RPM: Is It All It Is Cracked Up to Be?

Session 192, February 22, 2017

Hank Fanberg, Director of Innovation, Christus Health System
Gregg Malkary, Managing Director, Spyglass Consulting Group
Speaker Introduction

Gregg Malkary, MS
Managing Director
Spyglass Consulting Group
Menlo Park, CA  94025

(650) 575-9682
gmalkary@spyglass-consulting.com
@SpyglassGregg
Speaker Introduction

Hank Fanberg
Director of R&D Innovation
Christus Health System
Metairie, LA

Hank.fanberg@christushealth.org
Gregg Malkary, Managing Director
Spyglass Consulting Group

Has no real or apparent conflicts of interest to report

Hank Fanberg, Office of the CIO
Technology Advocacy and Innovation
CHRISTUS Health

Has no real or apparent conflicts of interest to report.
AGENDA

• RPM has gained popularity, Is it effective?
  – Does it work?
  – What are the benefits?
  – What are the costs?
  – Do people like it and trust it?

• Presentation of findings of national survey of providers that use RPM
  – Does it work?
  – What are the benefits?
  – What are the costs?
  – Do people like it and trust it?

• Case Study: CHRISTUS Health
  – Three years into RPM; what are the results
  – ROI calculations – myth, mystery or mastery
Learning Objectives

1. Identify how new at-risk payment and care delivery models influence RPM investments
2. Analyze hospital-based population health initiatives ready to integrate RPM data within existing clinical care processes and systems
3. Describe which market factors are influencing investment in RPM and how they impact decisions to deploy or not
4. Describe which types of tools are deployed to engage chronically ill patients that impact their behavior and lifestyle choices
Benefits of RPM: STEPS Value of Health IT

- Are clinicians and patients satisfied?
- Is interoperability an issue?
- What is its cost effectiveness?
- Does it improve outcomes?
• End-user market study
  – Remote patient monitoring
• Interviewed
  – 100 healthcare professionals in United States
• Conducted telephonic interviews
  – Impact and benefits of RPM to support pop health
  – Workflow inefficiencies in managing chronically ill
  – Integrating RPM with existing processes, infrastructure & tools
• Published
  – November 2015
• From the general to the specific
  – CHRISTUS Health RPM results
TOPIC: Remote Patient Monitoring

• Remotely monitor patients with chronic diseases
  – Congestive Heart Failure
  – Chronic Obstructive Pulmonary Disease
  – Diabetes
  – Asthma

• Key Benefits
  – Improve patient outcomes
  – Reduce healthcare delivery costs
  – Increase access to care

• Early adopters
  – Managed care organizations
Which market factors influencing RPM investments?

• Underlying market factors
  – Healthcare costs spiraling
  – Baby boomer rapidly retiring
  – Prevalence of chronic disease

• US healthcare system fails chronically ill
  – Providers lack incentives
  – Patients are forced to self-manage
  – Self management resulting excessive hospital readmissions
Are population health programs ready for RPM?

• Chronically ill patients ready for RPM
  – 67% home health agencies
    • Patients ready to use RPM and engage in care process

• Population health programs not ready for large-scale deployments
  – 78% hospitals
    • RPM not well integrated with care processes & systems
  – 68% hospitals
    • Physicians uncomfortable using RPM data
Are RPM solutions clinically effective?

• RPM solutions are clinically effective
  – 55% hospitals
  • RPM solutions effective
    – Early symptom management tool

• Existing clinical trials
  – Limited in size & scope
  – Controlled environments ≠ patient care setting
Can RPM data be easily collected, shared and analyzed?

- RPM data is not easily shared across care continuum
  - 61% hospitals integrated RPM data within EHR

- Analytics tools not ready for population health
  - 79% hospitals using analytics & decision support
    - 56% concerned tools inadequate to manage value-based risk
How RPM solutions evolving to engage patients?

• Providers investing in mobile RPM solutions
  – 98% hospitals who deployed RPM
  • Using mobile devices to support chronically ill patients

• Providers showing interest in patient BYOD & Wearables
  – 66% hospitals evaluating patient BYOD
  – 58% hospitals evaluating Wearables
Do RPM solutions provide a compelling ROI?

• Providers experiencing difficulties calculating ROI
  – 71% hospitals concerned
  • Lack of reimbursement
  • Difficulties determining baseline measurement costs
Review: STEPS Framework for RPM

• Satisfaction
  – Which market factors influencing RPM investments?

• Clinical
  – Are population health programs ready for RPM?

• Secure Data
  – Can RPM data be easily collected, shared and analyzed

• Patient Engagement
  – How RPM solutions evolving to engage patients?

