The Pediatric Medical Home: Can it survive retail clinics, pediatric urgent care centers, the “uber-fication” of pediatric home visits, and telemedicine virtual offices?

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At the end of this presentation the participant will be able to:
1. Understand why retail clinics, urgent care, and doctor home visits are expanding.
2. Understand how mobile health technologies will impact practice.
3. Understand ways to make the pediatric medical home more sustainable.

Retail Clinics

- What socio-demographic factors influence using RCs?
- Why do families use RCs?
- When do families go to RCs?
- What kinds of pediatric problems are cared for in RCs?
- Are families satisfied with RC care and would they return for services?
- To what extent will families shift care from traditional pediatric office practice to retail clinics?
- How many RCs will there be in the next decade?

Parents’ Experiences With Pediatric Care at Retail Clinics

- Surveyed 1484 parents in 19 pediatric practices in Missouri and Illinois
- Full payments by Medicaid
- Health plans 38.5% full coverage and 47.1% partial coverage


What socio-demographic factors influence using RCs?

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>RC Used for Child Health Care (n = 344)</th>
<th>RC Used for Child Health Care (n = 344)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s age, mean (SD), y</td>
<td>37.9 (7.7)</td>
<td>36.6 (7.7)</td>
<td>&lt;.000</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>272 (79.1)</td>
<td>757 (88.4)</td>
<td>&lt;.000</td>
</tr>
<tr>
<td>Hispanic</td>
<td>41 (12.0)</td>
<td>19 (17.8)</td>
<td>.53</td>
</tr>
<tr>
<td>Associate’s degree or higher</td>
<td>245 (71.2)</td>
<td>777 (88.4)</td>
<td>.20</td>
</tr>
<tr>
<td>Does not work outside the home</td>
<td>93 (27.0)</td>
<td>340 (39.8)</td>
<td>.35</td>
</tr>
<tr>
<td>Years lived in St. Louis metropolitan area, mean (SD)</td>
<td>27.5 (14.3)</td>
<td>25.3 (13.4)</td>
<td>.01</td>
</tr>
<tr>
<td>Years with this practice, mean (SD)</td>
<td>7.3 (5.3)</td>
<td>6.7 (4.4)</td>
<td>&lt;.000</td>
</tr>
<tr>
<td>Two parents home</td>
<td>271 (78.0)</td>
<td>500 (73.9)</td>
<td>.95</td>
</tr>
<tr>
<td>Only 1 child at home</td>
<td>44 (12.9)</td>
<td>276 (39.6)</td>
<td>&lt;.000</td>
</tr>
<tr>
<td>Annual household income $40,000-699</td>
<td>196 (57.0)</td>
<td>562 (49.2)</td>
<td>.01</td>
</tr>
<tr>
<td>Medicaid insurance for the child</td>
<td>64 (18.5)</td>
<td>307 (45.8)</td>
<td>.002</td>
</tr>
<tr>
<td>Parent reported RC use for themselves or family</td>
<td>249 (72.0)</td>
<td>386 (38.4)</td>
<td>&lt;.000</td>
</tr>
</tbody>
</table>
What socio-demographic factors influence using RCs?

Table 2. Logistic Regression Analysis Examining Factors That Influence RC Use for Pediatric Care

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent used RC for himself or herself</td>
<td>7.79 (5.13-11.84)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>More than one child</td>
<td>2.16 (1.55-3.02)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Parent age, y</td>
<td>1.05 (1.03-1.08)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>White race</td>
<td>1.38 (0.95-2.02)</td>
<td>.09</td>
</tr>
<tr>
<td>Annual household income ≥$60,000</td>
<td>0.76 (0.53-1.10)</td>
<td>.15</td>
</tr>
<tr>
<td>Medicaid insurance</td>
<td>0.98 (0.57-0.67)</td>
<td>.94</td>
</tr>
</tbody>
</table>

Abbreviation: RC, retail clinic.


 Pediatric Grand Rounds - University of TX Health Science Center at San Antonio

When do families go to RCs?

