Using EHRs to Advance Research in Community Health Centers

Diane Hauser, MPA
Institute for Family Health
dhauser@institute2000.org
The Institute for Family Health

Manhattan

Bronx

Mid-Hudson Valley
EHRs implemented in 2002
Pneumovax for those 65+

BPA INSTALLED
10/2003
EHRs contain complex patient data

- Race / Age / Gender
- Diagnoses
- Procedures
- Medications
- Lab results
- Medical history
- Visit history
EHR Meaningful Use and Research have the Same Goals

- Improve Quality, Safety, Efficiency of Care
- Reduce Health Disparities
- Increase Engagement of Patients and Families
- Improve Care Coordination
- Improve Population and Public Health
- Ensure Privacy and Security Protections of Personal Health Information
Diabetes Research: A Case Study
What’s Wrong with this Picture?

Last HbA1c by Race

- **White**
  - 7.03
  - n=423

- **Black**
  - 7.44
  - n=2122

- **Latino**
  - 7.86
  - n=1555

- **Asian**
  - 7.12
  - n=76
Using Electronic Health Records to Improve Quality and Reduce Disparities in Diabetes Care

The Commonwealth Fund
New York University
Advisory Committee
Reductions in HbA1c with Treatment by Race/Language

<table>
<thead>
<tr>
<th></th>
<th>1st HgbA1C</th>
<th>Most Recent</th>
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<tbody>
<tr>
<td>White</td>
<td>7.23</td>
<td>6.95</td>
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<tr>
<td>Black</td>
<td>7.80</td>
<td>7.44</td>
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<tr>
<td>Latino-Eng</td>
<td>8.02</td>
<td>7.75</td>
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<td>Latino-Span</td>
<td>8.12</td>
<td>7.81</td>
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<td>Other</td>
<td>7.82</td>
<td>7.48</td>
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</table>
Provider Nutritionist Referral Rate vs. Pts Average HgBA1c
Key Findings

- Black and Hispanic patients have higher initial HbA1c tests.
- Black and Hispanic patients’ HbA1c levels decrease at a slower rate than the levels of white patients.
- No significant differences in provider performance with patients of different races/ethnicities:
  - Likelihood of HbA1c testing
  - Time to first HbA1c
  - Visits
  - Medication
  - Nutrition referrals
- Higher visit frequency and receiving a nutritionist referral are associated with faster rates of decline in HbA1c levels, controlling for initial HbA1c level and other covariates.
Diabetes Intervention

Patients with HbA1c values >9 receive “affirmative action” care

- Monthly visits
- On-site HbA1c testing
- CDE visits
- Group visits
During the Visit:
BPAs and SmartSets
### Outside the Visit: Diabetes Registry

<table>
<thead>
<tr>
<th>R</th>
<th>S</th>
<th>T</th>
<th>U</th>
<th>V</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>AA</th>
<th>AB</th>
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<tbody>
<tr>
<td>HBAC_LAST_VALUE</td>
<td>HBAC_AVG_12MONTHS</td>
<td>LDL_LAST_VALUE</td>
<td>LDL_AVG_12MONTHS</td>
<td>BP_SYS_STOLIC_LAST</td>
<td>BP_DIASTOLIC_LAST</td>
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<td>6.2</td>
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# IFH Stats

**Dr. ZZtest**  
**Report Date: 03/28/2009**  
*Where is the 'Download' option?*

## Summary

<table>
<thead>
<tr>
<th>PROVIDER</th>
<th>PANEL</th>
<th>A1C &lt; 7%</th>
<th>A1C &gt; 9%</th>
<th>BP &lt; 130/80</th>
<th>BP == 140/90</th>
<th>LDL &lt; 100</th>
<th>LDL &gt;= 130</th>
<th>EYE EXAM</th>
<th>NEPHRO</th>
<th>NEURO</th>
<th>NON-SMOKE</th>
<th>TOTAL</th>
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<tr>
<td>INSTITUTE</td>
<td>4232</td>
<td>46%</td>
<td>19%</td>
<td>37%</td>
<td>30%</td>
<td>49%</td>
<td>21%</td>
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<td>EAST 13TH ST.</td>
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<td>23%</td>
<td>58%</td>
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<td>FAMILY HLTH</td>
<td>46</td>
<td>51%</td>
<td>14%</td>
<td>50%</td>
<td>20%</td>
<td>70%</td>
<td>11%</td>
<td>28%</td>
<td>67%</td>
<td>15%</td>
<td>85%</td>
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# Identify Disparities

## Patient Ethnicity Groups

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<th>ETHNICITY</th>
<th>PANEL</th>
<th>A1C &lt; 7%</th>
<th>A1C &gt; 9%</th>
<th>BP &lt; 130/80</th>
<th>BP &gt;= 140/90</th>
<th>LDL &lt; 100</th>
<th>LDL &gt;= 130</th>
<th>EYE EXAM</th>
<th>NEPHRO</th>
<th>NEURO</th>
<th>NON-SMOKE</th>
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<tr>
<td>ASIAN</td>
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<td>0%</td>
<td>75%</td>
<td>75%</td>
<td>25%</td>
<td>75%</td>
<td>25%</td>
<td>100%</td>
<td>100%</td>
<td>70</td>
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<tr>
<td>BLACK</td>
<td>78</td>
<td>39%</td>
<td>22%</td>
<td>37%</td>
<td>35%</td>
<td>42%</td>
<td>13%</td>
<td>15%</td>
<td>55%</td>
<td>51%</td>
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<tr>
<td>HISPANIC</td>
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<td>27%</td>
<td>38%</td>
<td>25%</td>
<td>5%</td>
<td>43%</td>
<td>51%</td>
<td>83%</td>
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<tr>
<td>MULTI-RACIAL</td>
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<td>OTHER</td>
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<td>25%</td>
<td>13%</td>
<td>50%</td>
<td>50%</td>
<td>100%</td>
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</tbody>
</table>
Progress

Westchester increased rate of A1c<7% by 10%

Amsterdam decreased rate of A1c >9% by 11%

Mt Hope increased ophthalmology consults rates by 7%

Sidney Hillman increased neuropathy screening rate by 21%
Effect of Electronic Health Alerts on Communicable Disease Outbreaks
Just getting underway

- Can BPAs decrease inappropriate prescribing for elderly patients?

- Can BPAs for potentially teratogenic medications increase documentation of contraceptive counseling in women of reproductive age?
How do CHCs get involved in research?
Research Infrastructure

- Research Committee
- Institutional Review Board
- Practice-Based Research Network
- Partnerships
- Grant Support
Research Dissemination


Thank You!