Using Expertise and IT to Support Complex Patients

The Care Management Plus Approach

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HealthCare Partners: Stuart Levine MD MHA, Corporate Medical Director, and Farinaz Parsay, BS, Care Manager
Klamath Open Door Clinic: Signe Porter, Interim CEO, and Rene Lowell, RN, CCM, Care Manager
Using Expertise and IT to Support Complex Patients: The Care Management Plus Approach

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More information at caremanagementplus.org
Overview

- **Care Management Plus** is a model that enables care managers and primary care teams to better care for patients at-risk.
- **Training** focuses on priorities, roles, responsibilities and skills
- Better **technology** (and better use) is a crucial component.
- **Outcomes** show reduced hospitalizations, deaths, improved quality, and improved satisfaction.
- **Dissemination** (to over 150 teams) requires a stepped approach with consideration of adaptation and fidelity.
• Oregon Health & Science University
  – David Dorr, PI
  – Kelli Radican
  – Susan Butterworth
  – Nima Behkami
  – Marsha Pierre-Jacques Williams
  – Gwenivere Olsen
  – Molly King
  – Kristin Dahlgren

• Columbia University
  – Adam Wilcox

• Intermountain Healthcare
  – Cherie Brunker, Co-PI (UU)
  – Liza Widmier
  – Mary Carpenter
  – Bryan Gardner
  – Ann Larsen

• Advisory Board
  – K. John McConnell
  – Tom Bodenheimer
  – Eric Coleman
  – Cheryl Schraeder
  – Heather Young
  – Steven Counsell
  – Larry Casalino
Case

Ms. Viera

a 75-year-old woman with diabetes, systolic hypertension, mild congestive heart failure, arthritis and recently diagnosed dementia.
Ms. Viera and her caregiver come to clinic with several problems, including

1. hip and knee pain,
2. trouble taking all of her current 12 medicines,
3. dizziness when she gets up at night,
4. low blood sugars in the morning, and
5. a recent fall.
Ms. Viera’s office visit

And Out in the hall:

6. The caregiver confidentially notes he is exhausted

7. Money is running low for additional medications.

How can Dr. Smith and the primary care team handle these issues?
Activity Limitations by Number of Chronic Conditions

Addition of fx limitation increases cost: on average cost doubles from $5600/yr to $11,200/yr
Fx limitations are strong predictors for mortality over the next 4 yrs*

S. Lee, "Development and Validation of a Prognostic Index for 4-Yer Mortality in Older Adults" JAMA. 2006;295(7):801-808.
Past: Heroism in the face of multiple illnesses

• Multiple diseases increase risk and coordination exponentially (5+ : 90 x risk of hospitalization; 10x prescriptions; 13 providers vs. 2)

• To manage preventive and chronic illnesses in a primary care panel: 18 hours a day

• Patients with multiple illnesses better process quality scores but worse ‘preventable’ hospitalizations

Anderson, 2004; Woolf, 2002; Baron, 2007, 2010; Werner 2008
Intervention: Care Management Plus

Care management

Care manager
- Assess & plan
- Catalyst
- Structure

Technology
- Access
- Best Practices
- Communication

Referral
- For any condition or need
- Focus on certain conditions

Evaluation
- Ongoing with feedback
- Based on key process and outcome measures

Larger infrastructure: Electronic Health Record, quality focus
Results from CM+
In CM+, Odds of dying were reduced by 20-40%.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Time</th>
<th>CM+ (N=1,144)</th>
<th>Control (N=2,288)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Patients</td>
<td>at 1 year</td>
<td>6.5%</td>
<td>9.2%</td>
<td>-2.7%</td>
</tr>
<tr>
<td>Deaths</td>
<td>at 2 years</td>
<td>13.1%</td>
<td>16.6%</td>
<td>-3.5%</td>
</tr>
<tr>
<td>Multiple illnesses</td>
<td>at 1 year</td>
<td>6.2%</td>
<td>10.6%</td>
<td>-4.4%</td>
</tr>
<tr>
<td>Deaths</td>
<td>at 2 years</td>
<td>12.9%</td>
<td>18.2%</td>
<td>-5.3%</td>
</tr>
</tbody>
</table>
Reduction in hospitalizations from CM+

- In One Year: OR=0.65; p=0.036
- In Two Years: OR=0.56; p=0.013

Dorr, JAGS, Dec 2008
Summary of studies from CM+

The TRIPLE aim of health care

- Improved self-reported health, diabetes, depression outcomes
- Improved patient, care manager, and provider experience
- Reduction in hospitalizations, cost

www.caremanagementplus.org/pubs.html
The right people on the team with the right training is a core principle.