Table 4. Retail Clinic Visits by Time of Day for Weekday and Weekend Visits

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday-Friday (n = 156)</th>
<th>Saturday/Sunday (n = 143)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 AM to noon</td>
<td>46 (29.5)</td>
<td>55 (38.5)</td>
</tr>
<tr>
<td>Noon to 4 PM</td>
<td>40 (25.6)</td>
<td>56 (39.2)</td>
</tr>
<tr>
<td>4 PM to 6 PM</td>
<td>44 (28.2)</td>
<td>28 (19.6)</td>
</tr>
<tr>
<td>6 PM to 8 PM</td>
<td>26 (16.7)</td>
<td>4 (2.8)</td>
</tr>
</tbody>
</table>

* Six parents who reported retail clinic use on a holiday were excluded.


What kinds of pediatric problems are cared for in RCs?

<table>
<thead>
<tr>
<th>Condition</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ear infection</td>
<td>90 (26.2)</td>
</tr>
<tr>
<td>Colds or flu</td>
<td>66 (19.2)</td>
</tr>
<tr>
<td>Physical</td>
<td>45 (13.3)</td>
</tr>
<tr>
<td>Flu shot</td>
<td>30 (8.7)</td>
</tr>
<tr>
<td>Rash</td>
<td>14 (4.1)</td>
</tr>
<tr>
<td>Allergies</td>
<td>8 (2.3)</td>
</tr>
<tr>
<td>Asthma care</td>
<td>8 (2.3)</td>
</tr>
<tr>
<td>Cut or wound</td>
<td>8 (2.3)</td>
</tr>
<tr>
<td>Pink eye</td>
<td>6 (1.7)</td>
</tr>
<tr>
<td>Other immunizations</td>
<td>4 (1.2)</td>
</tr>
<tr>
<td>Sprain/strain</td>
<td>2 (0.6)</td>
</tr>
</tbody>
</table>


Why do families use RCs?

- More convenient hours 36.6%
- No available appointments in the practice 25.2%
- Didn’t want to bother PCP after hours 15.4%
- Not a serious problem 13.0%

Are families satisfied with RC care and would they return for services?

- Satisfied 61.7%
- Very satisfied 32.8%
- Future use of RC 53.4%
- Possible future use 38.9%
- No desire for future use 7.7%

Table 3. Reasons Parents Did Not Use RCs for Their Children

<table>
<thead>
<tr>
<th>Reason</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefer to see the pediatrician</td>
<td>692 (50.7)</td>
</tr>
<tr>
<td>Concern about the quality of care at RC</td>
<td>212 (18.6)</td>
</tr>
<tr>
<td>Have not needed care for minor illnesses</td>
<td>203 (17.8)</td>
</tr>
<tr>
<td>Did not know RCs provided care for children</td>
<td>115 (10.1)</td>
</tr>
<tr>
<td>Not aware of RCs</td>
<td>110 (9.6)</td>
</tr>
<tr>
<td>No RC close by</td>
<td>37 (3.2)</td>
</tr>
<tr>
<td>Child is too young</td>
<td>23 (2.0)</td>
</tr>
</tbody>
</table>

Abbreviation: RC, retail clinic.

* Percentages sum to more than 100% because parents could select more than one reason from the list of options.
**To what extent will families shift care from traditional pediatric office practice to retail clinics?**

- 47.8% of RC users returned more than once
- Returned 1-2 times: 13.9%
- Returned 3-5 times: 1.3%
- Returned >5 times: 32.6%
- Increasing shift to retail clinics for minor acute illness for children without special needs

**How many RCs will there be?**

- In 2003 there were >6000
- Hospitals, academic centers, and health plans are all signing contracts to open retail clinics
- CVS, Walmart, Walgreens, Rite Aid, grocery stores provide unlimited growth opportunity

**Urgent Care Centers**

- Independent physician owned
- Corporate
- Hospitals (General and Children’s)
- Academic medical centers

**ED/UC use**

Multiple factors associated with pediatric non-urgent ED utilization have been identified, including single parent status, Medicaid insurance, lack of convenient/weekend hours, parent ED utilization, and quality of relationship with primary care provider.

