Plank 6: Patient Registry

July 18, 2013

Dial Into: 1-877-668-4490
Access Code: 667 735 091
Agenda

- Campaign update – Jerry Penso, Kendra Gaskins
  - 5 min.

- Measurement update – John Cuddeback
  - 10 min.

- Registry background – John Cuddeback
  - 15 min.

- Registry development and demo – Charles Frazier
  - 20 min.

- Questions and discussion
  - 10 min.

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Campaign Update

- Participation

- Mtg. in Alexandria of participating groups in DC area
Measurement and Reporting

Original campaign goal: 80% of patients with hypertension in control, by JNC 7 criteria

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Released</th>
<th>Uncomplicated</th>
<th>Diabetes</th>
<th>Chronic Kidney Disease</th>
<th>Age ≥ 80 yr</th>
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<td>JNC 7</td>
<td>August 2004</td>
<td>&lt; 140/90</td>
<td>&lt; 130/80</td>
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<td>NICE</td>
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<td>Pending</td>
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NICE – National Institute for Health and Care Excellence (UK) – Guideline 127: Clinical Management of Primary Hypertension in Adults (August 2011) [http://www.nice.org.uk/CG127](http://www.nice.org.uk/CG127)


The percentage of members 18–85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled (< 140/90) during the measurement year. Use the Hybrid Method for this measure.

- Used for HEDIS, Medicare PQRS, Meaningful Use, many commercial P4P programs
- Measure steward: NCQA

**Denominator**—based on *HEDIS® 2013 Technical Specifications for Physician Measurement*
- Ambulatory E&M visit (including “prevention” CPT codes) during reporting period
- Diagnosis of essential hypertension on active problem list or ICD-9-CM code 401.XX on claim for ambulatory E&M visit during reporting period

**Timing**—potential differences from HEDIS
- HEDIS requires Dx code on ambulatory E&M visit during first 6 months of reporting period
- For “representative blood pressure,” HEDIS stipulates “as long as the visit [measurement] occurs after the diagnosis of hypertension was made”

**Same goal BP for all patients, not adjusted for patients with diabetes or CKD**
- Last ambulatory in-office BP during reporting period < 140/90 mm Hg
- Use lowest systolic and lowest diastolic recorded on each day
- Visit during measurement period with no ambulatory clinic BP recorded is considered out of control
Exclusions

- Patients who had an admission to a non-acute inpatient setting any time during the reporting period
- Patients with evidence of end-stage renal disease (ESRD) during or prior to the end of the reporting period
- Patients who are pregnant during the reporting period

No exclusion based on provider specialty

No exclusion based on setting of care (e.g., urgent care center)

No risk adjustment for patient factors, except above exclusions
# Proposed Reporting for MU/PD

**Reporting Periods:** Rolling 12 months, reported quarterly.

<table>
<thead>
<tr>
<th>Reporting Periods</th>
<th>Total Patients</th>
<th>Denominator</th>
<th>Numerator</th>
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<td><strong>Male (18–64)</strong></td>
<td># of unique patients with ≥ 1 E&amp;M visit</td>
<td># of HTN patients with ≥ 1 E&amp;M visit</td>
<td># of HTN patients in control at last E&amp;M visit</td>
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<tr>
<td><strong>Male (65–85)</strong></td>
<td># of unique patients with ≥ 1 E&amp;M visit</td>
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<td># of HTN patients in control at last E&amp;M visit</td>
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<tr>
<td><strong>Female (18–64)</strong></td>
<td># of unique patients with ≥ 1 E&amp;M visit</td>
<td># of HTN patients with ≥ 1 E&amp;M visit</td>
<td># of HTN patients in control at last E&amp;M visit</td>
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<tr>
<td><strong>Female (65–85)</strong></td>
<td># of unique patients with ≥ 1 E&amp;M visit</td>
<td># of HTN patients with ≥ 1 E&amp;M visit</td>
<td># of HTN patients in control at last E&amp;M visit</td>
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</table>

* Age, as of the end of the reporting period.

