ACO Data-Driven Primary Care Population Strategies

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Clinica Family Health Services

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Chief Medical Officer
Treo Solutions

Faculty Disclosures

Our presentation describes Colorado Medicaid's Accountable Care Collaborative. This collaborative uses a claims derived dashboard from the state data and analytics contractor - Treo Solutions. L. Gordon Moore is the chief medical officer of Treo Solutions.
Agenda & Housekeeping

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Description</th>
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<tbody>
<tr>
<td>12:00-12:45</td>
<td>Introductions</td>
<td>Welcome, introductions, objectives, and what you want out of the session</td>
</tr>
<tr>
<td>12:45-1:45</td>
<td>Foundations</td>
<td>Colorado ACC program, Clinical Family Health Services</td>
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<tr>
<td>1:45-2:00</td>
<td>Break</td>
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<tr>
<td>2:00-3:00</td>
<td>Risk assessment</td>
<td>Health risk assessment tools in use</td>
</tr>
<tr>
<td>3:00-4:00</td>
<td>Segmentation</td>
<td>Finding people with patterns of disproportionate use of health services</td>
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<td>4:00-4:15</td>
<td>Break</td>
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<tr>
<td>4:15-5:00</td>
<td>Interventions</td>
<td>Reducing avoidable emergency room visits</td>
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<tr>
<td>5:00-5:30</td>
<td>Wrap up</td>
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Objectives

- Describe the role of the RCCOs in Colorado and the use of the SDAC data to identify total cost of care.
- Utilize state ACO data to identify populations of focus disproportionately utilizing health care resources.
- Review tools for assessing health risk.
- Identify key leverage opportunities for reducing preventable events.
- Describe two Clinica strategies to decrease potentially preventable emergency room visits.
Welcome and introductions

• What would you like out of the session?

Setting the context: Colorado’s Accountable care collaborative program
Understanding the ACC program

Colorado Department of Health Care Policy and Financing

Development of the Accountable Care Collaborative Program

Created in response to:
- Failed attempts at capitated Managed Care in the state.
- 85% in an unmanaged Fee-For-Service (FFS) system
- Unprecedented economic situation, highest caseload and expenditures in the state’s history of Medicaid
- Desire not to continue to pay for higher volume/utilization
Program Vision

- No change to current Medicaid Benefit Package.

- Delivery System Reform
  - Improve health outcomes
  - Reduce costs
  - Improve the client and provider experience
  - Focal point of care for all clients
  - Introduce unprecedented data and analytics

ACC Program Components

Statewide Data and Analytics Contractor (SDAC)
Regional Care Collaborative Organizations (RCCOs)
Primary Care Medical Providers (PCMPs)
RCCO Responsibilities

- Achieve financial and health outcomes
- Ensure comprehensive care coordination and a Medical Home level of care for every Member through:
  - Network Development/Management
  - Provider Support
  - Medical Management and Care Coordination
  - Accountability/Reporting

PCMP Responsibilities

- PCMP serves as a Medical Home
  - Member/family centered
  - Whole person oriented
  - Coordinated
  - Promotes client self-management
  - Care provided in a culturally sensitive and linguistically sensitive manner
  - Accessible
Outcomes are predicted better by total illness burden than by diagnosis alone.
People with diabetes segmented by total illness burden

<table>
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<tr>
<th>Status (Case Mix Type)</th>
<th>Severity Level</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
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<tr>
<td>Healthy</td>
<td></td>
</tr>
<tr>
<td>One or More Significant Acute Diseases</td>
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</tr>
<tr>
<td>One Minor Chronic Disease</td>
<td></td>
</tr>
<tr>
<td>Multiple Minor Chronic Diseases</td>
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<td>Two Significant Chronic Diseases</td>
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<tr>
<td>Three or More Significant Chronic Diseases</td>
<td>2.77</td>
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<tr>
<td>Complicated Malignancies</td>
<td>1.16*</td>
</tr>
<tr>
<td>Catastrophic Conditions</td>
<td>3.21*</td>
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</table>

Rates of hospital admission per 1000 people with diabetes

<table>
<thead>
<tr>
<th>Status (Case Mix Type)</th>
<th>Severity Level</th>
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<tbody>
<tr>
<td></td>
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<td>Multiple Minor Chronic Diseases</td>
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<tr>
<td>One Significant Chronic Disease</td>
<td>43</td>
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<tr>
<td>Two Significant Chronic Diseases</td>
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<td>Three or More Significant Chronic Diseases</td>
<td>132</td>
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<tr>
<td>Complicated Malignancies</td>
<td>416*</td>
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<tr>
<td>Catastrophic Conditions</td>
<td>290*</td>
</tr>
</tbody>
</table>


Population data

- Diabetics not in registry, 26000
Effect of primary care on health

- Health is better in areas with more primary care physicians
- People who receive care from primary care physicians are healthier
- The characteristics of primary care are associated with better health

- From studies that looked at:
  - The supply of primary care physicians
  - People who identified a primary care physician as their regular source of care
  - Linking the receipt of high-quality primary care services with health status


Data as opportunity
### Acme Health

#### Financial Incentive Metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Rolling 12 Months 4/1/13 – 3/31/13</th>
<th>Program YTD 5/5/12 – 3/31/12</th>
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</thead>
<tbody>
<tr>
<td>PPA Variance</td>
<td>-3%</td>
<td>-5%</td>
</tr>
<tr>
<td>PPR Variance</td>
<td>-5%</td>
<td>-2%</td>
</tr>
<tr>
<td>ER Rate</td>
<td>3688</td>
<td>922</td>
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</tbody>
</table>

- To achieve a 5-star rating, you must reduce ER Rate by 52 visits annually.
- Estimated cost reduction: $15,000.

