Utilizing EMR to Improve Clinical Quality Outcomes

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Conflict of Interest

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Have no real or apparent conflicts of interest to report.
Agenda

• Overview of HealthNet
• EMR Implementation Plan for Multi-Site, Multi-Specialty Practice
• Clinical Value of EMR Implementation
  – Opportunity for Improvement
  – Design and Implementation
  – Utilization of Health IT
  – Value Derived
  – Lessons Learned
  – Financial Considerations
• Overall Return on Investment
Learning Objectives

• Describe an effective EMR implementation strategy for multi-site practices
• Design EMR and process improvement workflows to create measurable improvements in quality outcomes
• Identify methods to encourage provider engagement in process improvement initiatives
Benefits Realized for Value of Health IT

• The value steps impacted were:
  – Satisfaction
  – Treatment/Clinical
  – Electronic Secure Data
  – Savings

• Increase in overall patient satisfaction score

• Improved clinical documentation

• Improved quality measures reporting

• 95% decrease in unsubmitted claims
HealthNet – A Federally Qualified Health Center (FQHC)

• Indianapolis Locations
  – 8 Primary Care Centers, OB/GYN Care Center, Maternal Fetal Medicine Center, and a Pediatric Residency Center
  – 5 Dental Clinics
  – 7 School-Based Clinics
  – Homeless Initiative Program with 8 Shelter Clinics
  – Healthy Families Program

• Providers
  – 70 MD/DO’s (IM/Peds, Peds, FP, IM, OB/GYN, Psych)
  – 45 Advanced Practice Nurses (Nurse Midwives, Pediatric NP, Family NP, Women’s Health NP, Psych NP)

• Associates
  – 658 Full Time Equivalents
HealthNet – A Federally Qualified Health Center (FQHC)

• Joint Commission Accredited for:
  – Ambulatory
  – Laboratory Services
  – Patient Centered Medical Home (PCMH)

• 2015 HIMSS Ambulatory Davies Award Recipient
HealthNet – Services Provided

• Primary and Preventive Health Care
• Behavioral Health Care
• Dental Services
• Podiatry and Optometry Care
• Homeless Healthcare and Support Programs
• Support Services (e.g., Outreach and Enrollment, WIC, Social Work, Translation Services)
HealthNet – 2014 By the Numbers

• 59,286 Unique Patients Received Care
  – Serves 20% of all Indiana residents covered by Federally Qualified Health Centers
• 263,167 Family Visits
• 3,748 Women Obtained Prenatal Care
• 2,216 OB Deliveries
• 3,092 Homeless Clients Served
• 7,857 Dental Patients Received Care
EMR Implementation Plan - Goals

• Create a seamless, integrated care model that allows any HealthNet Care Provider from any specialty and at any of our over 30 locations to access the patient’s entire electronic medical record.

• Develop an EMR environment capable of scheduling patients, documenting clinical care, sending and receiving lab and imaging results with partner hospitals, perform accurate and complete billing for all patient encounters, and allow real time reporting on all these functions.

• Implement the system in a way that allowed us to continue to provide near normal daily services even during the actual system installation.
EMR Implementation Plan

EMR Selection Process

• Multi-disciplinary search team reviewed options for over a year

• Performed site visits at other Federally Qualified Health Centers to see EMR systems in already in daily operation

• Narrowed it down to 2 vendors and allowed all Providers and key Staff time to trial both systems

• Over 70% of Providers, nursing, and administrative staff selected our current vendor

• The “buy-in” that showed both Senior Leadership and large numbers of Providers and Staff were involved in the selection process was very helpful during the future hard work of implementing the system
EMR Implementation Plan - Process

• We implemented the Practice Management component of the software on day 1 at all locations.

• We chose just one Health Center to initially implement the EMR component of the system.

• We used dedicated 4 x ½ days of classroom training during the 2 weeks leading up to the Health Center’s “Go Live” day, including “mock patients” in the actual clinic setting.

• At the time of the Go Live we embedded EMR Analysts for 1-2 weeks as support to work alongside Providers and staff as they became familiar with the new processes. Twice daily “huddles” and a daily summary email keep everyone on task.