**Prevalence** = Denominator / Total Patients  
**Control** = Numerator / Denominator
AMGF Chronic Care Challenge

Hypertension Campaign Goal: 80% of Patients at Goal BP According to JNC 7

Process Planks for Achieving Goal

PRIMARY PROCESS PLANKS

- Direct Care Staff Trained in Accurate BP Measurement
- Hypertension Guideline Used and Adherence Monitored
- BP Addressed for Every Hypertension Patient, Every Primary Care Visit
- All Patients Not at Goal and with New Rx Seen within 30 days
- Prevention, Engagement, and Self-Management Program in Place

VALUE-ADD PROCESS PLANKS

- Registry Used to Identify and Track Hypertension Patients
- All Team Members Trained in Importance of BP Goals
- All Specialties Intervene with Patients Not in Control
Plank 6: Patient Registry

- What do we mean by “registry?”

- Why a registry?
  - Business case for patient outreach

- Registry functionality
  - How it’s populated
  - How it’s used

- Alternatives for registry software
  - Home-grown
  - Same vendor as EHR, integrated “module”
  - Different vendor—interfaced

- Real-world experience: demonstration and discussion
What Do We Mean by “Registry?”

- In general, a list of patients who meet a particular set of criteria
  - Selected data about the patients, for a particular purpose
  - Dynamic—process to add new patients as they qualify and to delete/suppress patients who no longer require attention

- Two broad classes of registries
  - Research or surveillance
    - Procedure registry (STS, ACC)
    - Device registry
    - Rare disease registry
    - Tumor registry
  - Operational—clinical workflow tool
    - Typically, patients with a particular chronic condition
    - Supports population health management
      - View each patient in the context of the entire population for which provider is accountable
      - Complement to medical record, which is optimized for one patient at a time
NCQA’s 2012 ACO Standards and Guidelines

PO 1: ACO Description
PO 2: Resource Stewardship
PO 3: Payment Arrangements
AA 1: Access and Availability of Practitioners
PC 1: Practice Capabilities
PC 2: Patient-Centered Primary Care Oversight
CM 1: Data Collection, Integration and Use
CM 2: Initial Health Assessment
CM 3: Population Health Management
CM 4: Practice Support
   The organization provides resources for, or supports the use of, patient care registries, electronic prescribing, and patient self-management.
CT 1: Information Exchange for Care Coordination and Transitions
RR 1: Patient Rights and Responsibilities
PR 1: Performance Reporting
PR 2: Quality and Cost Improvement
NCQA’s 2012 ACO Accreditation Standards

PC 1: Practice Capabilities

The practice maintains continuous relationships with patients through care management processes based on evidence-based guidelines. A key to successful implementation of guidelines is to embed them in the practice’s day-to-day operations (frequently referred to as clinical decision support) and by using registries that proactively identify and engage patients who are lacking important services....

CM 4: Practice Support

Patient registries include data that can help practitioners identify and track patient care needs. Registries must be able to generate action lists for care needs such as overdue or missing services and clinical indicators that fall outside target ranges. Alerts must be based on evidence-based guidelines.

- Information for preventive care needs and chronic or acute conditions can be stored in a single registry or in multiple condition-specific registries.
- The organization must provide access to registry data to appropriate participating providers (e.g., provide regularly updated paper action lists to practitioners or direct electronic access to registry data, or integrate registry functions into an EHR).

NCQA, 2012 Standards and Guidelines for the Accreditation of Accountable Care Organizations (http://www.ncqa.org/Programs/Accreditation/AccountableCareOrganizationACO.aspx)
### Key Processes and Functions to Meet the Aims of ACOs