#### Obstetrics & Primary Care

<table>
<thead>
<tr>
<th>HEDIS measures</th>
<th>Rolling 12 Months 4/1/11 – 3/31/12</th>
<th>Program YTD 1/1/12 – 3/31/12</th>
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<tbody>
<tr>
<td>Asthma</td>
<td>82.4%</td>
<td>81.3%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>64.1%</td>
<td>68.5%</td>
</tr>
<tr>
<td>Prenatal Visits</td>
<td>77.2%</td>
<td>82.0%</td>
</tr>
<tr>
<td>Post Partum</td>
<td>55.9%</td>
<td>62.4%</td>
</tr>
<tr>
<td>C-section rate</td>
<td>22.9%</td>
<td>22.7%</td>
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</table>

### Member List – ER visits

<table>
<thead>
<tr>
<th>Member ID</th>
<th>Member Name</th>
<th>Gender</th>
<th>Age</th>
<th>Condition(s)</th>
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</thead>
<tbody>
<tr>
<td>544650</td>
<td>ADAMS (DE-ID) ALBERT P</td>
<td>M</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>631000</td>
<td>ADAMS (DE-ID) ALICE L</td>
<td>F</td>
<td>71</td>
<td>Diabetes</td>
</tr>
<tr>
<td>561000</td>
<td>ADAMS (DE-ID) ANNE M</td>
<td>F</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>148500</td>
<td>ADAMS (DE-ID) BRIAN C</td>
<td>M</td>
<td>84</td>
<td>Coronary Artery Disease (CAD)</td>
</tr>
<tr>
<td>576300</td>
<td>ADAMS (DE-ID) GLORIA H</td>
<td>F</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>568950</td>
<td>ADAMS (DE-ID) JONATHAN L</td>
<td>M</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>634000</td>
<td>ADAMS (DE-ID) STANLEY W</td>
<td>M</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>655500</td>
<td>ADAMS (DE-ID) TERRY X</td>
<td>M</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>811300</td>
<td>ADAMS (DE-ID) WILLIE C</td>
<td>M</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>560751</td>
<td>ALLEN (DE-ID) AARON P</td>
<td>M</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>546101</td>
<td>ALLEN (DE-ID) HARVEY C</td>
<td>M</td>
<td>7</td>
<td></td>
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<tr>
<td>548002</td>
<td>ANDERSON (DE-ID) DAWN W</td>
<td>F</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>527402</td>
<td>ANDERSON (DE-ID) DIANA X</td>
<td>F</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>546302</td>
<td>ANDERSON (DE-ID) GEORGE S</td>
<td>M</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>79632</td>
<td>ANDERSON (DE-ID) JEFFREY T</td>
<td>F</td>
<td>34</td>
<td></td>
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<tr>
<td>566302</td>
<td>ANDERSON (DE-ID) JUDY N</td>
<td>F</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>542302</td>
<td>ANDERSON (DE-ID) KATHY C</td>
<td>F</td>
<td>26</td>
<td></td>
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<tr>
<td>638202</td>
<td>ANDERSON (DE-ID) MARTIN M</td>
<td>M</td>
<td>37</td>
<td></td>
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<tr>
<td>588602</td>
<td>ANDERSON (DE-ID) MIKE B</td>
<td>M</td>
<td>40</td>
<td>Chronic Joint and Musculoskeletal</td>
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<tr>
<td>447702</td>
<td>ANDERSON (DE-ID) PHYLLIS S</td>
<td>F</td>
<td>47</td>
<td>Hypertension (HTH)</td>
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<tr>
<td>548252</td>
<td>ANDERSON (DE-ID) RACHEL P</td>
<td>F</td>
<td>41</td>
<td>Disc Disease and Chronic</td>
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<tr>
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<td>ANDERSON (DE-ID) REBECCA C</td>
<td>F</td>
<td>17</td>
<td></td>
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<tr>
<td>546302</td>
<td>ANDERSON (DE-ID) SAMUEL W</td>
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<td>45</td>
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<tr>
<td>526752</td>
<td>ANDERSON (DE-ID) SHEILA B</td>
<td>F</td>
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<td></td>
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<tr>
<td>528252</td>
<td>ANDERSON (DE-ID) STANLEY B</td>
<td>M</td>
<td>19</td>
<td>Other</td>
</tr>
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</table>
### General Information

| Name           | Samantha Rothchild  
|----------------|----------------------
| County         | Orange   
| Zip code       | 99889    
| DOB            | 01/01/1960  
| Age            | 62       
| Gender         | Female   

### Medical Summary

- **History of Myocardial Infarction, Hypertension, Lack of follow-up after Inpatient Admit**
- **Advanced Coronary Artery Disease and Other Moderate Chronic Disease Level - 2**

### Utilization Summary

#### Visit Summary

- **Inpatient visits**: 1
- **Outpatient visits**: 0
- **ER**: 0
- **Non-ER**: 4
- **Professional PCP**: 7 last visit 8/1/2011
- **Specialist**: 4, distinct specialists: 1
- **Total visits**: 16

#### Prescriptions

- **Total prescription**: 22
- **Unique prescriptions**: 6
- **Pill burden**: 0
- **Adherence**: 7

