continue e-prescribing.

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II. Background – L.A. Care Health Plan

Large, diverse membership in Los Angeles, California:

- Mostly Medicaid, urban, 2/3rd pediatric, often Spanish-speaking.
- Roughly 21% of Medicaid managed care population in California.
- Roughly 2.1% of Medicaid managed care population in the U.S.
- Roughly 1-in-14 L.A. County residents is an L.A. Care member.
- Mostly Medicaid, some S-CHIP, SNP, and special programs.
- Serves 10 distinct language concentrations ("threshold languages"): Spanish, English, Armenian, Korean, Cambodian, Chinese, Russian, Vietnamese, Farsi, Tagalog.
- Mostly urban and suburban; 1 semi-rural region in the high desert.

III. Goals and Potential Benefits of e-Prescribing

"**E-Prescribing** - a prescriber's ability to electronically send an accurate, error-free and understandable prescription directly to a pharmacy from the point-of-care -- is an important element in improving the quality of patient care."†

Goals: Determine the feasibility, benefits and barriers to e-prescribing in a cohort of Medicaid providers in L.A. County, California.

Benefits sought in launching e-prescribing:

- Improve *patient safety* (reduce prescribing errors, avoid drug interactions, errors due to illegible handwritten prescriptions).
- Improve *health outcomes* (better quality, more face time with patient).
- Improve *efficiency*: Save time for doctors, pharmacists and patients.
- *Reduce costs* as Medicaid population expands.

Additional goals of this study:

- Recruit providers serving low-income residents (settings often bypassed in early stages of technological change).
- Learn how to *identify and recruit early adopters of new technology.*
- *Identify and remove barriers* that thwart adoption of new technology.

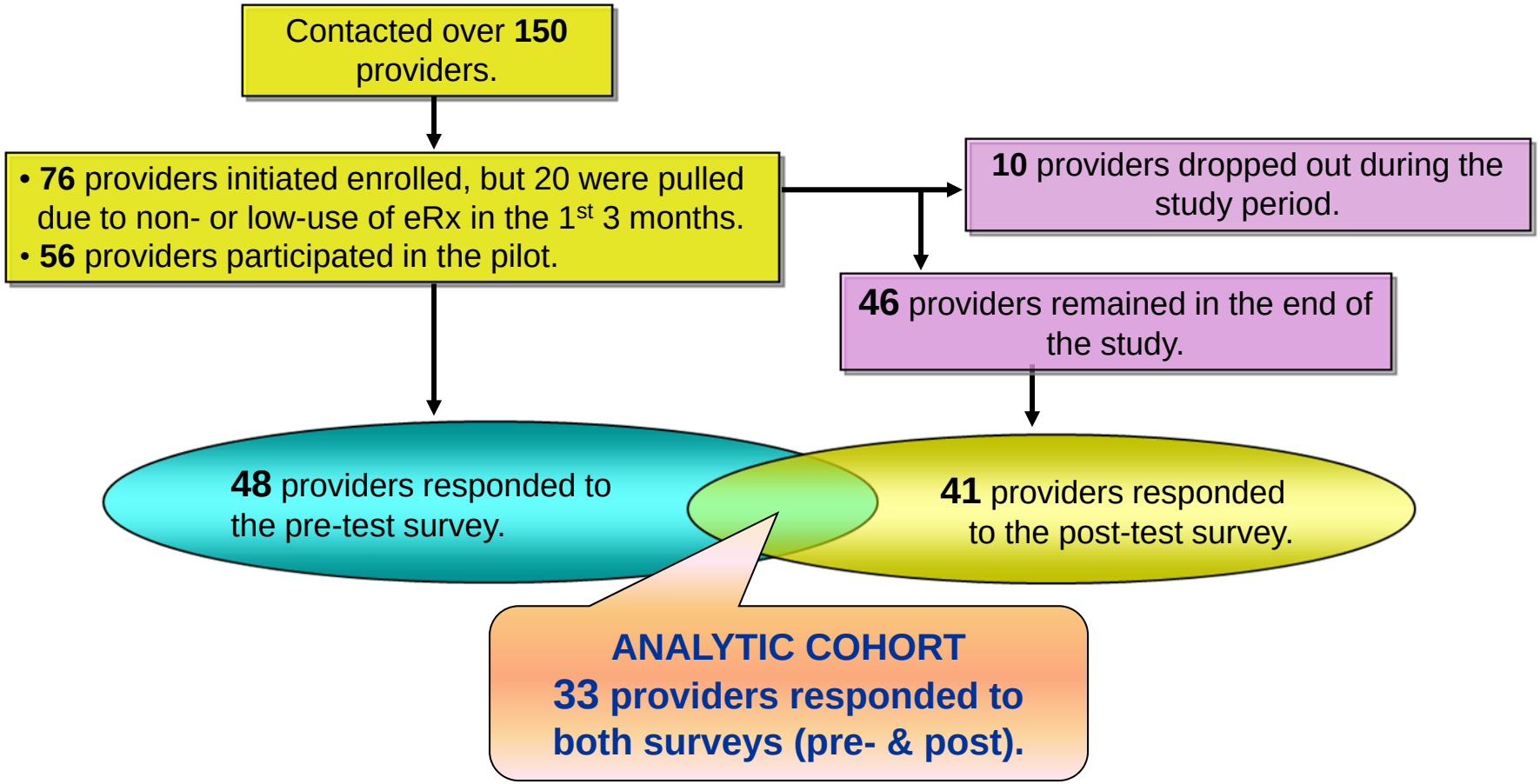
† Source: https://www.cms.gov/eprescribing/