**Patients** are taught to self-manage and have a guide through the system.

**Care managers** receive special training in

- Education, motivation/coaching
- Disease specific protocols (**all staff included**)
- Care for seniors / Caregiver support
- Connection to community resources

Our care managers are currently 90% RNs; other models are possible.
## Curriculum Content

<table>
<thead>
<tr>
<th>Topical Area</th>
<th>Delivery Strategy</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation, Role, Technology training,</td>
<td>~10 hours in person (divided)</td>
<td>Power point presentation; Case examples, role playing</td>
</tr>
<tr>
<td>Motivational interviewing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing Chronic Illnesses</td>
<td>On-Line (~10 hours, divided)</td>
<td>Asynchronous and Synchronous faculty discussion.</td>
</tr>
<tr>
<td>Mental Health Issues</td>
<td>Case studies</td>
<td>Posted power-point slides.</td>
</tr>
<tr>
<td>Senior Patient Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Resource Acquisition</td>
<td>In-Person Seminar</td>
<td>Internet search activities</td>
</tr>
<tr>
<td>Final Case Study</td>
<td></td>
<td>Case Study Presentations</td>
</tr>
</tbody>
</table>
“Hello, Computer”
Most EHRs, as implemented, STILL don’t have necessary functions

Additional Care Management elements requested from 7 teams with EHRs

- Referral: 3
- Care Planning: 23
- Education: 1
- Follow Up: 14
- System: 9
- Reminders: 20
- Communication: 27
- Population: 24

Behkami, Proc AMIA, 2009
# Quality measure dashboard

**Summary Graphs:**
- Overall Team Comparison

**Breakouts by Measure:**
- Please Select

<table>
<thead>
<tr>
<th>Team Name</th>
<th><strong>A1c &lt; 7.0% (18+):</strong></th>
<th>Score</th>
<th>N</th>
<th><strong>LDL:</strong></th>
<th>Target Score: 55%</th>
<th>Score</th>
<th>N</th>
<th><strong>Pneumovax:</strong></th>
<th>Target Score: 75%</th>
<th>Score</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>OHSU GIM</td>
<td>52%</td>
<td>52%</td>
<td>201</td>
<td>57%</td>
<td>201</td>
<td>70%</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cascade</td>
<td>50%</td>
<td>50%</td>
<td>201</td>
<td>57%</td>
<td>201</td>
<td>76%</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diamond</td>
<td>46%</td>
<td>46%</td>
<td>263</td>
<td>59%</td>
<td>263</td>
<td>61%</td>
<td>263</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hart</td>
<td>54%</td>
<td>54%</td>
<td>201</td>
<td>55%</td>
<td>201</td>
<td>69%</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hood</td>
<td>54%</td>
<td>54%</td>
<td>261</td>
<td>62%</td>
<td>261</td>
<td>78%</td>
<td>261</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>River</td>
<td>52%</td>
<td>52%</td>
<td>215</td>
<td>53%</td>
<td>215</td>
<td>64%</td>
<td>215</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tabor</td>
<td>68%</td>
<td>68%</td>
<td>31</td>
<td>42%</td>
<td>31</td>
<td>97%</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dashboard can be run by clinic, team, or individual PCP
The abilities to document exclusions at multiple levels and generate targeted population-based review cycles avoid the problems caused by static quality reports and allow providers to efficiently focus outreach efforts on high risk populations.
ICCIS Care Coordination Workflow

A centralized reminder list of tasks and communications that were proactively planned but incomplete allows population-based tasks to be merged with individual encounter tasks.
When working with persons with multiple illnesses or complex illness, a clinical summary that captures a core set of information improves patient outcomes \(^1\). Care coordination and behavioral modification (goal setting) elements often require special effort and the quality summary requires more advanced monitoring and implementation than most standard EHRs provide.

### Patient Worksheet

<table>
<thead>
<tr>
<th>MRN</th>
<th>Phone</th>
<th>PCP</th>
<th>Sex</th>
<th>DOB</th>
<th>Care Manager</th>
<th>Caregiver</th>
</tr>
</thead>
<tbody>
<tr>
<td>1324234</td>
<td>9874584587</td>
<td>Parnel Fieldman</td>
<td>M</td>
<td>01/24/1956</td>
<td>Susie Example</td>
<td></td>
</tr>
</tbody>
</table>

#### Diagnoses
Diabetes, Cystic Fibrosis, Anemia

#### Medications
<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>PRN</th>
<th>Med Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>albuterol</td>
<td></td>
<td></td>
<td>08/07/2008</td>
</tr>
</tbody>
</table>