### Provider Encounters

<table>
<thead>
<tr>
<th>Claim ID</th>
<th>Date of Service</th>
<th>Physician</th>
<th>Physician Specialty</th>
<th>Primary Diagnosis</th>
<th>Primary Procedure</th>
<th>PCP Group</th>
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</thead>
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<tr>
<td>0999990009</td>
<td>11/02/2011</td>
<td>Kevin L. Knight</td>
<td>Internal Medicine</td>
<td>Unspecified essential hypertension</td>
<td>99214- Offsitepatient Visit Ext</td>
<td>Y</td>
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<tr>
<td>0999990009</td>
<td>12/14/2011</td>
<td>Kevin L. Knight</td>
<td>Internal Medicine</td>
<td>2724- Other and unspecified hyperlipidemia</td>
<td>99214- Offsitepatient Visit Ext</td>
<td>Y</td>
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<tr>
<td>0999990009</td>
<td>10/22/2011</td>
<td>Kevin L. Knight</td>
<td>Internal Medicine</td>
<td>Unspecified unspecified whether general or localized site unspecified</td>
<td>99214- Offsitepatient Visit Ext</td>
<td>Y</td>
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<tr>
<td>0999990009</td>
<td>02/25/2011</td>
<td>Alex M. Harmbury</td>
<td>Cardiology</td>
<td>Subendocardial infarction, initial episode</td>
<td>99214- Initial Hospital Care</td>
<td>N</td>
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<tr>
<td>0999990009</td>
<td>02/23/2011</td>
<td>Kevin L. Knight</td>
<td>Internal Medicine</td>
<td>Subendocardial infarction, initial episode</td>
<td>99214- Offsitepatient Visit Ext</td>
<td>Y</td>
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<tr>
<td>0999990009</td>
<td>03/24/2011</td>
<td>Joan B. Dow</td>
<td>Cardiology</td>
<td>Subendocardial infarction, initial episode</td>
<td>99214- Initial Hospital Care</td>
<td>N</td>
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<tr>
<td>0999990009</td>
<td>03/23/2011</td>
<td>Joan B. Dow</td>
<td>Cardiology</td>
<td>Subendocardial infarction, initial episode</td>
<td>99214- Initial Hospital Care</td>
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<td>Internal Medicine</td>
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<td>Internal Medicine</td>
<td>Coronary atherosclerosis of unspecified type of vessel, native or graft</td>
<td>99213- Offsitepatient Visit Ext</td>
<td>Y</td>
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<td>0999990009</td>
<td>07/12/2011</td>
<td>Kevin L. Knight</td>
<td>Internal Medicine</td>
<td>Coronary atherosclerosis of unspecified type of vessel, native or graft</td>
<td>99213- Offsitepatient Visit Ext</td>
<td>Y</td>
</tr>
</tbody>
</table>
Who is Clinica?

- **Mission:** To provide access to high quality primary medical care, behavioral health services and oral health services to low income and other underserved people in west Adams, Broomfield and south Boulder Counties.
- **LARGE Practice** – 50,000+ patients by 2016
- **Proven model, nationally recognized for quality**
  - NEJM
  - Health Affairs
  - Level 3 NCQA certified; JCAHO Accredited
- **Superior use of HIT for Clinical QI**
  - Contract analytics services for integrated physician association (IPA).
Clinica FHS Service Area Poverty and Locations

Service Area Needs Assessment

- Approx. 673,655 people by 2014.
- 170,000 people below 200% of poverty level.
- 83,000 uninsured in 2009, expect 20,000 to 30,000 remaining uninsured in 2016.
Clinica’s Patient Demographics
41,000 patients in 2012
200,000 medical visits
FTE: 45 Medical, 6 Dental, 13 Behavioral Hlth
- 44% 18 and younger
- 26% women of child-bearing age (20-44 yrs)
- 3,027 pregnant women & 1,592 deliveries in 2012
- 3% over the age of 65
- 97% patients living at or below twice the poverty level

Clinica Patient Payer Mix Changes
Historical Trends:
- 45% Uninsured and low income – Most < Poverty
- 42% Medicaid
- 6% State Child Health Plan
- 4% Medicare
- 3% Privately Insured

Predicted 2015 Mix
Focus on Improved Care Through Quality Management

- Each Patient has PCP/Team
- Patient centered care
  - NCQA PCMH Level 3
  - NCQA Diabetes recognition
- Office Efficiencies
  - Continuity
  - Pods
  - Call Center
  - Advanced Access Scheduling
  - Pharmacy
  - EHR
- Group Visits
- Integrated Oral Health
- Integrated Behavioral Health

Where Clinica Started with SDAC

- 2012 was our first year of analysis.
- In that fiscal year we had 5594 attributed patients across our five sites.
- Our performance in the RCCO garnered early recognition.
# KEY PERFORMANCE MEASURES
## FY 2012

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Expected Visits per 1000 patients/Year</th>
<th>Clinica Actual Visits per 1000 patients/year</th>
<th>% Variance Actual vs Expected</th>
<th>% RCCO Variance</th>
<th>Clinica Adjusted Performance</th>
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<tbody>
<tr>
<td>% Improvement ER Visits</td>
<td>906.7</td>
<td>829.9</td>
<td>(8.5%)</td>
<td>1.4%</td>
<td>(9.9%)</td>
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<tr>
<td>% Improvement Imaging Services</td>
<td>425.7</td>
<td>281.8</td>
<td>(33.8%)</td>
<td>(5.8%)</td>
<td>(28%)</td>
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<tr>
<td>% Improvement 30 Day Readmits</td>
<td>13.1</td>
<td>9.1</td>
<td>(30.5%)</td>
<td>1.2%</td>
<td>(31.8%)</td>
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</table>

