An Overview of RAND’s Research on Retail Clinics

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What motivated our research?
Many See Great Promise in Retail Clinics

• Potential benefits of retail clinics
  – Improve access for all patients
  – Safety net provider for the underserved
  – Decrease non-urgent ED visits
Concern From Physician Organizations

- AAP “strongly discourages their use” by children and adolescents
- AMA tried to prevent retail clinics from opening in several states
Potential Concerns Raised

1. Disrupt primary care relationships
2. Decrease delivery of preventive care
3. Inaccurate diagnosis
4. Inappropriate triage
5. Lead to over-prescribing of antibiotics
6. Increase costs via unnecessary follow-up appointments
RAND Research

• What communities are served by retail clinics?
• Who goes to retail clinics and for what reason?
• Why do people choose a retail clinic?
• Is there a difference in costs, quality of care, and delivery of preventive care?
• What are the potential cost savings if retail clinics became widespread?
Research on Geographic Distribution

- Craig Pollack go into depth in another session
- Most (88%) retail clinics are located in major metropolitan areas
- One third of the US urban population can easily access a clinic
- More likely to be located in regions with lower poverty rates and higher median incomes

Rudavsky, Pollack, Mehrotra, Annals of Int Med, 8/09
Pollack, Armstrong, Achives of Int Med, 5/09
Rudavsky, Mehrotra, JABFM, 1/10
## Comparison of RC, PCP, ED Visits

<table>
<thead>
<tr>
<th>Retail Clinic</th>
<th>PCP</th>
<th>ED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invited all retail clinic operators to participate</td>
<td>NAMCS survey</td>
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</tr>
<tr>
<td>Provided de-id visit data</td>
<td>Nationally representative</td>
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</tr>
<tr>
<td>All patients they had seen to date</td>
<td>2002-2004</td>
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</tr>
<tr>
<td>Not all companies collected all data</td>
<td>FP, IM, and Peds</td>
<td>113 million visits</td>
</tr>
<tr>
<td>1.4 million visits</td>
<td>483 million visits</td>
<td></td>
</tr>
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- **PCP**
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  - Nationally representative
  - 2002-2004
  - FP, IM, and Peds
  - 483 million visits

- **ED**
  - NHAMCS survey
  - Nationally representative
  - 2002-2004
  - 113 million visits
As of July 2007, Sample Included 74% of All Clinics

<table>
<thead>
<tr>
<th>Retail Clinic Company</th>
<th>Clinics as of July 1, 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>SmartCare</td>
<td>15</td>
</tr>
<tr>
<td>Lindora Health Clinics</td>
<td>1</td>
</tr>
<tr>
<td>Sutter Express</td>
<td>6</td>
</tr>
<tr>
<td>MedPoint Express</td>
<td>8</td>
</tr>
<tr>
<td>MinuteClinic</td>
<td>196</td>
</tr>
<tr>
<td>Redi-Clinic</td>
<td>47</td>
</tr>
<tr>
<td>Take-Care Health Clinics</td>
<td>50</td>
</tr>
<tr>
<td>WellnessExpress Clinic</td>
<td>3</td>
</tr>
</tbody>
</table>

Mehrotra et al., Health Affairs, 8/08
Age Distribution of Patients

Mehrotra et al., Health Affairs, 8/08
Insurance Status and Relationship with PCP

Mehrotra et al., Health Affairs, 8/08
### Most Common Reasons Patients Visit Retail Clinics

<table>
<thead>
<tr>
<th>Reason</th>
<th>% of Retail Clinic Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper respiratory infection, sinusitis, or bronchitis</td>
<td>27</td>
</tr>
<tr>
<td>Pharyngitis</td>
<td>21</td>
</tr>
<tr>
<td>Immunizations</td>
<td>20</td>
</tr>
<tr>
<td>Otitis media or otitis externa</td>
<td>13</td>
</tr>
<tr>
<td>Conjunctivitis</td>
<td>5</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>4</td>
</tr>
<tr>
<td>Screening lab test or blood pressure check</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total, ten most common reasons for visits to retail clinics</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

National RC Summit 12  3/2/10
100 Million Visits Could be Seen at a Retail Clinic