**UC use for children excluded from child care**

- Parents without sick leave benefits face a considerable dilemma as they risk either loss of wages or loss of a job to stay home with a sick child excluded from child care.
- Parents may view the situation as a socioeconomic emergency, choosing the inconvenience of an urgent medical evaluation over the inability to return to work in a timely manner.

**Urgent care use**

- A nationally representative survey of parents, who completed online questions regarding child illness causing absence from child care and their medical care-seeking behavior.
- Main outcome was parents’ use of emergency department or urgent care.

HASHIKAWA et al Pediatrics 2014;134:e120–e127
Urgent care use

- Over 88% of parents sought acute medical care for their sick children unable to attend child care.
- Approximately one-third of parents needed a doctor’s note for employers and/or child care.
- Parents went to PCP (81%), UC (26%), or ED (25%).
- ED/UC use was most common for rash (21%) and fever (15%).

Logistic regression indicated ED/UC use was significantly higher among:

- Single/divorced parents (odds ratio [OR] = 4.3);
- African American parents (OR = 4.2; 95% CI: 1.2–14.6);
- Parents needing a doctor’s note (OR = 4.2; 95% CI: 1.5–11.7);
- Those with job concerns (OR = 3.4; 95% CI: 1.2–9.7).

“Uber-like” pediatric home visits

- Pediatrician and nurse home visits
- Primarily in large cities
- Uses an app like Uber
- Start up companies are raising capital to expand into this space

Pediatrician advantages

- Self employed without worrying about business aspects
- Self determined hours of work and vacation time
- Reduced overhead expenses
- Freedom and autonomy

Information entered into App by family

- Names and birthdates of family members
- PCP (name and email optional)
- Insurance plan information (optional)

App characteristics

- Care provider enters encounter data into tablet
- Encounter sent electronically to PCP, family, and EMR
- Prescriptions sent electronically to pharmacy
- Copy of bill sent to the family
New technologies

- Bedside diagnostic testing
  - Strep, influenza
  - UTIs
  - Stool pathogens
  - Occult blood
- Sensors
  - Vital signs (Temp, HR, RR, BP, cardiac function, EKG)
  - Chips for blood work

Overhead Costs and Billing

- Overhead costs 10-30% compared to 60% in traditional office setting
  - Favorable with high deductible plans
- Uber x – family submits bill to insurance
- Uber black – company submits insurance bill

Telemedicine virtual offices

- Health plans and hospitals will open virtual offices to take advantage of these new smart phone technologies
- Private practice pediatricians will lack the capital and marketing know how to compete in this space

Telemedicine

- Use of smart phone technology
  - Video connection for video diagnosis
    - Video otoscopy
    - Video of pharynx
  - Smart sensors for HR, RR, BP
  - Smart scales for weight, HR, EKG, cardiac output, heart contractility, RR
  - Implanted Chips that will monitor Electrolytes, Blood Sugar, BUN, Creatinine

What is the pediatric practice of the future?

- Expanding numbers of hospital based pediatricians
  - Hospitalists
  - Neonatologists
  - Critical care
  - Emergency Department
  - Pediatric subspecialists
- Expanding numbers of health plan and hospital primary care pediatricians

What private practice pediatricians will have to do to compete successfully?

- Expand ability to care for children with special health care needs and adolescents
- Commit to the personal touch with an emphasis on shared decision making and continuity of care
- Expand evening and weekend hours and ensure convenience with good parking
- Embrace technology for scheduling, email questions, telemedicine encounters
- Visit newborns and hospitalized patients
The future: 10-20 years from now

- Expanded team practice with physician assistants, early childhood educators, mental health professionals, and possibly speech, OT and PT therapists in a capitated environment within an integrated delivery systems having a population health perspective

- Justify case manager fees for caring for special needs children in private practice

- Justify “concierge” payments in private practice because there wont be opportunity for high volume, acute visits