## FINANCIAL INDICATOR
### Total Cost of Care

<table>
<thead>
<tr>
<th>Budget PMPM</th>
<th>Paid PMPM</th>
<th>Savings PMPM</th>
<th>Number of Patients Enrolled</th>
<th>Savings Generated in One Month</th>
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<tbody>
<tr>
<td>$350.23</td>
<td>$330.18</td>
<td>($20.05)</td>
<td>5,594</td>
<td>($112,160)</td>
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Cost to Health Care System

<table>
<thead>
<tr>
<th>POTENTIALLY PREVENTABLE EVENT</th>
<th>COST</th>
</tr>
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<tbody>
<tr>
<td>ER Visits</td>
<td>$1,521,604</td>
</tr>
<tr>
<td>Readmissions</td>
<td>$169,603</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$1,691,207</td>
</tr>
</tbody>
</table>

Top Performing PCMPs in R3 and R5
SDAC data reporting from July 1-Oct 31, 2012

Reduction in all ED, Readmissions & Imaging
- Advanced Pediatrics
- Brighton Pediatrics
- Clinica Family Health Services
- Commerce City Community Health
- Family Practice of Aurora
- Rocky Mountain Health Centers Pediatrics

Reduction in ED or Readmissions
- Denver Health
- Doctors Care
- Guardian Angels
- Horizon Pediatrics
- MCPN
- Mountainland Pediatrics
- Salud Family Health Ctrs.
- Swedish Family Medicine Residency
The Sources of Clinica’s Success

Continuity | Access

Informed, Activated Patient

Productive Interactions

Prepared, Proactive Practice Team

Functional and Clinical Outcomes

Clinica Quality Initiatives (The Big 6)

To improve patient centered-population based management.

#1 Continuity
#2 Access
#3 Improved care delivery model
#4 Improved office efficiency
#5 Improved IS design
#6 Patient activation and self-management
#1 Continuity of Care

- Everyone assigned a PCP/Pod team
- Color branding for pods
- Routinely measure continuity by PCP/Pod
- Measure panel size and manage un-assigned every month
- Evaluate patient’s understanding of PCP
- Key for patient activation

# 2 Access to Care

TRIMESTER AT ENTRY FOR PREGNATAL CARE

[Graph showing percentage of prenatal care entry by trimester from 1989 to 1999]
# 2 Access to Care

- Time to third:

- Access benchmarks
  - Same day for “urgent” needs.
  - Within three days for routine visits.
- No-show rate trend after AA:

---

# 3 Improved Delivery Model - Group Visits

- Facilitated group process for patient activation
- Care setting in space designed for groups
- Patients invited on basis of chronic disease history and utilization patterns
- The goal is patient activation
- Patients remain in same group for continuity
#3 Group Care and Pregnancy Outcomes:

2009 Data

#4 Office Efficiency - Team Based Care

- 3 FTEs of Provider
- 3 FTEs of Medical Assistant
- 1 Nurse Team Manager
- 1 Case Manager
- 1 Behavioral Health Professional
- 2 Front Desk
- 1 Medical Records
- ½ Referral Case Manager
- Dental Hygienist
#4 Architecture to Support Teams

#5 Information Technology
# Care Planner Tool – Whole Person Care

<table>
<thead>
<tr>
<th>Person ID</th>
<th>First Name</th>
<th>Last Name</th>
<th>PCP</th>
<th>WA State</th>
<th>Phone Number</th>
<th>Age</th>
<th>Gender</th>
<th>Last Visit</th>
<th>ACO</th>
<th>Notes</th>
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<tbody>
<tr>
<td>0099</td>
<td>Maria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55</td>
<td>F</td>
<td>03/10/2013</td>
<td></td>
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</tr>
</tbody>
</table>

**Alerts**
- **Appled**
  - App on 04/10/2013 at 10:20AM for GV drop-in with People's GV
  - WA - RN

**Active Medications**

<table>
<thead>
<tr>
<th>Start Date</th>
<th>Exp Date</th>
<th>Brand Name</th>
<th>Generic Name</th>
<th>Dose</th>
<th>Instructions</th>
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</thead>
<tbody>
<tr>
<td>03/10/2013</td>
<td>05/30/2013</td>
<td>LUCOZIDE</td>
<td>LUCO435</td>
<td>60 mg</td>
<td>3 tablets q4h</td>
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**Depression - Intervention Due**

<table>
<thead>
<tr>
<th>Cycle Start</th>
<th>Cycle End</th>
<th>Treatment Stage</th>
<th>Last ERP Needs</th>
<th>Medication Class</th>
<th>Antidepressant</th>
<th>Antipsychotic</th>
<th>Anticonvulsant</th>
<th>Antihistamines</th>
<th>Antihypertensives</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/1/2013</td>
<td>5/6/2013</td>
<td>Acute</td>
<td>Schneiderholl, Lynn on 3/6/2013</td>
<td>ECT/ESCR/PIA/DA/AL/20 mg</td>
<td>Escitalopram</td>
<td>30 mg</td>
<td>2,00 - 900</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

**Anticoagulants**

<table>
<thead>
<tr>
<th>Indication(s)</th>
<th>Therapy Start</th>
<th>Therapy Desire</th>
<th>INR</th>
<th>Goal Range</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heparin</td>
<td>11/20/2012</td>
<td></td>
<td>3.0</td>
<td>-1.0</td>
<td>Low</td>
</tr>
</tbody>
</table>

**Open Reference**

<table>
<thead>
<tr>
<th>Future Labs</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