• We also added 2 trained float Family Nurse Practitioners to see patients at the Go Live Health Centers. Since the usual Providers briefly cut their schedules to 50% this still enabled us to see 90-95% of expected visits at those locations during the Go Live process.
## EMR Implementation Plan - Outcome

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Integration % Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-EMR</td>
<td>8/1/2009</td>
<td>0%</td>
</tr>
<tr>
<td>Practice Management (all locations)</td>
<td>9/1/2009</td>
<td>10%</td>
</tr>
<tr>
<td>Southwest Health Center</td>
<td>9/1/2009</td>
<td>14%</td>
</tr>
<tr>
<td>Barrington Health Center</td>
<td>3/1/2010</td>
<td>24%</td>
</tr>
<tr>
<td>Care Center at the Towers</td>
<td>3/1/2010</td>
<td>24%</td>
</tr>
<tr>
<td>Eastside Health Center</td>
<td>6/1/2011</td>
<td>29%</td>
</tr>
<tr>
<td>Peoples Health Center</td>
<td>7/1/2011</td>
<td>33%</td>
</tr>
<tr>
<td>Southeast Health Center</td>
<td>9/1/2011</td>
<td>43%</td>
</tr>
<tr>
<td>Martindale-Brightwood Health Center</td>
<td>9/1/2011</td>
<td>43%</td>
</tr>
<tr>
<td>Pediatric Adolescent Care Center</td>
<td>11/1/2011</td>
<td>48%</td>
</tr>
<tr>
<td>Dietitian</td>
<td>2/1/2012</td>
<td>57%</td>
</tr>
<tr>
<td>Tobacco Cessation</td>
<td>2/1/2012</td>
<td>57%</td>
</tr>
<tr>
<td>Behavioral Health</td>
<td>5/1/2012</td>
<td>62%</td>
</tr>
<tr>
<td>Podiatry</td>
<td>9/1/2012</td>
<td>71%</td>
</tr>
<tr>
<td>Social Work</td>
<td>9/1/2012</td>
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</tr>
<tr>
<td>School-based Clinics</td>
<td>10/1/2012</td>
<td>76%</td>
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<td>Homeless Initiative Program</td>
<td>11/1/2012</td>
<td>81%</td>
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<tr>
<td>West Health Center</td>
<td>1/1/2013</td>
<td>86%</td>
</tr>
<tr>
<td>Optometry</td>
<td>8/1/2013</td>
<td>95%</td>
</tr>
<tr>
<td>Northeast Health Center</td>
<td>8/1/2013</td>
<td>95%</td>
</tr>
<tr>
<td>Dental</td>
<td>9/1/2013</td>
<td>100%</td>
</tr>
</tbody>
</table>
EMR Implementation Plan - Outcome

HealthNet EMR Implementation

- 8/1/2009: 10%
- 1/1/2010: 14%
- 2/1/2010: 24%
- 5/1/2010: 29%
- 8/1/2010: 33%
- 2/1/2011: 43%
- 5/1/2011: 48%
- 11/1/2011: 57%
- 2/1/2012: 62%
- 5/1/2012: 71%
- 8/1/2012: 76%
- 11/1/2012: 81%
- 2/1/2013: 86%
- 5/1/2013: 95%
- 8/1/2013: 100%

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EMR Implementation Plan – Lessons Learned

• It took HealthNet 4 years to complete the initial implementation.

• The biggest obstacles were clinical flow processes that were inefficient and not standardized prior to the EMR implementation.

• Our training processes, EMR tools (like standardized templates and order sets), and scheduling guidelines all improved significantly over the 4 years by learning from previous mistakes.

• Utilizing trained float Providers as short term “reinforcements” in Health Centers during their Go Live period greatly assisted in maintaining near normal patient volumes during these difficult times.
Clinical Value
Opportunity for Improvement

• Performance on key quality indicators were stagnant and below average prior to EMR implementation in 2009
  – HEDIS (Healthcare Effectiveness Data and Information Set) used by more than 90% of US health plans to measure quality of care delivered
  – UDS (Uniform Data Set) required to be submitted by all FQHCs and Federal 330 Public Health Fund recipients

• No standardized process for identifying patients in need of services
• Health plan data provided too late to be actionable
• Needed to demonstrate improvements on key indicators to show the value of investment in FQHCs
Clinical Value
Design and Implementation

- Multi-Disciplinary Implementation Team Formed
  - Obtained Senior Leadership Support for Project
  - Team Members: CMO, Associate Medical Director, EMR Manager, EMR Analyst, Quality Manager, and Quality Coordinator

- HEDIS and UDS Measurement Review and Selection
  - Performed In-Depth Review of Numerator/Denominator Requirements and Current Documentation and Measurement Options
  - Selected Measures of Focus Based on Potential Population Impact and Available Documentation and Measurement Options

- Performance Gap Analysis and Report Development
  - Reviewed Available Reports
  - Hired Data Analyst for Report Development

- Template Development
  - Determined Structured Fields and Billing Codes Needed for Data Capture
  - Developed Templates and Trained Providers and Support Staff
Clinical Value Measures Selected for Improvement

• UDS (Uniform Data Set) Measures
  – Adult tobacco assessment and counseling
  – Adult weight screening and follow-up
  – Weight assessment and counseling for children/adolescents