IV. Design and Methodology

- Convenience sample of 56 providers in 10 facilities:
  - 2 safety net clinics (39 providers):
    - Site A (26 providers) -- south Los Angeles County;
    - Site B (13 providers) -- southwest Los Angeles County;
  - 8 small/solo practices (17 providers);
  - e-Prescribers included physicians, physician assistants, nurse practitioners;
  - 33 providers remained in the cohort from pretest to post-test.
- Evaluation method – within-subject Pre/Post comparisons using 3 data sources:
  - Surveys of e-prescribers on perceptions regarding e-prescribing;
  - Pharmacy claims data;
  - e-Rx utilization (clickstream) data, from a baseline of zero.
- Definition of "Adopter" for the evaluation:
  - Prescribers who wrote 500+ prescriptions in the 12-month study – (some wrote many more);
  - 500+ prescriptions is close to cohort's 12-month median;
  - Deliberately liberal definition:
    - Population is pediatric, hence low utilizers of prescriptions.
    - Study had no access to data on doctors' non-L.A. Care patient panels.

Cohort Disposition

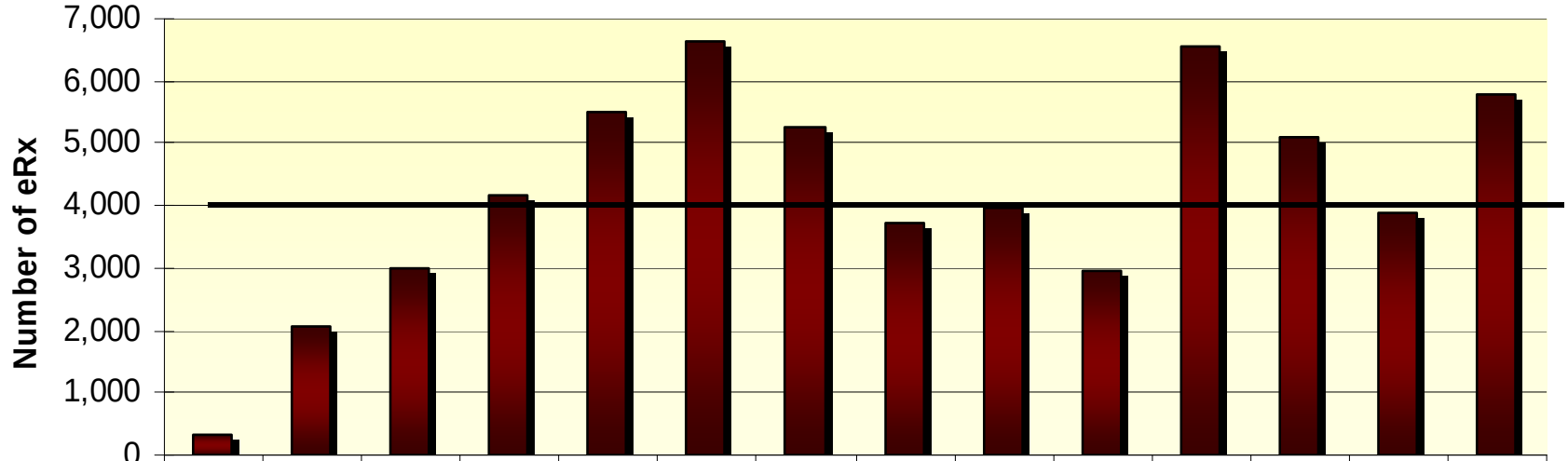
- High attrition illustrates the challenge in finding actual Early Adopters.



V. Analysis and Findings: e-Prescribing Utilization

- After 3-month start up, e-Rx maintained a minimum threshold of 4,000.
- Averaging 4 e-Rx per workday. (Suggests adoption was selective.)
- A few Adopters wrote a disproportionate share of these prescriptions.