# Patient Centered Registry (Outreach)

<table>
<thead>
<tr>
<th>Visits and Appointments</th>
<th>Outreach Details</th>
<th>Patient Care Alerts</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCP: Lomonaco McLean, Jennifer</td>
<td>Last Visit: 10/04/2012 Reiss, J-CF</td>
<td>Date Reviewed: 2/27/2013</td>
</tr>
<tr>
<td></td>
<td>Call: Past Due: Last A1c 7 - 9 on 09/20/2012</td>
<td>04/04/2013 - Diabetes Visit</td>
</tr>
</tbody>
</table>

| | Call: Past Due: Diabetes Eye Exam | Past Due: Needs Review of Pain Contract | Past Due: Pain Needs Review of Functional Assessment Score |
| | Past Due: Pain Needs Review of Patient Health Questionnaire (PHQ) | WA - Tobacco Counseling | 03/20/2013 - Diabetes Visit |

| PCP: Smith, Stephanie | Last Visit: 01/23/2013 Lawrence, E., Smith, S-RE | Date Reviewed: 12/08/2012 | Comments: scheduled appt for 01/09/13. Call Attempt 1st Call | Call Status: Made contact |
| | Past Due: Colonoscopy (colonoscopy sigmoidoscopy with a barium enema or FOBT) | Discharge(s) in last 30 days: 02/21/2013 | Emergency Room Visit(s) in last 30 days: 02/14/2013 | Admission(s) in last 30 days: 02/14/2013 |
#6 Patient Activation

What Self-Management Support Is not:

- Didactic patient education
- Waiting for patients to ask for help
- Sage on the stage
- You should...
- Finger wagging
- Lecturing

Patients need to be involved in self care activities and their own health assessment
Choose one of the following scenarios and then report out one risk factor and one intervention you identify

- 55yo woman with Type 2DM with neuropathy, 2\textsuperscript{nd} day inpatient for pyelonephritis. Lives alone, smoker, thinks her meds make her ill, has endocrinologist as PCP, neurologist, not sure who is in charge of her care, lacks confidence in self-management.

- 47yo male seen in follow-up by PCP for 3\textsuperscript{rd} hospitalization of the year for alcohol withdrawal requiring ICU stay. Same year has had six ED visits for intoxication related events. Sees PCP & integrated behaviorist regularly (average of 2 visits a month).

Health risk assessment intro and methodology
Clinica’s approach: distilling risk factors that disproportionately impact utilization
Assessing Health Risks

• RCCO requirement as a Primary Care Medical Provider (PCMP)
• Review the different instruments Clinica uses.
• Considerations in choosing a health risk assessment (HRA) tool:
  – Populations validated in
  – Trending
  – How will you use it
  – What are your collaborators using (comparison’s sake)
• Pick one... use it... see what it tells you.

Team Goals for Health Risk Assessment

• Identify patients at risk.
  – Utilities for medical reasons as well as care coordination.
  – PDSA at People’s Clinic: 9.4% of pediatric patients given the Children with Special Health Care Needs (CSHCN) Screener had medical, behavioral, or psychiatric issues not already identified in the chronic problem list.
• Submit Health Risk Assessment.
  – ACO contractual obligation to complete HRAs.
• Communicate the needs of high-risk patients with team.
  – Collaborate on care.
  – Identify resources.
• Follow up with patient if needed.
Health Risk Assessment Tools for Pediatric Patients

• Peds (Parents’ Evaluation of Developmental Status)
  • Ages 0-6 years
  • Paper form; results documented in EHR.

• Children with Special Health Care Needs (CSHCN) Screener
  • Ages 6 years-12 years who are not on chronic disease registry
  • HER template: HRA Pediatric (CSHCN)
  • Interval: Every 2 years

• CRAFFT
  • Ages 12 years-18 years
  • EHR template: SBIRT
  • Interval: Every year

Adult Health Risk Assessment

• HARMS8
  – Hospitalization risk assessment tool for primary care.
  – Assesses ability for self-management.
  – Care Team and patient components.

• Question? - Are certain responses/factors more predictive of:
  – Higher total cost of care.
  – Preventable services.
HRA TOTAL SCORE

2,795 Patients Scored
Max Score = 5

Score breakdown by %
57% 1,2,3,4,5
13% 3,4,5
5% 4,5
1% 5 (36 Patients)
Correlations with Outcomes

Outcomes of interest:
• Total cost of care
• Total preventable costs
• Total preventable ER costs

• Number of ER visits
• Number of prescriptions

Summary
• Correlation between Total preventable ER costs and Number of ER visits is very high \( r = .72 \).
• Correlation between Total ER costs and Total preventable costs is also very high \( r = .67 \).
• Correlation between Total Costs and Number of Prescriptions is high \( r = .55 \).
• All correlations between outcomes are statistically significant and positive.

Correlations: HRA Score/Individual Question and Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Care Team Total</th>
<th>#1 Care Plan</th>
<th>#2 5+ Scripts</th>
<th>#3 Substance Abuse</th>
<th>#4 Mental Health</th>
<th>#5 Surprise if Died</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost</td>
<td>0.2803</td>
<td>0.1116</td>
<td>0.2904</td>
<td>0.1234</td>
<td>0.1502</td>
<td>0.2137</td>
</tr>
<tr>
<td>Total PPV $</td>
<td>0.2627</td>
<td>0.1539</td>
<td>0.1958</td>
<td>0.1541</td>
<td>0.1352</td>
<td>0.1904</td>
</tr>
<tr>
<td>Total ER $</td>
<td>0.1995</td>
<td>0.1514</td>
<td>0.138</td>
<td>0.1214</td>
<td>0.1118</td>
<td>0.0966</td>
</tr>
<tr>
<td># Prescriptions</td>
<td>0.4957</td>
<td>0.1818</td>
<td>0.2151</td>
<td>0.3172</td>
<td>0.2581</td>
<td></td>
</tr>
<tr>
<td># ER Visits</td>
<td>0.222</td>
<td>0.1503</td>
<td>0.1285</td>
<td>0.126</td>
<td>0.1589</td>
<td>0.1109</td>
</tr>
</tbody>
</table>

