How Connected Health Builds Patient Engagement

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North Dakota HIMSS Chapter
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About Me

• Senior Manager, Consumer Health IT
  PCHAlliance of HIMSS

• HIMSS staff since 2013 – work at the HIMSS
  Innovation Center in Cleveland

• HIMSS member since 2002

• HIMSS Fellow

• Former chapter leader

• Previously at Cleveland Clinic in
  Clinical Research Informatics

• Adjunct Faculty at Kent State University in
  Health Informatics Masters program
About the Personal Connected Health Alliance

• Focus is on consumer/patient perspective on connected health technology, such as, apps and devices (fitness, remote monitoring, wearables)
• Result of a merger of the mHealth Summit and the Continua Alliance
• Now sponsor the Connected Health Conference (October in Boston)
• Several events at the HIMSS Annual Conference and HIMSS Europe
Objectives

• Patient Engagement is more than a patient portal
• Connected Health tools are available to enhance engagement
• Personalization is needed to engage
• How patient engagement technologies fit with population health
• Helping those lacking health and digital literacy and access
• The future is bright for Personal Connected Health
The patient must be at the center of this transition.

- Our largest struggle is not with the patient who takes their medication regularly,
- but with the patient who does not engage in their own care.
- Technology can be the driver that excites a patient with the prospect of wellness.

– Stephen Beck, chief medical information officer at Mercy Health
Patient Engagement is more than an patient portal
Portal Features

**Convenience**
- Scheduling
- Viewing appointments/orders
- Maps and directions
- Online bill viewing and payment
- Prescription refills

**Results**
- Lab and radiology
- Visit summaries
- Open notes
- Immunizations and allergies
- Discharge instructions

**Communication**
- Secure messaging
  - Appointment follow up questions
  - Non-urgent questions
- Signup for text or phone reminders
- Patient education
Challenges of Patient Portals

- Portal adoption below expectations
- What is the value to an individual patient?
- Activated patients demand their data but what about the rest?
- Patient navigators as portal educators
High interest in portal functionality nationally:

**Consumers: Interest in Online Communication**

<table>
<thead>
<tr>
<th>Service</th>
<th>Percent Interested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email appointment reminders</td>
<td>65%</td>
</tr>
<tr>
<td>Online electronic correspondence about health</td>
<td>62%</td>
</tr>
<tr>
<td>Text appointment reminders</td>
<td>41%</td>
</tr>
<tr>
<td>Postal mail appointment reminders</td>
<td>28%</td>
</tr>
</tbody>
</table>

**Consumers: Interest in Online Tools**

<table>
<thead>
<tr>
<th>Service</th>
<th>Percent Willing or Very Willing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get RX refill</td>
<td>84%</td>
</tr>
<tr>
<td>Get test results</td>
<td>76%</td>
</tr>
<tr>
<td>View medical records</td>
<td>75%</td>
</tr>
</tbody>
</table>

Optum Institute/Harris Interactive Multi-stakeholder Health Care Environment Survey, June 2012
Portal Adoption below expectations

- 29% according to an athenahealth survey
- Not related to age
- May be related to income
- Registering or Logging in one time does not equal adoption
- Some drop off may be due to usability
Drivers of Point-of-Care Consumerism Increasingly Taking Hold HDHP = high deductible health plans

Source: Advisory Board
BMC Nephrology

Development of a chronic kidney disease patient navigator program

Stacey E Jolly, Sankar D Navaneethan, Jesse D Schold, Susana Arrigain, Victoria Konig, Yvette K Burrucker, Jennifer Hyland, Priscilla Dann, Barbara H Tucky, John W Sharp and Joseph V Nally

Conclusions

The need for novel approaches like our CKD patient navigator program designed to impact CKD care is vital and should utilize team-based care and health information technology given the changing landscape of our health systems.
Connected Health tools are available to enhance engagement
Good News - Connectivity

Broadband

Fixed Wireless
Apps that work
Rx Universe - Mobile Health Prescription Platform
Example from Carolinas Healthcare

MyCarolinas Tracker

• Syncs and stores your health information from select exercise trackers, blood pressure cuffs, glucometers, scales, heart rate monitors, pulse oximeters, and thermometers. You can also add information manually by entering it into the app yourself.

• Tracks lab data, such as blood sugar and cholesterol levels.

• Creates reports that you can share with your doctor or health coach to help you reach your health goals. You can even see your dashboard in MyCarolinas.
How do we capitalize on consumerism in healthcare?
Examples of Patient Engagement Apps

Nicklaus Children's Hospital, Miami, Florida

- **Discharge App** - Digital access to discharge instructions via the app. Patients and families can login to the app whenever and wherever to review discharge instructions by date and visit.

- **CareNotify** - Provides a real-time "feed" of a patient's activity within the care setting. Now, parents/guardians/family members will be able to know what is going on during their child's visit.
Telehealth and video visits

• University of Pennsylvania
• AnywhereCare app is actually intended for non-emergency ailments that nonetheless require urgent care, such as sore throats and respiratory illnesses.
• available for free on smartphones, tablets or desktop computers, and users can expect to wait a little over six minutes, on average, to see a clinician.
• [http://www.mobihealthnews.com/content/upmc-health-plan-launches-app-based-video-visits-all-pennsylvania-residents](http://www.mobihealthnews.com/content/upmc-health-plan-launches-app-based-video-visits-all-pennsylvania-residents)
Patient Engagement in Patient Safety

- Customized patient education in *preparing for surgery*
- Patient *reporting errors* in their record – especially outdated or missing medications
- *After visit summary* and open notes to allow patient and family caregivers to review instructions given during the outpatient visit
Open Notes – It’s OK to ask
What is patient activation?