Number of Monthly E-prescriptions Among 56 Phase I Providers

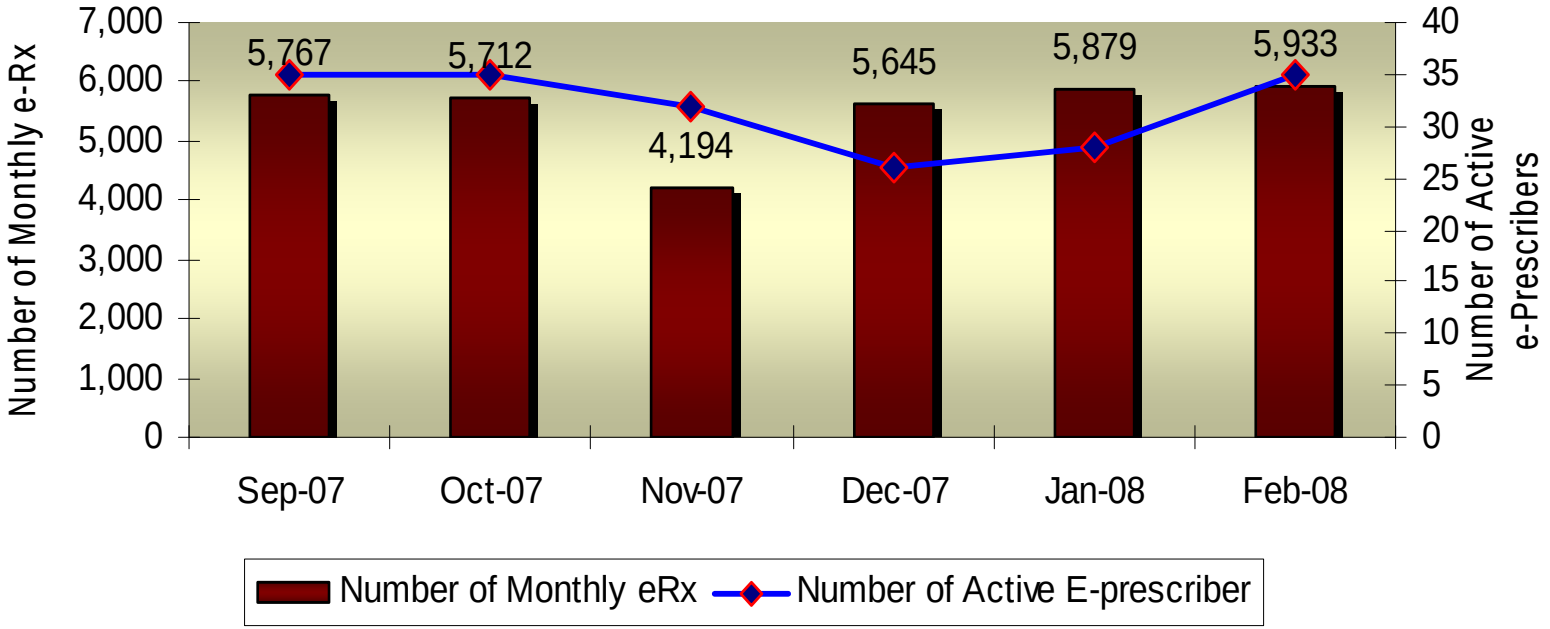


	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07
Total eRx/month	312	2,073	2,984	4,159	5,504	6,637	5,241	3,735	3,957	2,941	6,562	5,115	3,868	5,767

- Decline in March/April/May 2007 coincides with a clinic relocation.
- N=56 providers. The analysis focused on n=33: those who completed pre/post-test survey.

Follow-Up to See if e-Prescribing Adoption Persisted

- **09/2007: The project renewed e-Rx licenses for e-prescribers (n=40) who met renewal criteria.**
- ***Utilization continued after the project ended active promotion.***



- Average active user rate was 80%.
- Monthly e-Rx volume remained fairly consistent. (The drop in 11/2007 is unexplained, but may reflect latency in vendor's data capture and reporting during the holiday period.)
- Decline in participants in 12/2007 and 01/2008 coincides with an intranet problem at one of the two large clinics.

Results of Surveys and Pharmacy Data

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Patient Safety

- 91% of providers believed e-Rx reduced pharmacy calls about illegible handwriting.
- Prescribers recalled that the PDA alerted them to potential drug-to-drug interactions.
- Pre/post comparison: adverse drug events (ADEs) dropped 53 to 39.