Summary
• All correlations are statistically significant at \( p = .000 \) level
• Higher numbers indicate a greater relationship between the measure and the outcome
• Higher scores on the HRA Total score are associated with greater costs, preventable costs, ER cost, prescriptions and ER visits.
• Five or more prescription medications per day is also strongly related to total costs but it has a weaker relationship to the other outcome measures than does the HRA Total score.
HIGH COST PTs
Care Manager

CHRONIC DISEASE NOT CONTROLLED & MULTIMORBIDITY
Care Manager

EXPANDED POPULATION-BASED MANAGEMENT – PLANNED CARE
Provider, Nurses, BHP

CORE CLINICA SERVICES FOR ALL CARE COORDINATION TEAM
(CM, MA, RCM, Med Recs, Health Coach)

Prevention

High Risk Patient  High Care Team Assessment Score  High Cost Patient

36 All Questions  Top 10 Process

Care Plan  Shared Care Plan

5+ Meds  Clinical Pharmacy

Substance Abuse Dx  Care Manager

MH Dx  BHP Assessment

Surprise?  End of Life Process
High quality health care and population health outcomes

- Key core primary care concepts
  - Advanced access
  - Continuity
  - These keep our hospitalization & readmission rates low.

- Our population health outcome focus
  - Specific to our patient population’s risks and behaviors.
  - Preventable ED care is where we need to make an impact.
Planned (Chronic) Care Model

Community
Resources and Policies

Health System:
Health Care Organization
Self-Decision Support
Management Support
Delivery System Support
Clinical Design Information Systems

Informed, Activated Patient
Productive Interactions
Prepared, Proactive Practice Team

Functional and Clinical Outcomes

The Goal: Patient-Centered HEALTH Home!

Pharmacy Services
Case Management
Primary Medical Services
Group Visits
Obstetrics
Family Medicine
Nutritional Support
Pediatrics
Vaccinations
Counseling
Chronic Disease Management
Well Visits through the Life Cycle
Behavioral Health Services
In-Patient Hospital Services
Oral Health Services
The Patient-Centered Medical Home in a Health Neighborhood

– None of our organizations operate in a vacuum.
  • Primary care
  • Referral centers
  • Tertiary care centers.
– Outside factors influence your organization's performance in accountable care.
– Health care is a system, not just a home.
– Case studies to highlight these concepts.

Example of the Neighborhood
Medical Neighborhood Methodology

- For a given specialty, a PCP group’s principal specialist is that specialist group to which the PCP group refers most frequently.
- Two PCP groups that refer to the same principal specialist are identified as connected.
- Using a mathematical clustering algorithm, PCP neighborhoods are identified as communities of PCP groups with the strongest connections across all specialties.
- The picture to the right is not a geographical map, but is a graphical depiction of connections among PCP groups.

Date Range: Commercial Data, 6/2012-5/2013

Medical Neighborhood Methodology

We examine neighborhoods based on different strengths of connections, looking for the optimal balance of independent, coherent, and proximal neighborhoods.

1 2 3
4 5
Case study: ACO Care Collaboration

• IHI collaboration between three CHCs.
• Goal: Identify organizational elements that positively impact KPIs that can be translated to other organizations.
• Process:
  – KPI performance comparison.
  – Resource/program comparison.
  – IHI site visits.
  – Construct uniform collaborative model.
  – Retest for performance.
• Outcomes TBD

Case study: ED Patient Identification

• Area Hospital Collaboration
  – Baseline low rate of patients correctly identifying their PCP.
  – Information flow breakdown in getting results to PCP.
• Intervention:
  – PCP project
• Elements of Success:
  – HIE with hospital.
    • Correctly assigning PCP creates better communication.
    • Shared levers: reduced bounce backs, etc.
  – Overlap with IPA (IPN).
    • You “win” with us; You WIN with US.
  – Promote Health Neighborhood concepts and community referral base.
Engage the room:

– How do you take these concepts back to your own setting/organization?
– What is your neighborhood?
   • Who are the key players, how do you work together?
   • How would you like them to work together?
   • How would a patient want them to work together?

Clinica strategies to reduce unnecessary ED use
Colorado’s Accountable Care Collaborative Goals

- Improve care for Medicaid patients
  - Right care: **QUALITY OUTCOMES**
  - Right provider: **CONTINUITY/CARE TEAM**
  - Right time: **ACCESS**
- Through improved patient care
  - Emergency room visits
  - Hospital re-admissions
  - High Cost Imaging Services
  - Total Cost of Care

Describe Clinica strategies to decrease potentially preventable emergency room visits

- Emergency room and hospitalization transition telephone calls
- Home visit team
- Shared care plan – across all care teams
  - Bringing information from SDAC to care team to identify high utilizers.
  - Care team case conference to formulate priorities.
  - Bring in the patient.
  - Align interventions where the patient is engaged.
Transitions Telephone Calls

• Realized goal that within 24 hours of a transition, patient is contacted and offered a visit.
• Capitalizes on the value of our advanced access model.
• Response rate:
  – 50% accept a home visit
  – 25% accept an in office (within 72 hours of transition).
  – 25% defer a contact
Potentially Preventable ER Visits

• Visits that may result from a lack of adequate access to care or ambulatory care coordination.