• Savings
  – Is there a compelling ROI?
CHRISTUS Health

- International Catholic, not-for-profit health system that began a ministry of healing almost 150 years ago
- Over 60 hospital and long-term care facilities in six U.S. states, Mexico, Chile and Colombia
- More than 350 care sites
- 9,500 affiliated physicians
- 30,000 employees
- Headquartered in Dallas
Everyone in this Room Has Drunk...
We Believe in the Inherent Value of HIT

Stick out your tongue and say AHHHHSIMILATE
The Shape of Healthcare is Shifting
Control is Shifting

FROM

• Provider centric (that which is most convenient for us; we control all access to all services)

TO

• What works for the patient
  – the world that patients/healthcare consumers inhabit is in complete contrast with the old, physician-centered world.

• Social Media, mobile, home visits, remote technologies, navigation
The Organization of Health Care is Shifting
Understanding of Patient & Service Delivery is Shifting - From Time Limited

Pt. Presents to ED  ED Intervention  In Patient Care  Post Discharge Follow Up  Out Pt. & Specialty
TO: Care is Circular (Never Ending)

ED → InPt.

Population Health Mgmt and Influence

OutPt. & Specialty

Post D. Follow Up
Healthcare Financial Models are Shifting

- MACRA and MIPS
- Alternate payment models
- Medical Homes
- Value Based Purchasing

These alternate payment models encourage the use of ICT (telehealth, mHealth, virtual care, secure texting, remote monitoring etc.) to reduce costs and improve quality.
Medicare Cuts: CHRISTUS analysis 2010 - 2025

- Nationally, hospitals have absorbed $136 billion of new cuts since 2010

- For CHRISTUS:
  - Biggest legislative threat to system: **ACA market basket** cuts and **Rural Hospital Cuts** under consideration

  - Biggest regulatory threat **Coding Cuts**

- System’s estimated potential loss over time is **-12.6% for cuts enacted through 2025** and -15% when including those under consideration
Value-Based Purchasing: The Shift is Here
CHRISTUS APMs

Accountable Care Organizations (ACOs) (Track 1)
The Medicare Shared Savings Program ACOs are partnerships among health care providers to coordinate and deliver high quality, cost-efficient health care services to defined populations. ACOs will be rewarded if they lower their health care costs while meeting performance standards on quality of care and putting patients first. Each ACO must have at least 5,000 beneficiaries enrolled. The ACOs launched in January 2016.

Accountable Health Communities Model (AHC)
The AHC model tests whether addressing health-related social needs, such as food insecurity or unstable housing, improve health outcomes and impacts total healthcare costs. The model promotes the collaboration of community and clinical services to ensure that beneficiaries' health-related social needs and medical care is managed and coordinated.

Bundled Payments for Care Improvement (BPCI) Initiative Model 2
The BPCI initiative links payments for multiple services beneficiaries receive during an episode of care. Specifically, Model 2 involves a retrospective bundled payment arrangement in which actual expenditures are reconciled against a set price for an episode of care.

Comprehensive Care for Joint Replacement (CJR) Model
The mandatory program requires acute care hospitals in 75 select geographic areas to be held financially accountable for the quality and cost of a CJR episode of care. The episode of care begins with an admission to a participant hospital of a beneficiary who is ultimately discharged under MS-DRG 469 or 470 (major joint replacement or reimbursement of lower extremity with and without major complications or comorbidities) and ends 90 days post-discharge in order to cover the complete period of recovery for beneficiaries. The five-year program started April 1, 2016.

Health Care Innovation Awards
Based on a competitive application process, 107 organizations are receiving funding through the Center for Medicare and Medicaid Innovation to test new payment and service delivery models that deliver better health, improved care and lower costs to people enrolled in Medicare, Medicaid and Children's Health Insurance Program (CHIP), focusing on those with the highest health care needs.

Oncology Care Model (OCM) (1-Sided Risk)
Physician practices have entered into payment arrangements that include financial and performance accountability for episodes of care surrounding the administration of chemotherapy to cancer patients. Seventeen commercial payers have aligned with Medicare in order to provide flexible and comprehensive incentives that aim to transform cancer care at the physician practice level. The five-year model began July 1, 2016, and runs through June 30, 2021.

CHRISTUS Participation
- CHRISTUS Regions
- St. Michael
- St. Vincent

CHRISTUS APMs
CHRISTUS Health will provide care to defined segments within our communities in the right place at the right time while improving quality, being good stewards of resources and improving outcomes.

The Shift to Population Health has Begun

Population Health will play a more important role in the ever changing healthcare environment. What is the strategy?

Alignment of Assets & Stakeholders

Alignment of Processes & Programs

Alignment of Information

Agility to Meet Changing Landscape

Improve Quality & Outcomes
Fairy Tale or Apocalypse?
CHRISTUS has made significant investments in technologies and our Meaningful Use program has been nationally recognized.

CHRISTUS has the ability to aggregate and report quality data for MIPS and Advanced APMs: MEDITECH, Athena, Wellcentive, Midas and data warehouse and business analytics implementations.

