Quality and Effect of Relationships on Health Outcomes

IHI National Forum

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65,000 voices
Session Objectives

- Identify the core principles of SCF’s relationship based care system
- Identify what factors influence a relationship between a patient and provider, and how that relationship affects health outcomes
- Develop methods to assess relationships at their own organizations
Sustained Improvements

96% Customer Satisfaction

95% Employee Satisfaction

36% Reduction in ER Visits 2000-2015

36% Reduction in Hospital Admissions 2000-2015
Sustained Improvements

Exceeds 90th percentile compared nationally in HEDIS (measured ongoing)

- Board certification
- Diabetes LDL <100
- Diabetes care annual testing
- Asthma appropriate medications
- Tobacco screening and quit rates
- Cardiovascular disease control <100

75th - 90th percentile compared nationally in HEDIS (measured ongoing)

- Cervical and breast cancer screening rates
- Cardiovascular disease LDL screenings
Alaska is larger than Texas, California and Montana combined.
Southcentral Foundation Fast Facts

INCORPORATED
1982
SERVING
65,000
CUSTOMER-OWNERS

PRIMARY CARE
90+ PROGRAMS & SERVICES

INCLUDING:
• Dental
• Behavioral health
• Optometry
• Complementary medicine
• Traditional Healing
• RAISE program
• Family Wellness
• Warriors Initiative
• Alaska Native Medical Center
Alaska Native people chose to assume responsibility
Core Concepts

*Work* together in relationship to learn and grow

*Encourage* understanding

*Listen* with an open mind

*Laugh* and enjoy humor throughout the day

*Notice* the dignity and value of ourselves and others

*Engage* others with compassion

*Share* our stories and our hearts

*Strive* to honor and respect ourselves and others
We asked the Community
We Changed Everything
Who really makes the decisions?

“Control”

100%

Customer-Owner/Family

The “System”

Low

Acuity

High
Nuka System Practices
Managing the Whole Population

2,000 Southcentral Foundation Staff Serving 65,000 Customer-Owners

<table>
<thead>
<tr>
<th>Case Manager/Case Management Support/Support Clinic Data</th>
<th>Provider+ BHC/Pharm/Diet</th>
</tr>
</thead>
<tbody>
<tr>
<td>40% Of Customer-Owners Have Low Intensity Needs</td>
<td>20% Of Customer-Owners Have High Intensity Needs</td>
</tr>
<tr>
<td>VACCINES, CANCER SCREENINGS, EPISODIC COMPLAINTS, VISIT ACCESS</td>
<td>ACUTE SERIOUS MEDICAL CONDITION, END OF LIFE, HIGH INTENSITY UTILIZERS</td>
</tr>
<tr>
<td>40% Of Customer-Owners Have Moderate Intensity Needs</td>
<td></td>
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<tr>
<td>LAB MONITORING, REFILL REQUESTS, HEALTH EVALUATIONS, CONDITION MONITORING</td>
<td></td>
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</tbody>
</table>
Traditional Work Flow

- Preventive Med Intervention
- Chronic Disease Monitoring
- Medication Refill
- New Acute Complaint
- Test Results
- Customer
- Case Manager
- Mental Health Provider
- Referral to Specialist after Assessment
- Certified Medical Assistant
- Dietician
- Clinical Pharmacist
Parallel Work Flow Redesign

- **MEDICATION REFILL**
  - CHRONIC DISEASE MANAGEMENT
  - NEW ACUTE COMPLAINT
  - POINT OF CARE TESTING
  - CHRONIC DISEASE COMPLIANCE BARRIERS

- **TEST RESULTS**
  - CHRONIC DISEASE MANAGEMENT
  - NEW ACUTE COMPLAINT
  - POINT OF CARE TESTING
  - CHRONIC DISEASE COMPLIANCE BARRIERS

- **PREVENTATIVE MED INTERVENTION**
  - NEW ACUTE COMPLAINT
  - POINT OF CARE TESTING
  - CHRONIC DISEASE COMPLIANCE BARRIERS

- **ACUTE MENTAL HEALTH COMPLAINT**
  - CHRONIC DISEASE COMPLIANCE BARRIERS

**HEALTHCARE SUPPORT TEAM**
- CASE MANAGER
- PROVIDER
- CERTIFIED MEDICAL ASSISTANT
- BEHAVIORAL HEALTH CONSULTANT
Care Team Ratios

Primary Care Team

- 1 Primary Care Provider
- 1 Certified Medical Assistant
- 1 RN Case Manager
- 1 Case Manager Support

Integrated Care Clinic Team

- 2 Behavioral Health Consultants
- 1 Pharmacist
- 1 Registered Dietitian
- 1.5 Certified Nurse Midwife
- 2 Coverage Physician Assistants/Nurse Practitioners

