Collecting Patient Reported Outcomes via Questionnaires in MyChart and Welcome

Joe Greene
Department of Orthopedics and Rehabilitation
Program Manager, Outreach and Development
The UW Health System

- **UW Hospital and Clinics**
  - 566 bed facility with 27,325 inpatient admissions
  - Wisconsin’s only Level 1 Adult and Pediatric Trauma Center
  - 85 outpatient clinics with 605,865 annual visits

- **UW Medical Foundation**
  - One of the 10 largest medical groups in the nation
  - 48 practice locations
  - 2,317,000 annual outpatient visits

- **UW School of Medicine and Public Health**
  - 1208 UW School of Medicine and Public Health Faculty Physicians
UW Health Orthopedics and Rehabilitation

- **UW Orthopedic Service Line**
  - 600+ employees
  - Highly profitable service line with UW Health
  - Highly comprehensive

- **Department of Orthopedics and Rehabilitation**
  - 29 orthopedic surgeons
  - 13 rehabilitation providers
  - 5 primary care sports medicine providers

- **Research and Education**
  - 25 residents and 4 fellows
  - Robust stem cell and regenerative medicine research
  - Strong and evolving clinical research program
Our Objectives

- Discuss the need for questionnaires in orthopedics
- Define the UW Health System approach to questionnaire deployment
- Describe our orthopedic pilot and discuss lessons learned
- Discuss the likely next steps for the UW Health System
“I am becoming increasingly convinced that what is truly important in healthcare is inversely related to what is easily measurable.”

Vernon Weckwerth PhD
Professor Emeritus
University of Minnesota
Master of Public Health
ISP Executive Study Program
Why the Need in Orthopedics?

Quality and Outcomes
Research
Reporting
Registries
The Government
Third Party Payors
Marketing
Bundling
Example 1: The AJRR Registry

- AAOS and Industry Sponsorship
- Knee and Hip Arthroplasty
- 400+ Hospitals Reporting Level 1 Data
- 18 Hospitals Reporting Level II and III Data
- Medicare Qualified Clinical Data Registry
Example 1: The AJRR Registry

- **Level 1 Data**
  - Patient, Surgeon, and Procedure Data
- **Level 2 Data**
  - Quality and Safety Data
- **Level 3 Data**
  - Patient Reported Outcomes
- **Level 4 Data**
  - Radiographic Images
Example 2: Payors and Bundling

- **Joint Replacement Bundle Requirements**
  - Quality Reporting
    - HCAHPS
    -Complication
    -Re-Admissions
  - Registry Participation
    - Level 3 Data
  - Patient Reported Outcomes
    - Level 3 Data
“We are at about 50% EHR adoption and about 5% workflow adjustment.”

Farzad Mostashari, MD
Former National Coordinator
Health Information Technology
U.S. Department of Health and Human Services
PAT – Ortho Pilot Questionnaires

• Epic Solution vs Third Party Vendor Interface

• Key Considerations
  – Getting data in/out of Epic
  – IT and Operational Workflows
  – Tablet vs Kiosk vs MyChart
  – Real Time Access to Outcomes Data
  – Copyright and Cost Implications
• Chose to utilize an Epic approach
  – Discrete data stored in Epic
  – Can generate reports (individual and population level)
  – Offers multiple ways of data entry (Welcome, MyChart)
  – Helps with Meaningful Use
  – No interface required
Project Overview

Timeline

6 Clinics at 2 different locations including approximately 100 users including:

Physicians, Athletic Trainers, Physical Therapists, PAs, Residents, RNs, MAs, Schedulers
## Project Overview

### Resources

<table>
<thead>
<tr>
<th>UW Epic teams – 1024.75 hours</th>
<th>Consultants (10 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>– EpicCare Ambulatory</td>
<td>– MyChart</td>
</tr>
<tr>
<td>– Cadence</td>
<td>– Programmer</td>
</tr>
<tr>
<td>– MyChart</td>
<td>– Reporting</td>
</tr>
<tr>
<td>– Prelude/Welcome</td>
<td></td>
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<tr>
<td>– Training Team</td>
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<tr>
<td>– Project Manager</td>
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<tr>
<td>– Security</td>
<td></td>
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<tr>
<td>– Clinical Center for Knowledge Management</td>
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</tbody>
</table>
Project Overview

Questionnaires

**ACL (Clinics: Sports Med, Sports Rehab)**
- VR-12 Physical & Psychological Health Form
- IKDC Knee Evaluation Form
- ACL-RSI Return to Sport After Injury Scale
- MARX Activity Rating Scale
- SANE - Single Assessment Numeric Evaluation

**Hip (Clinic: Ortho)**
- VR-12 Physical & Psychological Health Form
- HOOS Hip Disability & Osteoarthritis Score Survey
- UCLA Activity-Level Rating Form
- Modified Harris Hip Form

**Low Back Pain (Clinics: Spine Ortho, Neuro, Spine PT)**
- VR-12 Physical & Psychological Health Form
- Oswestry Low Back Pain Form
Assign Questionnaire Series
- Scheduling question; Reporting Workbench used by Scheduler
- Order placed by clinician

Assign a Questionnaire
- Patient Entered Questionnaire Activity
  - Available on DAR and Multi-provider schedule

Patient entered questionnaires
- MyChart
- Welcome on a tablet in the clinic
Initially sought a Windows 7 tablet
  – Located a product and began testing
  – Lack of device quantity made the decision to use Windows 8

Two different Windows 8 models tested

Extensive testing completed
  – 40 hours testing
    • Every questionnaire
    • Saved responses
    • Response filing
    • Ease of answering

Model selected based on testing
Oswestry Low Back Pain Form

This form gives us information as to how your back pain is affecting your ability to manage in everyday life. It consists of 10 questions and will take approximately 5 minutes to complete. Please select ONE answer in each section for the statement which best applies to you. We realise you may consider that two or more statements in any one section apply but please just select the one that indicates the statement which most clearly describes your problem. Additionally, please let us know about any symptoms or issues that need attention by discussing at your next visit or by contacting the clinic.