The key challenge going forward remains around interoperability between CHRISTUS and non-CHRISTUS entities in order to support broad care management, quality reporting and payment bundling.
Make Care as Convenient as a Smart Phone
Where’s the Evidence that It Works??
RPMS Pilot

- Home-based wireless Kit
- Tablet
- Scale
- Blood Pressure Cuff
- Pulse Oximeter
- Improves self-health governance
- Increases patient access to/interaction with healthcare provider
RPMS Pilot

- Heart Failure patient-focused
- 10-15 Daily Questions
- Alarm reminder
- Updates provided/High-risk alerts
- Videoconference capability
Remote Patient Monitoring Solution [RPMS] Return on Investment

Diabetes & Hypertension Medicaid Patients Only

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre Intervention</td>
<td>Post Intervention</td>
<td>Pre Intervention</td>
</tr>
<tr>
<td>Total Patients Transicted</td>
<td>19</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Total Hospital Cost of Care</td>
<td>$906,129</td>
<td>$297,426</td>
<td>$906,129</td>
</tr>
<tr>
<td>Reimbursement/Revenue</td>
<td>$67,928</td>
<td>$22,823</td>
<td>$67,928</td>
</tr>
<tr>
<td>Total Cost Less Reimbursement</td>
<td>$838,201</td>
<td>$274,603</td>
<td>$838,201</td>
</tr>
<tr>
<td>Net Total Saved</td>
<td>$563,598</td>
<td>$581,401</td>
<td></td>
</tr>
</tbody>
</table>

**Annual Program Costs**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>$85,000</td>
<td>$85,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Visit/Pick up Costs</td>
<td>$316</td>
<td>$316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device Costs</td>
<td>$26,435</td>
<td>$26,435</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Config and Training</td>
<td>$40,000</td>
<td>$40,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interface Development</td>
<td>$17,500</td>
<td>$17,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly Costs [Annualized]</td>
<td>$14,850</td>
<td>$14,850</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vivify Health [VH] Travel</td>
<td>$2,500</td>
<td>$2,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fed Ex</td>
<td>$206</td>
<td>$206</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kit Box Replacement</td>
<td>$563</td>
<td>$563</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kit Equipment Replacement</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Program Costs</td>
<td>$187,370</td>
<td>$187,370</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Net Cost**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$376,228</td>
<td>$394,031</td>
<td>$670,751</td>
<td></td>
</tr>
</tbody>
</table>

**Return on Investment [ROI]**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$2.01</td>
<td>$2.10</td>
<td>$3.58</td>
<td></td>
</tr>
</tbody>
</table>

N=19 is # of current CTN patients that meet Medicaid requirements; not reflective of actual need
Telemedicine & Reduction of Transfers in a Rural Facility
• Access to specialty coverage is limited to nonexistent in the rural communities

• Over half of the transfers require the following specialties
  – Cardiology
  – Neurology
  – Nephrology
  – Pulmonology
Hospital to Hospital Transfers

- Monthly transfer average is 145
- For one month 78 transfers were from the top four specialties
- Transfers result in:
  - family inconvenience
  - loss of confidence in Community hospitals
  - duplicate ED costs
  - ED and Inpatient throughput delays
  - unnecessary transportation costs
  - delays in treatment
  - unnecessary utilization of inpt beds
  - dissatisfaction of on-call physicians
Case Example

- Acute renal failure, hypotension, sepsis.
  - Transferred to South for a Renal consult and discharged 3 days later without any interventions.
  - Final bill was $35,571.97

- Chronic renal failure on dialysis with need for neurology consult
  - Discharged without interventions 2 days later.
  - Received dialysis and Neurology consult.
  - Final bill was $25,890.93.
Assessment

• 44 of 78 transfers could have remained local
• Community hospital sustainability improved
• Avoidable EMS charges
• Potential reduction in overall length of stay
• Reduction in overall cost of care
• Improved patient/family and clinician experience
Telemedicine Benefits

**Patient Benefits**
- Patient convenience, prevent unnecessary travel
- Increases patient satisfaction
- Reduced patient costs
- Patients given better standard of care due to the availability of specialists
- Patient-centered health care model

**Provider Benefits**
- Cardiologists and Nephrologists can still bill for consult from the convenience of their office
- Providers can see patients anytime/anywhere
- Provider’s time used more efficiently; minimized travel
- Improved working lives of physicians

**Facility Benefits**
- Decrease transfers
- Increased Confidence in Alice facility
- Duplicate ED charges avoided
- Reduce unnecessary transportation costs
- Better care coordination
- Improved operating efficiency
Getting there will sometimes be challenging
We Sometimes run into gridlock
Conclusion: We Can’t Afford to Slow Down..
Concluding STEPS Framework for RPM

• Satisfaction
  – Cost of care has become king
• Clinical
  – Are population health programs ready for RPM? YES
• Secure Data
  – Interoperability issue – to connect or not to EHR
• Patient Engagement
  – Patient Love it
• Savings
  – Demonstrable
For additional information

Hank Fanberg
Director of R&D Innovation
Christus Health System
Metaire, LA
Hank.fanberg@christushealth.org

Gregg Malkary, Managing Director
Spyglass Consulting Group
(650) 575-9682
gmalkary@spyglass-consulting.com
@SpyglassGregg