#### Goals
<table>
<thead>
<tr>
<th>Status</th>
<th>Follow Up Date</th>
<th>Goal</th>
<th>Note</th>
<th>score</th>
<th>Set Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>12/21/2009</td>
<td>Nutrition</td>
<td>10</td>
<td>12/05/2009</td>
<td></td>
</tr>
<tr>
<td>Completed</td>
<td>12/21/2009</td>
<td>Activity</td>
<td>5</td>
<td>12/05/2009</td>
<td></td>
</tr>
<tr>
<td>Pending</td>
<td></td>
<td>Meds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### PHQ
<table>
<thead>
<tr>
<th>Date</th>
<th>PHQ2 Score</th>
<th>PHQ9 - Severity</th>
<th>Q9 Suicide</th>
<th>Followup</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/02/2009</td>
<td>6</td>
<td>25</td>
<td>3</td>
<td>12/02/2009</td>
</tr>
<tr>
<td>11/05/2009</td>
<td>3</td>
<td>17</td>
<td>3</td>
<td>12/04/2009</td>
</tr>
<tr>
<td>07/07/2009</td>
<td>0</td>
<td>10</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>07/02/2009</td>
<td>0</td>
<td>10</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

#### Functional Status
<table>
<thead>
<tr>
<th>Date</th>
<th>ADL</th>
<th>IADL</th>
<th>MMSE</th>
<th>Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/08/2009</td>
<td></td>
<td>2</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>12/11/2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Care Actions

<table>
<thead>
<tr>
<th>Diabetes</th>
<th>Date/Value</th>
<th>Status</th>
<th>A1c in Last 6 mo</th>
<th>10/06/2009</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1c &lt; 7</td>
<td>9.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDL Last Year</td>
<td>09/30/2009</td>
<td>OK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDL &lt; 100</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last Doctor's Visit is not available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Preventative Care**

<table>
<thead>
<tr>
<th>Date/Value</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient &gt; 50 needs flu shot at least once</td>
<td>YES</td>
</tr>
</tbody>
</table>

**Notes**
- A1c out of Range
- LDL HIGH

---
What have we learned about dissemination in rolling out the program to over 150 clinical teams?
Steps to Implementation

Initial Contact
(email, phone call, conference meeting)

Introduction
(In person visit or phone visit)

Readiness Assessment
(fill out as much as possible)

Plan for Implementation
(Review Readiness Assessment, IT assessment)

Enrollment
- Hire a Care Manager
- Sign a contract
- Register for training

Training
- 2 days in person
- 8 weeks online/distance

IT implementation

Implementation/ Follow-up
- Continued follow-up
- Evaluation (success of Program, barriers to Implementation, etc)
Currently providing healthcare in California, Florida and Nevada to over 800,000 patients
  – 170,000 Medicare Advantage
  – 450,000 commercially insured members

Physician-owned and Managed

Staff / Group Model- 45% of patients in California, 65% of patients in other states
  – 600 Full time employed Physicians

IPA- Independent Physician Association- 55% of patients in California, 35% of patients in other states
  – Over 4000 PCP’s, over 1500 Specialists
**STRATEGY FOR COST EFFECTIVE, HIGH QUALITY CARE**

**Goal**
- Sustaining Commitment to quality
- “Hub and Spoke” Approach (Group and IPA) to drive enrollment and profitability
- Managed care administrative functions, including contracting, claims, and eligibility
- Evidence based, coordinated care and disease management. Risk stratification to identify high acuity Patients. Expertise for care of commercial and senior populations

**Results**
- Efficiently manage provider networks and associated costs
- Sustain “top tier” results in high quality of care
- Optimal administrative ratios with strong Physician and Patient satisfaction results
- Profitable financial outcomes for Capitated business
**Home Care Program**
Provides in-home medical and palliative care management.
Physicians, Nurse Practitioners, Care Management, Social Workers.
Chronically frail Patients.
Physical, mental, social, financial limitations in accessing outpatient care.

**Comprehensive Care and Post Discharge Clinics**
Intensive one-on-one Physician/Patient care.
Case management for the highest risk, most complex Patients.
When stable, Patient is upgraded to Level 2.

**Complex Care Management / Disease Management**
Provide long-term enhanced care oversight. Multidisciplinary team approach for complex, high acuity Patients;
Diabetes, COPD, CHF, CKD, Depression, Dementia.

**Primary Care Physician**
Motivate, educate and engage Patients to get involved in their care and self-management with their PCP and Care Team.
## Healthcare Partners

**Sites**
Bixby Knolls, Downtown LA Clinic

**Care Manager**
Tonya Jackson
Fran Parsay

**Population seen:** High risk outpatients not in other high risk programs such as disease and complex care management, home care, comprehensive care clinics, palliative care and ESRD Medical Home programs.