• These are ambulatory sensitive conditions which means that adequate follow-up should be able to reduce or eliminate the need for ER services.

PPVs may result from:

• A lack of adequate access to care or ambulatory care coordination.

• Actions taken or omitted during a hospital stay:
  – Incomplete treatment or poor care of the underlying problem.
  – Poor coordination with the primary care or specialist physician.
Patients with High Cost PPV

- Areas for intervention:
  - Discharge summary in provider PAQ
  - ER Activity Report – Nurse follow-up call
  - Top 10 Superutilizers from each site
  - Intensive Care Team Intervention
  - Potential Home Visit
HIGH COST USERS

CHRONIC DISEASE NOT CONTROLLED & MULTIMORBIDITY

EXPANDED POPULATION-BASED MANAGEMENT

CORE CLINICA SERVICES FOR ALL

Multiple ER Visits
Multiple Admissions
Expensive Medications
High Cost Imaging
Most Common Preventable ER

- 00530 - Headaches Other Than Migraine
- 00531 - Migraine
- 00553 - Level I Ophthalmic Diagnoses
- 00562 - Infections Of Upper Respiratory Tract
- 00564 - Level I Other Ear, Nose, Mouth, Throat & Cranial/Facial Diagnoses
- 00573 - Community Acquired Pneumonia
- 00576 - Level I Other Respiratory Diagnoses
- 00627 - Non-Bacterial Gastroenteritis, Nausea & Vomiting
- 00628 - Abdominal Pain
- 00657 - Lumbar Disc Disease
- 00673 - Cellulitis & Other Bacterial Skin Infections
- 00674 - Contusion, Open Wound & Other Trauma To Skin & Subcutaneous Tissue
- 00675 - Other Skin, Subcutaneous Tissue & Breast Disorders
- 00727 - Acute Lower Urinary Tract Infections
- 00871 - Signs, Symptoms & Other Factors Influencing Health Status

Our Approach to Preventable Emergency Room Costs

Embrace the patients at each clinic who have highest potentially preventable ER costs.
**Focus of Work for High-Cost ER Utilizers**

Create tools and processes that:

- Improve our patient support and delivery of care
- Improve patients’ understanding of appropriate ways to seek help with health care
- Improve patient health
- Reduce the preventable ER utilization and total cost of care for patients (over time)
Top ER Utilizer Data for a Rolling 12 Months

Care Teams review individual patient data including: date of service, location of services, primary diagnosis,
- All Outpatient Visits
- All Inpatient Visits
- All Medications
- Clinica Visits
- Clinica No Show Rate

Pod Care Team Roles

<table>
<thead>
<tr>
<th>Primary Care Provider</th>
<th>Nurse</th>
<th>Case Manager/ Medical Assistant</th>
<th>Behavioral Health Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review chart. Prep synopsis of patient history. Assess continuity.</td>
<td>Review chart to ID: • Opportunities for nurse visits. • Ancillary service providers (HV/PT/OT). Identify red flags (signs &amp; symptoms that patient should reach out for care at Clinica or ER).</td>
<td>Task Med Recs to secure external records for ER/specialty referrals. Print CarePlanner to bring to team meeting. Complete page 1 of Shared Care Plan. Complete Harms-8 with patient.</td>
<td>Review chart to ID: • Patient behavioral diagnosis. • BH continuity. • Open case at MHP or CRC. • Signed release (past 12 months) with MHP or CRC.</td>
</tr>
</tbody>
</table>

1. Individual Research
   - Lead discussion and planning with CMD, CD, and ACO (if present). Present patient synopsis. ID specialty referrals.

2. Team Meeting
   - Present gathered information. ID potential areas for change or improved patient support. Prepare for completing Shared Care Plan with patient:
     - Who will be present at patient meeting?
     - Who will hold the case (work with CD/COM to schedule flu meetings, invite patient to Shared Care Plan meeting, document process, etc.)?

3. Patient Meeting
   - Present page 1 of Shared Care Plan to patient. Complete page 2 of Shared Care Plan with patient:
     - Set goal.
     - Identify steps for achieving goal.
     - ID support team.
     - Note red flags and actions for seeking care (Clinica, ER, etc.)
     - Attach meds list to Shared Care Plan.

4. Team Huddle
   - Debrief on Shared Care Plan process. Identify how the team will support patient toward goal. Consider additional actions/interventions (Doors Tool).

5. 30-Day Follow-Up
   - Review Patient Survey. Identify how the team will support patient toward goal. Consider additional actions/interventions.
An Example:

**Pecos Top ER Utilizer**

33-year-old female

Between October 2012-September 2013

- 10 ER Visits
  - 8 potentially preventable ER visits
- $5,386 in potentially preventable ER costs

---

Overview of 10 Patients with High Potentially Preventable ER Costs

(The Top Ten)

- ER Visits: 83
  - Potentially Preventable ER Visits: 56
- ER Costs
  - Potentially Preventable ER Visit Cost: $65,461
- In-Clinic No Show Rate = 14%
- In-Clinic Cancel Rate = 18%
Preventable Costs to System
February 2014

<table>
<thead>
<tr>
<th>POTENTIALLY PREVENTABLE EVENT</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventable ER Visits</td>
<td>$3,003,618</td>
</tr>
<tr>
<td>Preventable Admissions</td>
<td>$833,247</td>
</tr>
<tr>
<td>Preventable 30 Day Readmissions</td>
<td>$230,082</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$4,066,947</strong></td>
</tr>
</tbody>
</table>