Section 1 - Pain intensity

- I have no pain at the moment
- The pain is very mild at the moment
- The pain is moderate at the moment
- The pain is fairly severe at the moment
- The pain is very severe at the moment
- The pain is the worst imaginable at the moment

Continue
ACL-RSI Return to Sport after Injury Scale

This form asks for your views about your knee. It consists of 12 questions and will take approximately 5 minutes to complete. If you are uncertain about how to answer a question, please give the best answer you can. Additionally, please let us know about any symptoms or issues that need attention by discussing at your next visit or by contacting the clinic.

Are you confident that you can perform at your previous level of sport participation? 0 being not at all confident and 100 being fully confident.
Tablets in Clinic

- 28 tablets for 6 departments
- Tablets stored in locked cabinets

- Cleaned after each use with CaviWipes
Workflows / Build
Review Completed Questionnaires

Synopsis

ACL Reconstruction
Hip Replacement
Low Back Pain
Vitals

Display: Months, Days, All

Patient Spotlight
No data to display.

ACL Reconstructions Imaging
- MRI KNEE W/O CONTRAST RIGHT Date: 3/19/14
- ACL Reconstruction Surgery/Procedure
  No data to display.

Operative Notes
Op Notes

Vitals
- Height
- Weight
- BP
- BMI (Calculated)
- Pain Score
  - 0 - No Pain

ACL Reconstruction Assessment Scores
X SANE
- VR-12 Mental Component Summary
- VR-12 Physical Component Summary
- Marx Scale Score
- KDC Score
- ACL-RSI Maximum score = 100; higher ...

NSAIDs
- Ibuprofen
- KetORALAC

Analgesic - Narcotics
- Oxycodone

SANE Assessments
- VR-12 Assessments
- MARX Assessments
- IKDC Assessments
- ACL-RSI Assessments

Graph showing IKDC Score, ACL-RSI Maximum score, and Marx Scale Score with dates from 7/31/14 to 1/27/15.
Project Overview
Pilot Data
(Totals 10/16/14 - 6/30/15)

Ortho Questionnaire Pilot Summary

<table>
<thead>
<tr>
<th>Questionnaire Type</th>
<th>Count</th>
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<tbody>
<tr>
<td>Hip Questionnaires</td>
<td>367</td>
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<tr>
<td>ACL Questionnaires</td>
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<tr>
<td>Low Back Pain QNRs</td>
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<td>VR-12 Questionnaires</td>
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<tr>
<td>Questionnaires</td>
<td>8523</td>
</tr>
</tbody>
</table>

% Questionnaires completed in MyChart vs. Welcome

- MyChart Only: 77% (7425)
- MyChart and Welcome: 23% (2154)
- Welcome Only: 0% (5)
% QNRs completed in MyChart

- Oct 2014: 5%
- Nov 2014: 10%
- Dec 2014: 15%
- Jan 2015: 20%
- Feb 2015: 25%
- Mar 2015: 30%
- Apr 2015: 35%
- May 2015: 40%
- Jun 2015: 40%
% MyChart Active Patients per # Encounters

- Ortho Pilot clinics
- UW Health

Pilot Go-Live October 16th
Questions

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Lessons Learned

• Security to place an order for the questionnaire is not different from other orders security

• Complex scoring rules requires custom programming; allow for time and resources

• Anchor events: surgeries are not mapped to surgical history. Unable to capture accurately in Epic

• Test and Retest Scoring algorithms

• Start looking for a device early. May take several months to find the right device with enough inventory.

• Work with your technical team to set a reasonable due date to have the test device configured and account for this in your timeline so this time doesn’t affect the time allotted for testing.
Lessons Learned

• Allow enough time for testing throughout the development of the project. Every change to every question needs to be tested. Also allow time to test once all of the production tablets are ready, prior to being deployed to the clinics.

• Have multiple users test, sometimes it takes a couple people to catch a small misspelling, or notice an issue in a questionnaire.

• Read the manual for the tablet, there are often enhancements that can be made, for example sleep mode can be implemented on the device when not in use.
Epic Enhancement Requests

• Questionnaire Management Dashboard: A One-Stop Shop for Questionnaire Assignment & Cancellation
• Accounting for Cutover Patients: Queuing Patients for Questionnaire Delivery at the Right Time
• There Should be an App for That: In-Clinic Questionnaire Collection with an App for iOS & Android
• Show Score AFTER Submission
• Questionnaire responses should file to doc flowsheets. Similarly, questionnaires should file to Smartforms other than type note.
• Track My Health – Smarter Display for Review Flowsheets should file to Smartforms other than type note.
• Ability in Questionnaire Series Record to look at ANY Anchor Event, Rather than ALL
• Easier bulk assignment of questionnaire series.
Epic Enhancement Requests

• One-off Bulk Questionnaire Assignment
• Preference List for Questionnaire Series Orders
• Clearly Delineate Questionnaire Submissions From Different Conditions or Lateralities
• Better Alerts; Better Display of Patient Friendly Questionnaire Series Name
• Better Score Descriptions for Providers in the Question Record.
• Support HTML in Welcome for Pre- and Post-Text in Questionnaire Records
• Allow remove hyperlink to work in RWB
• Order Specific Questions in for Questionnaire Series Assignment in Order Entry
• Welcome: Inform patient that there are missed questions in the questionnaire prior to completion