**Level 1**
Starting to take a role
Patients do not yet grasp that they must play an active role in their own health. They are disposed to being passive recipients of care.

**Level 2**
Building knowledge and confidence
Patients lack the basic health-related facts or have not connected these facts into larger understanding of their health or recommended health regimen.

**Level 3**
Taking action
Patients have the key facts and are beginning to take action but may lack confidence and the skill to support their behaviors.

**Level 4**
Maintaining behaviors
Patients have adopted new behaviors but may not be able to maintain them in the face of stress or health crises.

Increasing Level of Activation

J Hibbard et al, 2009
Co-design of Patient Engagement

- Patient Advisory Councils for patient engagement initiatives
- Surveys of portal users
- According to Donna Smith, MD, executive medical director for patient care services at Virginia Mason Medical Center in Seattle: “We view patients and their families as equal partners as we **co-design** healthcare processes together, based on their feedback and needs.”
The Need to Go Mobile

- 77% of citizens own smart phones, 95% own mobile phones
- People look at their phones 85 times a day
- Expectation that they can receive any kind of information on mobile

http://www.pewinternet.org/fact-sheet/mobile/
Personalization is needed to engage
Shift in thinking needed

- Health systems have 5 or 10 times as many patient users as employee users. Example – 10,000 employees, 100,000 patients with portal accounts.
- Information Technology Departments need dedicated help desk for patients, trained in staff in understanding the virtual patient experience and dealing with people who may be challenged by technology.
- Patient use needs to be part of the BYOD strategy.
- Need usability testing for portals and apps which are patient-facing.
- Example: Oschner Clinic in New Orleans – O-Bar – in person help desk on apps.
Personal Health Dashboard
How difficult is personalization to implement?

Geisinger Medical Center, Pennsylvania

- Using customer relationship management

**Patient Preferences**
- Patient Portal
- IVR
- Text Messages

**Input Into Their Care**
- Patient reported data
- ProvenExperience Program & Mobile App

**Online Access**
- Self-scheduling
- iTunes University
- Web-Site Redesign & eVisits (April)
Personalization in Maternity Care

I_am_totaly – pregnant, that is - [http://www.iamtotally.com/](http://www.iamtotally.com/)

- Customized messaging based on week of pregnancy
- Ability to message
- Care team
- Offer classes locally
How patient engagement technologies fit with population health
These are the 5 forces that impact a person's health:

- **Environmental** impact: 5%
- **Healthcare Delivery** impact: 10%
- **Social** impact: 15%
- **Behavioral factors** impact: 40%
- **Genetic** impact: 30%
Patient Generated Health Data

Technical Challenges

- Concerns about managing large volume of PGHD
- Questions about accuracy of measurements from devices that collect PGHD
- Use authentication risks
- Lack of PGHD interoperability standards inhibit data exchange and merging
- Data provenance issues
- Gaps in privacy and security protections

Patients and Caregivers Opportunities

- Empower patients and caregivers to better manage their health
- Support shared decision-making that considers patients’ preferences
- Provide clinicians with a better understanding of the patient’s health over times
- Reduce the time, effort, and cost associated with visiting a clinician or research site

From the ONC white paper on PGHD
Preventing readmission and unnecessary ER visits

Remote monitoring of patients with heart failure who had been admitted to the hospital or visited the emergency room yielded a savings of $8,375 per patient monitored.

Managing Chronic Conditions

Remote patient monitoring for diabetes and hypertension

- University of Mississippi Center for Telehealth
- Monitoring in rural, underserved counties in the state
- 96 percent took their medications as directed
- 83 percent kept their scheduled telehealth appointments
- average hemoglobin A1c level dropped
- [https://www.umc.edu/Administration/Centers_and_Institutes/Center_for_Telehealth/Telehealth_News.aspx](https://www.umc.edu/Administration/Centers_and_Institutes/Center_for_Telehealth/Telehealth_News.aspx)
Helping those lacking health and digital literacy and access
Literacy and Access

• Literacy is not just about health terminology anymore
• Tech literacy is as important
• Access to internet limited for some – both wired and wireless
• Simplifying apps can help
Some users will still be on dialup or slow networks

Some users only have access at the public library
Local classes on portal use, apps

Cleveland example

Under an FCC grant (Connect2Health), a researcher developed a program to train inner-city elderly in patient portal use

Classes were conducted in community-based senior centers

High satisfaction rate.
The future is bright for Personal Connected Health
Dawn of a New Age of Innovation
Evaluating what works

✓ Network of Digital Evidence – NODE Health
✓ Diabetes Prevention Programs with virtual coaching work
✓ Remoting motoring in CHF prevents ER visits, readmission
✓ New, more sensitive and accurate devices coming
✓ Better Artificial Intelligence behind these apps and devices
Remote Monitoring and telehealth will become standard of care

Effect of Home Monitoring via Mobile App on the Number of In-Person Visits Following Ambulatory Surgery

Follow-up care delivered via a mobile app can be used to avert in-person visits following ambulatory surgery.

Mobile app follow-up care affects neither complication rates nor patient-reported satisfaction scores, but it improves patient-reported convenience scores.

JAMA Surgery:

http://jamanetwork.com/journals/jamasurgery/article-abstract/2612832
Take Aways

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Use this playbook to help you:

• Facilitate easy enrollment to achieve greater portal adoption
• Meet patient needs online — while also streamlining practice workflow
• Involve caregivers in an appropriate way
• Integrate patient-generated health data to improve clinical decision-making and care

https://www.healthit.gov/playbook/pe/
Contact me:
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SlideShare.net/johnsharp