Clinica
Family Health Services

**Thornton ER SuperUtilizer Pilot**
Total ER PPV Costs

<table>
<thead>
<tr>
<th>Date</th>
<th>TOTAL [SCP]</th>
<th>TOTAL [NO SCP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2013</td>
<td>$36,041</td>
<td>$38,332</td>
</tr>
<tr>
<td>Feb 2014</td>
<td>$15,308</td>
<td>$8,588</td>
</tr>
<tr>
<td>March 2013</td>
<td>$36,041</td>
<td>$38,332</td>
</tr>
</tbody>
</table>

**Values:**
- Sum of ER PPV 5 03/13
- Sum of ER PPV 5 02/14
Insert what time frame this is over.
Justin Wheeler, 7/9/2013
Longitudinal Trends 2012-2013
Community health worker impact on readmission in Medicaid

“This intervention simultaneously improved patient experience and health outcomes while controlling costly hospital use.”


Intervention

• Community Health Worker (CHW)
• Patient-driven agenda. Tailored care in three stages
  – Goal setting
  – Goal support
  – Connection with primary care
# Results

<table>
<thead>
<tr>
<th>Result</th>
<th>Control</th>
<th>CHW</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit to PCP within 14d of discharge</td>
<td>47.9%</td>
<td>60%</td>
<td>0.02</td>
</tr>
<tr>
<td>Among those readmitted, multiple readmission within 30d</td>
<td>40%</td>
<td>15.2%</td>
<td>0.03</td>
</tr>
<tr>
<td>Patient reports high quality verbal discharge communication</td>
<td>78.7%</td>
<td>91.3%</td>
<td>0.002</td>
</tr>
<tr>
<td>Improvement in Patient Activation Measure (PAM)</td>
<td>1.4</td>
<td>3.6</td>
<td>0.05</td>
</tr>
</tbody>
</table>

# What did people want to accomplish?

<table>
<thead>
<tr>
<th>Psychosocial</th>
<th>105 (47.8)</th>
<th>62-y-old socially isolated woman with repeated admissions for panic attacks and chest pain</th>
<th>Find a fun social activity</th>
<th>CHW went with patient to local recreation center; patient felt &quot;at home&quot; and plans to return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance</td>
<td>53 (23.9)</td>
<td>24-y-old uninsured man readmitted after missing follow-up for lupus erythematosus flare; he is eligible for medical assistance but lost his birth certificate in house fire</td>
<td>Get medical assistance</td>
<td>CHW helped patient apply for birth certificate; patient received insurance card</td>
</tr>
<tr>
<td>Medication</td>
<td>52 (23.4)</td>
<td>46-y-old patient with hypertension, urgency who could not afford $65 co-pay for discharge medications</td>
<td>Get low-cost prescriptions</td>
<td>CHW and patient explained problem to hospitalist, who revised prescriptions to generic formulations; there was no co-pay</td>
</tr>
<tr>
<td>Transportation</td>
<td>48 (21.6)</td>
<td>42-y-old man with heart failure who cannot afford transportation to his PCP; he waits until he is not well and calls an ambulance</td>
<td>Arrange transportation</td>
<td>CHW helped patient apply for van services through his insurance company; patient took the van to his PCP appointment</td>
</tr>
<tr>
<td>Housing</td>
<td>39 (17.6)</td>
<td>53-y-old with schizophrenia and diabetes mellitus who lives in a boarding home that will close 2 wk after discharge</td>
<td>Create a plan for alternative housing</td>
<td>CHW worked with patient, family, and insurance company to move into another community boarding home</td>
</tr>
<tr>
<td>Food</td>
<td>36 (16.2)</td>
<td>50-y-old former hospital housekeeper with diabetes mellitus who is unemployed and has insufficient food</td>
<td>Visit a public food pantry</td>
<td>CHW went with patient to nearby public food pantry; patient picked up food and was satisfied</td>
</tr>
<tr>
<td>Motivation</td>
<td>31 (14.0)</td>
<td>41-y-old woman with diabetes mellitus and hypertension who states she has a weakness for eating junk food and gained 3.6 lb last month</td>
<td>Develop a nutrition plan</td>
<td>Patient spoke with her cousin (a personal trainer), developed a nutrition plan, and showed this to her CHW</td>
</tr>
<tr>
<td>Other</td>
<td>22 (10.0)</td>
<td>55-y-old patient with diabetes mellitus who is legally blind and has difficulty taking medications</td>
<td>Get services for the blind</td>
<td>CHW arranged intake appointment with Associated Services for the Blind and Visually Impaired</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>22 (9.9)</td>
<td>53-y-old man with duodenal ulcer who misses multiple outpatient appointments; patient confused to CHW that he is depressed and wants to stop smoking marijuana</td>
<td>Get drug and alcohol treatment</td>
<td>CHW went with patient to addiction services program; he attended regularly and began recovery</td>
</tr>
<tr>
<td>Debt</td>
<td>18 (8.1)</td>
<td>58-y-old man with COPD who smokes when he worries about how to pay his past-due rent</td>
<td>Create a budget spreadsheet so he can understand his finances</td>
<td>CHW worked with patient and his wife to create a monthly budget spreadsheet for their fixed income</td>
</tr>
</tbody>
</table>

3/9/2014
Data is a campfire around which people for heat and light huddle. Neither the heat nor the light yield the solution. The solution emerges from the huddling.

---

Wrap up

- How to take these concepts back to your own shop (Group)?
- What would apply; what would not?
- Where do you have opportunities?