• HEDIS (Healthcare Effectiveness Data and Information Set) Measures
  – Well child checks for 0-15 month olds
  – Well child checks for 3-6 year olds
  – Well child checks for 12-21 year olds
Clinical Value
Utilization of Health IT

• Templates Developed
  – Structured fields
  – Pre-programmed assessment codes needed for claims data capture

• Custom Report Development
  – Identified patients in need of services prior to measurement deadlines
  – Compliance reports generated to allow leadership to measure level of improvement for each measure
Clinical Value

Change Management Process

1. Proposed Change Reviewed/Approved by Committee
2. Sample Templates/Draft Workflows Developed
3. Modifications Made to Proposed Workflow
4. PDSA Cycle Outcomes Reviewed by Committee
5. PDSA Cycles with Pilot Teams

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Clinical Value – Tobacco Use Template

Subjective:

Chief Complaint(s):
- estab care

HPI:

IDENTIFIERS
Name and DOB Verified? __________. Interpreter Name: __________. Accompanied by (name/relationship to pt):
- Nurse/MA putting patient in room:

Tobacco Use
- Smoking Status - __________. Are you Ready to Quit? __________. Advice to quit given on: - __________. Would you like to talk to someone about quitting?

Current Medication:

Medical History:
- No Medical History.

Allergies/Intolerance:
- N.K.D.A.

Gyn History:

OB History:

Surgical History:
- Denies Past Surgical History

Hospitalization:
- No Hospitalization History.

Family History:
- Father: diagnosed with Hypertension
- Mother: diagnosed with Diabetes

Social History:

ROS:
Clinical Value – WCC Template

Reason for Appointment
1. Estab care

History of Present Illness
IDENTIFIERS:
Name and DOB Verified? _______. Interpreter Name: _________. Accompanied by (name/relationship to pt): _________. Nurse/MA
putting patient in room: _________.
Tobacco Use:
Smoking Status - _________. Are you Ready to Quit? _________. Advice to quit given on: - _________. Would you like to talk to someone
about quitting? _________.
*WCC: Child:
CONCERNS: _________. INTERVAL HISTORY: _________. DIET: _________. OUTPUT: _________. SLEEP: _________. GROSS
MOTOR: _________. FINE-MOTOR ADAPTIVE: _________. PERSONAL-
SOCIAL: _________. LANGUAGE: _________. DAYCARE: _________. SCHOOL: _________. SOCIAL: _________. TV/COMPUTER
TIME: _________. EXERCISE: _________. SAFETY: _________. DENTIST: _________.

Examination
Pediatric Exam II:
GENERAL: awake, alert, NAD.
HEAD: normal.
EYES: PERRL, EOMI, +RR bilaterally, normal cover/uncover test.
EARS: TM's clear bilaterally.
NOSE: nares clear.
O/P: clear.
NECK: supple, no LAD, no masses.
CV: NL S1, S2, RRR no murmur, femoral pulses 2+ and equal bilaterally.
LUNGS: bilaterally CTA.
CHEST: normal.
ABDOMEN: soft, NT, ND, no HSM, no masses.
GU: _________.
BACK: spine straight.
EXTREMITIES: NL with FROM.
NEURO: intact and nonfocal.
SKIN: normal with no rashes.

Assessments
1. Routine child health exam - Zoo.129 (Primary)
2. Dietary counseling - Z71.3
3. Exercise counseling - Z71.89
Clinical Value – Report Example

The report is emailed monthly to clinic managers.
Clinical Value Improvement Project Workflow

1. Report of patients needing services generated and sent to health center staff
2. Health center staff contact patients to schedule necessary appointments
3. Compliance reports generated and reviewed monthly by leadership
4. Providers review clinical documentation and billing codes for accuracy
5. Support staff and providers merge appropriate templates for visit
Clinical Value - Outcomes

Percent Improvement 2011-2014
Tobacco Assessment: 4%
Tobacco Cessation Counseling: 30%
Clinical Value - Outcomes

**Percent Improvement 2011-2014**
- Weight Assessment/Counseling Children: **181%**
- Adult Weight Screening/Follow-Up: **117%**
Clinical Value – Outcomes

HEDIS Well Child Check Measures

Percent Improvement 2011-2014
Well Care 0-15 Mos: 90%
Well Care 3-6 Years: 83%
Well Care 12-21 Years: 134%
Clinical Value - Outcomes

HealthNet Patient Satisfaction - Overall Visit Scores 2009-2014

Average Score

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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
<td>2014</td>
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</table>

4.70
4.60
4.50
4.40
4.30
4.20
4.10
4.00
3.90

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Clinical Value – Lessons Learned