1,100-1,400 Empaneled Customer-Owners

6 General Practice Physicians
Integrated Care Teams

- Primary Care Provider
- RN Case Manager
- Certified Medical Assistant
- Case Management Support
- Coverage NP/PA
- Behavioral Health Consultant
- Dietician
Statement of Problem

- Modern medicine's technological focus
- Diagnosis focused on healthcare
- Not person focused
- US ranks last in performance in healthcare
  - 2004
  - 2006
  - 2007
- 2010
- 2014

- U.S. healthcare system spends 17.9% of GDP on healthcare
To examine patient and provider factors that may influence the patient-provider relationship in a primary care setting to result in improved health outcomes.
Study Objectives

- To investigate whether patients who are empaneled to a Primary Care Provider perceive that a relationship with a PCP is important to improving their health outcomes
- To evaluate, from the perspective of the patients who are empaneled to a Primary Care Provider, the quality of the relationship with this Primary Care Provider
- To measure the impact of patient and provider factors on the quality of the patient-provider relationship and on health outcomes
Research Question

What patient and PCP factors, if any, influence the relationship between a PCP and a patient that result in improved health outcomes?
Hypothesis 1

Do patients empaneled to a PCP perceive that a relationship with a PCP is important to improve health outcomes?
Hypothesis 2:

- Patients empaneled to a PCP report having a relationship with that PCP.

Sub-Question 2:

- Do patients who are empaneled to a PCP report having a relationship with that PCP?
Hypothesis 3: Patients empaneled to a PCP who report having a relationship with that PCP have better health outcomes than patients who do not report having such a relationship.

Sub-Question 3:
Do patients empaneled to a PCP who report that having a relationship with that PCP is important to improving health outcomes have better health outcomes?
Hypothesis 4:
- Two factors will be identified as resulting in better health outcomes after adjusting for all other factors: (a) the continuity factor called match rate, and (b) the CARE measure to assess the quality of the patient-provider relationship.

Sub-Question 4:
- What factors, if any, impact the strength of a relationship between a patient empaneled to a PCP and that PCP that results in improved health outcomes?
Patient Factors

- Age
- Gender
- Ethnicity - Alaska Native and American Indian
- Marital Status
- Socioeconomics (by median income at zip code, by government insurance status)
- Higher utilization of services (by use of a wellness care plan)
- Chronic illness
- Family of patient empaneled to same PCP (self-report)

- Length of time empaneled to the same PCP (self-report)
- Health rating (self-report)
- Match between PCP indicated as self-report and in medical record
- Importance to health of the relationship with PCP (self-report)
- Identification as having a relationship with a chosen PCP (self-report)
- Assessment of relationship (by CARE measure)
Primary Care Provider Factors

- Age
- Gender
- Ethnicity
- Percent of time working as PCP (by percent of full time equivalency)
- Employment tenure as PCP (date of hire)
- Type of provider (physician, senior physician, medical director, nurse practitioner, physician assistant)

- Clinic location (1East, 1West, 2East, 2West, 3East, 3West, Valley) to address nesting of providers within clinic
- Continuity match rate (percentage of time patient sees chosen provider for primary care visit)
- Mean satisfaction by patients on panel
Health Outcomes

- Rating of health (self-report)
- Number of visits by patient to primary care clinic
- Chronic condition present
- Number of chronic conditions
- Number of visits by patient to emergency department room including urgent care
- Number of inpatient stays
- Percentage of health care screenings received
- Percentage of health care screenings or monitoring in control for those patients with chronic condition
Significance

- Changes in selection and retention of PCPs
- Improved PCP training
- Changes in patient education
- Improved health outcomes
Research Methods

Quantitative Research Design
Convenience Sample
Combined survey- CARE measure and additional survey questions.
Data from patient health record and employee database.
## Multilevel Analysis

<table>
<thead>
<tr>
<th>Health Outcomes</th>
<th>Multilevel Analysis Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating of health (self-report)*</td>
<td>Binomial logistic</td>
</tr>
<tr>
<td>Number of visits by patient to Primary Care Clinic</td>
<td>Poisson</td>
</tr>
<tr>
<td>Chronic condition present</td>
<td>Binomial logistic</td>
</tr>
<tr>
<td>Number of chronic conditions</td>
<td>Zero-inflated Poisson</td>
</tr>
<tr>
<td>Number of visits by patient to emergency department including urgent care</td>
<td>Zero-inflated Poisson</td>
</tr>
<tr>
<td>Percentage of inpatient stays</td>
<td>Zero-inflated Poisson</td>
</tr>
<tr>
<td>Percentage of health care screenings received**</td>
<td>Ordinary</td>
</tr>
<tr>
<td>Percentage of healthcare screenings or monitoring “in control” for patients with</td>
<td>Ordinary</td>
</tr>
<tr>
<td>Ordinary chronic condition**</td>
<td></td>
</tr>
</tbody>
</table>
Patient Sample & Description