<table>
<thead>
<tr>
<th>Care Coordination</th>
<th>Cohort Management</th>
<th>Patient &amp; Caregiver Relationship Management</th>
<th>Clinician Engagement</th>
<th>Financial Management</th>
<th>Reporting</th>
<th>Knowledge Management</th>
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<td>Access real time health insurance coverage information</td>
<td>Identify cohort from within entire patient population</td>
<td>Basic information services</td>
<td>User friendly, timely and actionable Clinical Decision Support (CDS)</td>
<td>Administrative simplification for operations</td>
<td>Retrieve Data specific to measures</td>
<td>User friendly, timely and actionable Clinical Decision Support (CDS)</td>
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<tr>
<td>Establish payer relationships</td>
<td>Monitor individual patients</td>
<td>Administrative simplification for patients</td>
<td>Standard clinical assessment tools</td>
<td>Normalized and integrated data</td>
<td>Store quality metric data</td>
<td>Personalize patient specific information</td>
</tr>
<tr>
<td>Establish provider relationships</td>
<td>Clinical Decision Support</td>
<td>Patient educational services</td>
<td>Well defined care teams</td>
<td>Health assessment of entire patient population</td>
<td>Calculate quality measures</td>
<td>Create and share clinical knowledge</td>
</tr>
<tr>
<td>Share clinical data during transitions of care</td>
<td>Patient engagement within cohort</td>
<td>Patient communication</td>
<td>Communication within organization</td>
<td>Patient attribution algorithms</td>
<td>Report quality metrics for internal use</td>
<td>Create and share process improvement knowledge</td>
</tr>
<tr>
<td>Identify best setting for care</td>
<td>Engage preferred providers and clinicians in care teams</td>
<td>Patient engagement in care</td>
<td>Communication external to organization</td>
<td>Performance reports</td>
<td>Report measures to external designated entities</td>
<td>Support comparative effectiveness research</td>
</tr>
<tr>
<td>Identify social &amp; community supports</td>
<td>Shared care management plan</td>
<td>Patient assumption of care responsibilities</td>
<td>Administrative simplification for providers</td>
<td>Risk sharing analytics</td>
<td>Report data required for syndromic surveillance</td>
<td></td>
</tr>
<tr>
<td>Manage referrals</td>
<td>Interventions</td>
<td>Monitor patient goals and outcomes</td>
<td>Usability of HIT</td>
<td>Payer contract management</td>
<td>Public Health reporting</td>
<td></td>
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<tr>
<td>Patient-centric medication management</td>
<td>Follow up</td>
<td>Patient experience of care surveys</td>
<td>Comprehensive educational systems for clinicians</td>
<td>Provider contract management</td>
<td>Registry reporting</td>
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</tr>
<tr>
<td>Clinical information reconciliation</td>
<td>Monitor cohort</td>
<td></td>
<td>Public Health information</td>
<td>Cost accounting</td>
<td>Report resource consumption for internal use</td>
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</tr>
</tbody>
</table>

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**A Health IT Framework for Accountable Care Certification Commission for Health IT (CCHIT)**

[https://www.cchit.org/hitframework](https://www.cchit.org/hitframework)
Operational Systems (Concurrent) —— Analytics (Retrospective)

Patient Level —— Population Level

Transaction Systems

Population Management

Data Warehouse and Analytics

- Claims
- Appt. Sched.
- Pt. Registr.
- Electronic Health Record
  - Problem List
  - Decision Support
- Pt. Portal

Practice Management

EHR

- Registry
  - Patient outreach
  - Visit planning
- Performance reporting
  - Risk stratification
  - Predictive modeling

Patient Communication
Why a Registry?

- Chronic conditions—ensure on-going care, prioritize outreach efforts
  - Half of adult patients have at least one chronic condition, one-third have two or more
  - MU/PD readiness survey (responses from two-thirds of participants)
    - Among the 60% of organizations who reported adopted any planks, half are using or implementing a registry—in most cases, along with other planks

- Patients “lost to follow-up”
  - Anceta: Patients 18–85 with diagnosis of essential hypertension (claim or problem list)
  - 13% of patients seen for an E&M visit in one year aren’t seen in the following year
  - Fewer than 1% died, so 12% are eligible for outreach
    - Range 8–28%, depending on clinical context
  - Patients with visits in 3 consecutive years have 11% better HTN control in year 3, as compared to patients with visits in year 1 and year 3 but not year 2
    - Patients with visits in 3 consecutive years were 8% better in year 1 → partly a selection effect