Top 10 Reasons for Retail Clinic Visits

- Retail Clinic
- PCP
- ED
## Top Reasons Influencing Patients’ Decision

<table>
<thead>
<tr>
<th>Reason</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short travel distance</td>
<td>“the closest urgent care clinic was... about an hour drive from where I am.”</td>
</tr>
<tr>
<td>Little or no wait</td>
<td>“Because we always work double shifts, we don’t have time [to see a doctor]...”</td>
</tr>
<tr>
<td></td>
<td>“It’s really convenient. I’m in and out, I get the results.”</td>
</tr>
<tr>
<td>Low cost and transparent pricing</td>
<td>“[going to a doctor] don’t have medical insurance, is quite expensive.”</td>
</tr>
<tr>
<td></td>
<td>“I could take him [referring to child] to a doctor but I would not know how much things would cost. But here the cost is upfront.”</td>
</tr>
<tr>
<td></td>
<td>“… [ED] supposedly gave me an injection and they charged me $2,000.”</td>
</tr>
</tbody>
</table>

Wang, McGlynn, Ryan, Mehrotra, Am Jo Med Qual, *In press*
Where Would They Have Gone?

Wait to be seen by PCP

Just wait and see

Visit ED or Urgent Care Clinic

# of Respondents

Insured

Uninsured
Retail Clinic Care Costs and Quality as Compared to Other Medical Settings

- Comparison of care at retail clinics with care in physician offices, urgent care clinics, EDs
  1. Costs of care
  2. Quality of care
  3. Rates of preventive care

Mehrotra et al., Annals of Internal Medicine, 9/09
Analysis of Claims

• 2005-2006 claims data from HealthPartners, large Minnesota health plan
  – State in which retail clinics established
  – Health plan has covered care at retail clinics for 5 years

• Focus on three conditions
  – Otitis media, pharyngitis, and UTI
Case-Control Study Design

- Sampled 700 retail clinic visits for each of the three conditions (total 2100)
- Matched to similar physician office, urgent care, and ER visits
  - Matching based on condition, age, gender, co-morbidities, and income level of census tract
Measuring Costs

• Aggregated all care for a condition into an “episode”

• Includes initial appointment, follow-up appointments, testing, and prescriptions regardless of setting
Measuring Quality

- Used process quality measures based on guidelines
  - RAND QA tools
  - AAP/AAFP guidelines on otitis media
  - IDSA guidelines on pharyngitis
Measuring Preventive Care

- Assessed whether patients received preventive care services on the day of the first visit and subsequent 3 months anywhere
  1. Preventive health examination
  2. Preventive vaccination
  3. Pap smear
  4. Mammogram
  5. Colon cancer screening
  6. Cholesterol or lipid testing
Comparison of Overall Costs for Episode

* p<0.05 in comparison between retail clinics and other setting
Antibiotic Prescribing Rates

Antibiotic Prescribed for Otitis Media
- Retail Clinic
- MD Office
- Urgent Care
- ED

Antibiotic Prescribed for Pharyngitis
- Retail Clinic
- MD Office
- Urgent Care
- ED
Fraction of Patients with One or More Follow-up Appointments

**Otitis Media**
- Retail Clinic: 20%
- MD Office: 15%
- Urgent Care: 12%
- ED: 25%

**Pharyngitis**
- Retail Clinic: 10%
- MD Office: 10%
- Urgent Care: 15%
- ED: 20%

**Urinary Tract Infection**
- Retail Clinic: 15%
- MD Office: 10%
- Urgent Care: 20%
- ED: 25%

* indicates a statistically significant difference.
Composite Quality Scores

- Otitis Media
- Pharyngitis
- Urinary Tract Infection

Comparison between Retail Clinic, MD Office, Urgent Care, and ED.
Specific Quality Metrics

- Antibiotics prescribed less than 7 days for Uncomplicated UTI
- Rapid strep or culture used to diagnose Strep Pharyngitis

- Retail Clinic
- MD Office
- Urgent Care
- ED

* indicates significance.
Specific Quality Metrics

- Amox/Aug used for OM
- Culture for high-risk pts with UTI

Legend:
- Retail Clinic
- MD Office
- Urgent Care
- ED

Graph notes:
- Specific quality metrics
- Amox/Aug used for OM and Culture for high-risk pts with UTI
Receipt of Preventive Care Services in Subsequent 3 Months

- **Any Preventive Service**
  - Retail Clinic
  - MD Office
  - Urgent Care
  - Urgent Care
  - Emergency Department

- **Vaccine**
  - Retail Clinic
  - MD Office
  - Urgent Care
  - Emergency Department

- **Preventive Exam**
  - Retail Clinic
  - MD Office
  - Urgent Care
  - Emergency Department

* denotes statistical significance.
Modeling Future Cost Savings

• Potential savings if retail clinics become wide spread
  • IOM Thygeson
    – $2.0 to 7.5 billion per year
  • RAND
    – $0 to 4.0 billion per year
    – 0-0.6% of health care spending