Factors Affecting Prescribing Process

- Significantly reduced minutes spent on pharmacy calls:
  - Handwriting clarifications (-3 min., p=0.0104);
  - Dosing changes (-1.83 min., p=0.0162).
- 67% believed the e-Rx renewal feature saved provider and staff time.
- But e-Rx *increased* time spent on pharmacy calls to the health plan for formulary clarification and prior authorizations.

Savings to Payers and Members

- Increased generic utilization rate from 65% to 78% (p=0.013, n=20).
- Use of generics was a side benefit, not stressed in e-Rx tools or training:
  - Drugs on formulary appeared in a different color on the PDA.
  - Prescribers tend to prescribe familiar medications from habit.
  - The PDA may have provide doctors a convenient means to do generic drug lookups that were not occurring prior to e-Prescribing.

Increased generic utilization rate from 65% to 78% (p=0.013, n=20)

- *Importance: Medicaid patients sometimes report in CAHPS survey that they pay out-of-pocket if the prescription is not on formulary.*

Barriers Identified by Providers

(Post-test Survey n=41)

Technical Barriers

- 73% of providers reported problems with connections.
- 68% reported trouble with their own office's Internet connection.
- 68% reported problems with printing their prescriptions.
- 44% reported the PDA has technical problems.
- 24% reported the PDA screen was difficult to read.

Provider Workflow & Commitment Issue

- 66% said they were too busy to e-Prescribe.
- 32% said the e-Rx software takes too much of providers' time.

Institutional Support Barriers

- 61% reported patient info not downloading from the repository.
- 44% said pharmacies didn't reliably receive/process the e-Rx.

Training

- 32% reported the e-Rx training did not cover the problems they encountered.

VI. Lessons Learned

Several lessons emerged from the study:

1. Infrastructure needs to be largely intact/working before widespread recruiting of physicians.
2. Test drive the system on a small scale:

   "Make your mistakes early, small, and cheap."
3. The provider recruitment process still needs an accurate profile for identifying potential early adopters.
4. *Critical mass:* To provide efficiencies for the prescribers and the pharmacies, it is best if the health plans in a given market cooperate in providing comprehensive and updated formularies. Doctors likely acquire skills and habits better when the tools apply to more patients rather than few in the panel.
5. Pharmacy buy-in and participation.
6. Importance of supportive management at clinics.
7. Need modern office management software systems.

VII. Learning Objectives – Recap

1. Describe provider assessments about the impact of e-prescribing on patient safety, provider efficiency, and provider satisfaction with the prescribing process.
   - Providers perceived benefits to safety and efficiency.
   - Some gains were observed in time efficiency, but not large.
   - Providers reported fewer calls from pharmacies to clarify handwriting.
2. Describe weaknesses in conventional wisdom on recruiting doctors as early adopters or physician champions.
   - Found no reliable predictors of successful e-Rx adoption.
   - Small/solo practices were as responsive as doctors at large clinics.
   - But solo clinics have the hardest challenge (fewer resources, I.T. support).
3. Identify implementation barriers that reduce provider participation in e-prescribing.
   - Gaps in data: member eligibility, formularies. Also connectivity problems.
   - Non-cooperation at pharmacies: Focused on doctors – needed pharmacy buy-in.
4. Identify factors that improve providers' likelihood to continue e-prescribing.
   - *Give pharmacies a stake in covering the additional work and costs from e-Rx.*
   - Perform timely data uploads to repositories.
   - Partner with other insurers so that most of a doctor's patients can be e-prescribed.
   - Ensure that the doctor's first experiences with e-prescribing will be successful.

Aftermath / Actionability

- After the study concluded in 2007, analysis continued into 2008, but the lessons remained in institutional memory.
- After passage of the HITECH Act of 2009, L.A. Care was selected to administer the program in Los Angeles County to promote Health Information Technology (HIT) adoption in clinics.
- Health Information Technology adoption is also part of a Pay-For-Performance (P4P) incentive program that the health plan is offering to contracted medical groups in 2011+.

Contact Information

S. Rae Starr, M.Phil, M.OrgBehav, Senior Biostatistician
Healthcare Outcomes & Analysis, L.A. Care Health Plan
RStarr@LACare.org, rae_starr@hotmail.com, 213-694-1250 x-4190

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Related presentation:

Loosening CAHPS on Prescriptions: Surveying How Patients in a Large Urban Medicaid Health Plan Rate the Quality of Pharmacist Instructions, 2006-2011, APHA 11/01/2011, Session: 4137.0 Pharmacists' Role in Health Education and Health Promotion.

Online exchange on analytics and quality improvement:

http://groups.yahoo.com/group/member_satisfaction
member_satisfaction-subscribe@yahoogroups.com