- Multiple chronic conditions—coordinate patient interaction and outreach

- Business case for outreach
  - Short-term: fill empty appointment slots and generate fee-for-service revenue, while...
  - Long-term: improving population health and building patient allegiance
March–August 2011 Successes

John J. Walker, MD, CPE
Chief Medical Officer
Cornerstone Health Care
Anceta Collaborative
April 2012

5528 Calls
1816 Appointments scheduled (during month)
4 Employees

$84,240 Expenses
$215,742 Payments
999 Kept Appointments
115 Referrals to 21 Specialties

1128 Appointments Scheduled (for month)
999 Kept Appointments

Payment of $216 per kept appointment

“Patient Care Advocates”
All Type 1 and Type 2 Diabetics

Patients with A1C > 9, LDL > 130, or BP > 140/90

Impact on Entire CHC Diabetic Population

2010

32.5%

2011

27.9%

14.1% Reduction in Patients with Diabetes Who Are at High Risk

Other benefits:
- Opportunity for “service recovery”
- Patient gratitude and engagement
Populating a Registry

- Identifying patients with the target chronic condition
  - Diagnosis codes on claims
    - Ignore claims for labs or imaging studies, where Dx codes may be used in a “rule-out” sense
  - Patient problem lists in EHR
  - Clinical data—observations (BP), lab results (e.g., for diabetes registry)
    - Anceta: overall, 14% of patients with diabetes have neither a diagnosis code on a claim (E&M or procedure) or an EHR problem list entry—more than 10% in two-thirds of groups
    - Hypertension may be more difficult to judge, based solely on recorded BP readings
      - But a scan may be helpful, to identify patients at high risk and ensure follow-up

- Are we responsible for the patient’s chronic disease care?
  - Patients referred for a particular specialty service

- Understanding patient’s status
  - Is their condition in control, or do we know?
    - Include additional data in registry display, e.g., last few blood pressure readings
  - Are they already scheduled for a follow-up appointment?
    - Ensure that chronic conditions are addressed when they are seen
  - Have they switched to another provider?
Populating a Registry (continued)

- Maintenance
  - Process to delete/suppress patients added in error or who no longer require attention
    - Need to enter or edit data in the registry
  - Avoid outreach to patients who have died or are terminally ill
  - Repeat “qualification” logic for patients who come in just once
Using a Registry

- Critical to fit into workflow, for physicians and practices
  - Clarify responsibility/ownership for population management functions
    - Care coordination—routine process to ensure focus and follow-up
    - Case management for complex patients at high risk
  - Reinforces team-based care—review potential outreach in daily “huddle”
    - Promotes overall efficiency
    - Consider personalities: this requires a systematic approach—consistent attention

- Patient outreach process
  - Centralized or distributed?
  - Automated, personal calls, or a combination?
    - Adapt to needs of patient population

- Encourages thinking in terms of patient populations
  - Promotes a sense of accountability
  - Priorities for allocation of scarce resources
Alternatives for Registry Software

- **Simple spreadsheet or database (Excel, Access)**
  - Get started with patient list from EHR (problem list) or PM system (Dx codes on claims)
    - Check EHR and appointment scheduling system before calling patient
    - Document call in EHR
  - Challenges
    - Maintain list as new patients qualify
    - Coordinate patient interaction for multiple chronic conditions

- **Separate software/database, with interfaces**
  - Vendor, different from EHR—may be integrated with outreach tools
  - In-house development

- **“Module” of integrated system from EHR vendor**
  - May still want to interface predictive analytics or other specialized data

- **Choice depends on long-term IT strategy, but many groups have had multiple “generations” of registries**
Riverside Medical Group
Hypertension Registry

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Senior Vice President
Chief Medical Information and Innovation Officer
Riverside Health System
charles.frazier@rivhs.com
Riverside Medical Group

- Part of Eastern Virginia Integrated Health System
- 500 providers
- ~30 primary care practices
- 27 NCQA Level 3 PCMHs
- EMR: GE Centricity
Primary Care Dashboard
S.L. and Practice Indicators
Practice Tools / Indicators
PCMH Tools / Indicators
PCMH Tools / Indicators
Dashboard – How Did We Do IT?