**Redesign experience:** Redesigned ambulatory care management for patients requiring care coordination in the risk corridors of 20 to 30% highest risk for onsite care management for all settings- group/ employee model and IPA adaptation.

**Information Technology**
Chronic Care Management information System
<table>
<thead>
<tr>
<th>Providers</th>
<th>Care Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate sized clinic</td>
<td>Rene Lowell + others</td>
</tr>
<tr>
<td>Primary care + add’l services: cardio, ENT, ortho...</td>
<td></td>
</tr>
<tr>
<td>Population seen: safety net clinic</td>
<td></td>
</tr>
<tr>
<td>Redesign experience: Coordination of Care, Chronic Care, Diabetes, Self-Management. Chronic pain, tobacco cessation, depression</td>
<td></td>
</tr>
</tbody>
</table>

**Information Technology**

<table>
<thead>
<tr>
<th>Epic</th>
<th>ICCIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reminders / alerts around chronic illnesses</td>
<td>Audit and Feedback</td>
</tr>
</tbody>
</table>

How has care management changed the way you interact with patients? With the care team?
How have you used the technology?
How have you leveraged the experience for reimbursement?
Thank you!

- dorr@ohsu.edu

- www.caremanagementplus.org
Additional Slides for topics
12 Specialists (7 ongoing)

Ms. Viera

Primary Care Team

Fragmentation of care

<table>
<thead>
<tr>
<th></th>
<th>BP</th>
<th>Pain</th>
<th>Chol.</th>
<th>Bones</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>![Icon]</td>
<td>![Icon]</td>
<td>![Icon]</td>
<td>![Icon]</td>
<td>![Icon]</td>
</tr>
</tbody>
</table>
What changes with CM+ and other new models?

1. Primary Care Team

2. Care Manager

3. HIT

12 Specialists (7 ongoing)

- BP
- Pain
- Chol.
- Bones
- Diabetes

Ms. Viera

Care giver
A fundamental issue in health reform

**Variations in Spending: Is More Always Better?**

**Effective Care:** *benefit clear for all*
- Reperfusion in 12 hours (Heart attack)
- Aspirin at admission (Heart attack)
- Mammogram, Women 65-69
- Pap Smear, Women 65+
- Pneumococcal Immunization (ever)

**Preference Sensitive:** *values matter*
- Total Hip Replacement
- Total Knee Replacement
- Back Surgery
- CABG following heart attack

**Supply sensitive:** *often avoidable care*
- Total Inpatient Days
- Inpatient Days in ICU or CCU
- Evaluation and Management (visits)
- Imaging
- Diagnostic Tests

Source: Elliot Fisher, Dartmouth
Results from targeted redesign

### Annual Outcomes For Seven Medical Home Demonstrations

<table>
<thead>
<tr>
<th></th>
<th>Hospitalization reduction (%)</th>
<th>ER visit reduction (%)</th>
<th>Total savings per patient ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>18</td>
<td>-</td>
<td>169–530³</td>
</tr>
<tr>
<td>Geisinger</td>
<td>15</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Group Healthb</td>
<td>11</td>
<td>29</td>
<td>71</td>
</tr>
<tr>
<td>Intermountain</td>
<td>4.8–19.2³</td>
<td>0–7.3⁴</td>
<td>640</td>
</tr>
<tr>
<td>North Carolina</td>
<td>40⁵</td>
<td>16</td>
<td>516⁶</td>
</tr>
<tr>
<td>North Dakota</td>
<td>6</td>
<td>24</td>
<td>530</td>
</tr>
<tr>
<td>Vermont⁸</td>
<td>11</td>
<td>12</td>
<td>215</td>
</tr>
</tbody>
</table>

Fields, 2010, Health Affairs
Model consistencies

- Care coordinator / care manager
- Integration with primary care team
- Improved access
- Access to real-time, population-based data
- Changed incentives

Fields, 2010, Health Affairs; Peikes, JAMA, 2009; Brown, NYAM/SWC, 2009
Our Vision for the Future:

We will be the role model for integrated and coordinated care, leading the transformation for the national healthcare delivery system to assure quality, access, and affordable care for all.

Our Mission Every Day:

We will partner with our patients to live life to the fullest by providing outstanding healthcare and supporting our physician to excel in the healing arts.
Medical Management Programs

HOME CARE
- COMPLEX CARE/DISEASE MGMT (CHF, COPD, DM, CKD)

HOSPITALIST PROGRAM

PATIENT

ESRD PROGRAM

URGENT CARE CENTER

PRIMARY/SPECIALTY CARE

SNF PROGRAM

HIGH RISK CLINIC