• Engage leadership
• Hire data analyst and create actionable reports
• Reduce Provider and staff frustrations
  – Limit number of quality measures chosen as focus areas, and choose those required by more than one source
  – Include chosen measures in incentive plan
  – Work closely with front line staff to design workflows for least amount of clicks; assign right task to right staff person
• Maintain balance between clinic time and involvement in process improvement projects
• Reward performance and partner with health plans
Clinical Value – Financial Considerations

• Investments
  – Template Design and Development = $3,000
  – Portion of Data Analyst’s Salary = $20,000

• Returns
  – Pay for Performance from Health Plans = $1,500,000
  – Grant from HRSA for UDS Improvements = $83,000

• Data Analyst ROI
  – First report developed was list of claims not submitted
    • 8/2012 through 2/2014 identified 1,212 claims not submitted
    • Estimated additional $210,000 billed due to these identified claims
    • 95% decrease in number of claims not submitted
### Overall Return on Investment (ROI)

#### EMR Investments 2009-2014

<table>
<thead>
<tr>
<th>Investment</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Equipment, Software, Licensing, Maintenance and Support</td>
<td>$2,066,294</td>
</tr>
<tr>
<td>Additional IT and EMR Staff</td>
<td>$1,908,730</td>
</tr>
<tr>
<td>Off-Site Data Center</td>
<td>$431,782</td>
</tr>
<tr>
<td>EMR Training Center</td>
<td>$309,144</td>
</tr>
<tr>
<td>EMR Vendor Training and Travel</td>
<td>$151,670</td>
</tr>
<tr>
<td>Total Investments</td>
<td>$4,732,120</td>
</tr>
</tbody>
</table>

#### EMR Returns 2009-2014

<table>
<thead>
<tr>
<th>Return</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMR Implementation Grant Funding</td>
<td>$3,548,000</td>
</tr>
<tr>
<td>Increased Collections</td>
<td>$7,920,997</td>
</tr>
<tr>
<td>Meaningful Use Dollars</td>
<td>$5,627,000</td>
</tr>
<tr>
<td>Quality Recognition Incentives</td>
<td>$2,611,741</td>
</tr>
<tr>
<td>Paper Medical Records Savings</td>
<td>$413,132</td>
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<tr>
<td>Billing Staff FTE Reductions</td>
<td>$408,000</td>
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<tr>
<td>A/R Printed Claims Forms Elimination</td>
<td>$173,940</td>
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<tr>
<td>Total Returns</td>
<td>$15,638,515</td>
</tr>
<tr>
<td>RETURN ON INVESTMENT</td>
<td>230%</td>
</tr>
</tbody>
</table>
# Overall ROI - Meaningful Use

## Percentage of total Eligible Providers who met MU, by stage and year

<table>
<thead>
<tr>
<th>Stage</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIU</td>
<td>100% (94)</td>
<td>100% (20)</td>
<td>100% (31)</td>
<td>100% (11)</td>
<td>100% (156)</td>
</tr>
<tr>
<td>Stage 1, Year 1</td>
<td>NA</td>
<td>94% (58)</td>
<td>93% (28)</td>
<td>93% (25)</td>
<td>90% (111)</td>
</tr>
<tr>
<td>Stage 1, Year 2</td>
<td>NA</td>
<td>NA</td>
<td>98% (54)</td>
<td>93% (18)</td>
<td>96% (72)</td>
</tr>
<tr>
<td>Stage 1, Year 3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>98% (52)</td>
<td>98% (52)</td>
</tr>
<tr>
<td>Total</td>
<td>100% (94)</td>
<td>95% (78)</td>
<td>97% (113)</td>
<td>95% (106)</td>
<td>97% (391)</td>
</tr>
</tbody>
</table>
Overall ROI – Soft ROI

- Integrated Medical, OB, Psychiatric, and Dental patient record with 24/7 access
- Patient Portal for patient engagement including appointment reminders via text/voicemail
- Elimination of illegible notes and orders
- Improved and more accurate coding and collections
- Greatly improved real-time financial and clinical reporting, leading to improved quality care
- Improved access and tracking of lab and procedure results and follow up
- EMR allows multiple providers and staff to access medical record simultaneously without waiting for someone else to finish with (paper) record
- Ability to assign and manage secure access levels to patients’ confidential PHI (Personal Health Information)
Benefits Realized for Value of Health IT

• The value steps impacted were:
  – Satisfaction
  – Treatment/Clinical
  – Electronic Secure Data
  – Savings

• Increase in overall patient satisfaction score

• Improved clinical documentation

• Improved quality measures reporting

• 95% decrease in un-submitted claims
Questions

Speaker Contact Information:

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