IOM report, 2009
Hussey, NEJM, 2009
Findings Consistent with Other Research

- Patient satisfaction very high\(^1\)
- Cost savings found\(^2\)
- Quality
  - Follow-up visit rates lower\(^3\)
  - Care concordant with guidelines\(^4\)
  - Minnesota HealthScores

1 Harris Interactive
2 Thygeson, Health Affairs, 2007
3 Rohrer, Qual Manag Health Care, 2008
4 Woodburn, AJMQ, 2007
## Summary of Our Research

<table>
<thead>
<tr>
<th>Concerns Raised</th>
<th>Our Findings</th>
</tr>
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<tbody>
<tr>
<td>Disrupt primary care relationships</td>
<td>Possible, but we note almost 2/3 report no PCP</td>
</tr>
<tr>
<td>Decreased delivery of preventive care</td>
<td>Limited metrics, but no evidence</td>
</tr>
<tr>
<td>Inadequate quality of care</td>
<td>Among limited metrics, no evidence</td>
</tr>
<tr>
<td>Inaccurate diagnoses</td>
<td>No increase in follow-up visits</td>
</tr>
<tr>
<td>Over-prescribing of antibiotics</td>
<td>Comparable rates of antibiotic prescriptions</td>
</tr>
<tr>
<td>Increased costs due to unnecessary follow-up</td>
<td>Aggregate costs 30-40% lower</td>
</tr>
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</table>
Many Unanswered Questions on Impact of RC

• Non-emergent ED utilization
• Coordination of care and patient-MD relationships
• Overall utilization and costs
Acknowledgments

• Colleagues
  – Judy Lave
  – Beth McGlynn
  – John Adams
  – Rena Rudavsky
  – Hangsheng Liu
  – Julie Lai
  – Chrissy Eibner
  – Robin Weinick
  – Rachel Burns
  – Maggie Wang
  – Craig Pollack

• Funders: California HealthCare Foundation, National Institutes of Health
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<tr>
<th><strong>Otitis Media</strong></th>
<th>Duration of therapy should be for 10 days</th>
<th>2-5 yo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Follow-up within 8 weeks</td>
<td>2-12 yo</td>
</tr>
<tr>
<td></td>
<td>Fraction of patients with acute otitis media receive antibiotics at first appointment?</td>
<td>2-12 yo</td>
</tr>
<tr>
<td></td>
<td>What fraction of antibiotics prescribed are for amoxicillin?</td>
<td>2-12 yo</td>
</tr>
<tr>
<td></td>
<td>If no antibiotics prescribed, how many are seen in 48-72 hours after first appointment?</td>
<td>2-12 yo</td>
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<thead>
<tr>
<th><strong>Pharyngitis</strong></th>
<th>In diagnosis of Strep pharyngitis, a culture or rapid strep should be obtained</th>
<th>&lt; 18 yo</th>
</tr>
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<tr>
<td></td>
<td>In diagnosis of Strep pharyngitis, % of visits where culture or rapid strep obtained</td>
<td>&gt; 18 yo</td>
</tr>
<tr>
<td></td>
<td>In treatment of Strep recommended antibiotics should be used</td>
<td>All patients</td>
</tr>
<tr>
<td></td>
<td>In treatment of Strep tetracycline or bactrim were not prescribed</td>
<td>All patients</td>
</tr>
<tr>
<td></td>
<td>In treatment of Strep duration of therapy should be at least 10 days</td>
<td>All patients</td>
</tr>
<tr>
<td></td>
<td>In all visits for sore throat what % had antibiotics prescribed</td>
<td>All patients</td>
</tr>
</tbody>
</table>

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<tr>
<th><strong>Urinary Tract Infection</strong></th>
<th>Urine culture obtained for high risk patients: 1) 3 or more UTI infections in past year, 2) diabetes, 3) immunocompromised state, 4) any structural or functional anomalies of urinary tract, 5) relapse of symptoms 6) a recent invasive procedure</th>
<th>&gt; 18 yo</th>
</tr>
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<tr>
<td></td>
<td>Treatment with antimicrobials for uncomplicated lower tract infections in women under age 65 should not exceed 7 days</td>
<td>&gt; 18 yo</td>
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<td></td>
<td>Regimens of at least 7 days should be used for patients with complicated lower tract infections: that is, those with: diabetes or structural anomaly of urinary tract</td>
<td>&gt; 18 yo</td>
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