- 2,126 Patients
- Mean age – 42 years old
- 69.9% females
- 33.7% patients with at least 1 chronic condition
- 1.7% patients with a Wellness Care Plan
- 6.7 average visits (annually) to primary care
- 34.6% patients with government insurance
Primary Care Provider Sample & Description

- 41 Providers
- Mean age – 43.6 years old
- 65.9% females
- 0.9FTE - Mean full time equivalency
- Mean tenure – 4.8 years
Objective 1

<table>
<thead>
<tr>
<th>Objective 1</th>
<th>A relationship with a primary care provider is important to improving health outcomes</th>
</tr>
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<tbody>
<tr>
<td>Hypothesis 1</td>
<td>Patients empaneled to a PCP perceive that a relationship is important to improve health outcomes</td>
</tr>
<tr>
<td>Patient Factors of Significance</td>
<td>Self-reported time empaneled was the only patient factor of significance</td>
</tr>
</tbody>
</table>
### Objective 2

**Evaluate the quality of the relationship with the PCP from the patient’s perspective**

<table>
<thead>
<tr>
<th>Hypothesis 2</th>
<th>Patients empaneled to a PCP report having a relationship with a Primary Care Provider</th>
<th>76.8% of sample self-reported agreement on having a relationship Mean score on CARE was 44.4</th>
</tr>
</thead>
</table>

**Patient Factors of Significance**
- Age
- Number of chronic conditions
- Self-reported time empaneled
- Self-reported health rating
- Gender
- Match between self-report and EHR reported PCP

**Primary Care Provider Factors of Significance**
- Patient Satisfaction – Recommendation score
- PCP position (physician position lower score)
### Objective 3

#### Measure the impact of patient and PCP factors on the quality of the relationship on health outcomes

<table>
<thead>
<tr>
<th>Hypothesis 3</th>
<th>Patients empaneled to a PCP who report having a relationship with that PCP have better health outcomes than patients who do not report having a relationship</th>
<th>“I have a relationship with a PCP” – Significant Results</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>• Self-reported health rating increased</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Count of visits to PCP increased</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Likelihood of having at least one chronic condition increased</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of chronic conditions increased</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Overall CARE Measure Score</th>
<th>• Self-reported health rating increased</th>
</tr>
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<tr>
<td></td>
<td>• Average number of Emergency Department visits decreased</td>
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Objective 3

Measure the impact of patient and PCP factors on the quality of the relationship on health outcomes

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<th>Hypothesis 4</th>
<th>Two factors will be identified as resulting in better health outcomes after adjusting for all other factors: (a) the continuity factor called match rate, and (b) the CARE measure to assess the quality of the patient-provider relationship</th>
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</table>
| Patient Factors | • Gender  
• Age  
• Income Level |
| Provider Factors | • Position  
• Tenure |
Limitations

- Uniqueness of research setting
- High percentage of positive responses
- Impact of visit based approach in research design
- My role in the research setting
Recommendations for SCF and Health Care Organizations

1. Focus groups – differences in definitions of relationship across segments
2. Retention of PCPs
3. Training and onboarding of PCPs
4. Patient Education topics – building trust, co-creating relationships, taking control
Recommendations for SCF and Health Care Organizations

5. Explore differences between how the health care system and patient defines health outcomes
6. Evaluate use of match rate as measure of continuity
7. Use of CARE measure
1. Longitudinal study to evaluate association between relationships and health outcomes over time
2. Changes to CARE measure
3. Comparative research study across various populations
Questions
# Upcoming Nuka Events

<table>
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<tr>
<th>Event Name</th>
<th>Event Date</th>
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<tbody>
<tr>
<td>Behavioral Health Integration Training</td>
<td>January 22-24, 2018</td>
</tr>
<tr>
<td>Quality Management Training</td>
<td>February 5-9, 2018</td>
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<tr>
<td>Integrated Primary Care Team Training</td>
<td>February 26-28, 2018</td>
</tr>
<tr>
<td>Coaching and Mentoring Program</td>
<td>February 26- March 2, 2018</td>
</tr>
<tr>
<td>Core Concepts Training</td>
<td>March 7-9, 2018</td>
</tr>
<tr>
<td>Nuka System of Care Conference</td>
<td>June 18-22, 2018</td>
</tr>
</tbody>
</table>

Customization and Consulting Available           Additional Dates Available
Thank You!

Qa'gaasakung
Aleut

Mahsi'
Gwich’in Athabascan

Quyanaa
Alutiiq

Quyanaq
Inupiaq

Awa'ahdah
Eyak

Háw'aa
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