- Automated stored procedures run in EMR database every Saturday morning to pull, aggregate, and flatten data

- Web site on our intranet

- ASP (active server pages)

- Indicators (graphs, charts) are Google Charts – freely available
HTN Registry - Population

- ICD-9 Codes from EMR
- Congruity in attribution – Practice and Provider
- “Active Patient” – at least 1 visit in the last year and 2 visits in the last 2 years
- Age 18 and older – currently no upper age limit or stratification for age
- Currently not stratified for DM or CKD
Disease Management Form
Care Process Guide

EVALUATION AND MANAGEMENT OF

Hypertension

This Care Process Guide (CPG) was developed by the Riverside Health System Patient-Centered Care Collaborative (PC3) Hypertension Group. Its purpose is to significantly improve the care of hypertension with a goal of adequate blood pressure control: <140/90 in most patients; <140/80 in patients with diabetes; and <130/80 in patients with chronic kidney disease.

Why Focus on Hypertension?

- Hypertension is the most prevalent chronic condition treated at Riverside and in primary care practices throughout the United States. 67 million American adults (31%) have high blood pressure – almost 1 in every 3 adults! 69% of people who have a first heart attack, 77% of people who have a first stroke, and 74% of people with chronic heart failure have high blood pressure. High blood pressure is also a major risk factor for kidney disease. Numerous clinical trials have shown that lowering blood pressure can reduce risk for myocardial infarction by 20-25%, stroke by 35-40%, and heart failure by 50%.
- While improving, hypertension control in the United States is still suboptimal. At Riverside, 66-70% of hypertension patients have

Appropriate Treatment of High Blood Pressure Can Significantly Reduce Cardiovascular Risk

- Many placebo-controlled, randomized trials have shown reduction in cardiovascular risk, the results of which can be summarized as follows: 1) antihypertensive treatment translates into significant reductions of cardiovascular morbidity and mortality while having a less significant effect on all-cause mortality; 2) the benefit can also be seen at older ages, including patients with isolated systolic hypertension; 3) the proportional reduction of cardiovascular risk is similar in men and women and treatment has a beneficial effect in Caucasian, Asian and black populations, which suggests that it is present across various ethnic groups; and 4) with regard to cause-specific events, antihypertensive treatment is associated with a major reduction in the risk of fatal or non-fatal stroke (about 30-40%), but coronary events are reduced as well, though to a lesser degree (20%). Finally, treatment appears to cause a large reduction in the incidence of heart failure.
- All patients should be educated on and strongly encouraged to make comprehensive lifestyle modifications.
- Adequate blood pressure control can be achieved in most patients, but
HTN Indicator
Graph for Reporting

Hypertension Trend Data

7/17/2013

White Stone Family Practice

Hypertension - % Under Control

- You
- RMG
- Target
HTN Indicator
### Hypertension Management Report

**White Stone Family Practice**

**Hypertension Management Report**

Cummins, MD, Keith

<table>
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<th>PATIENT</th>
<th>DOB</th>
<th>Last Visit of Year</th>
<th>Next App</th>
<th>Last BP Date</th>
<th>Last BP</th>
<th>TP Date</th>
<th>TP</th>
<th>BP Date</th>
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<th>Comment/Order</th>
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**HTN Registry**
<table>
<thead>
<tr>
<th>Last Visit With You</th>
<th>Next Appt</th>
<th>Last BP Date</th>
<th>Last BP</th>
<th>BP Date</th>
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</table>
HTN Indicator
Staff BP Measure Surveillance

Blood Pressure Value Distribution Graphs
WHITE STONE FAMILY PRACTICE

Jones, MA, L-RT

This report looks at the distribution of systolic and diastolic blood pressures that you have taken and entered in the EMR over the last 90 days.

Blood Pressure Value Distribution Graphs
WHITE STONE FAMILY PRACTICE

Owens, RN
Anceta

- Use Humedica, but use it for deeper analyses
- Compare top performers vs. bottom performers
  - Population differences
  - Prescribing patterns
  - Visit patterns
- Analyze clinical inertia
Thank you!

charles.frazier@rivhs.com