Opportunities and challenges with EHR based patient portals

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Patient portals tethered to EMR first introduced in the US in the late 90s.

Early adopters responded to stipulations in the Federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), requiring that patients must be able to obtain copies of their medical records and request amendments to those records.

In 2009, the Health Information Technology for Economic and Clinical Health Act was passed, encouraging care coordination and patient empowerment by offering provider-based financial incentives.

Up to 50% of US hospitals and 40% of US physicians now have a patient portal in place.
Pros and Cons Patient portals

**Pro: More complete and accurate patient information**

Patient portals, by offering a patient a view of their health information and the ability to communicate with their physician, create opportunities to obtain more complete and accurate patient information.

When viewing their data, patients are able to identify any inaccuracies and inconsistencies in their health record and then act by either securely messaging their provider or bringing up the issue at their next physician visit.

Although patients aren’t able to manually edit these problems on their own, this makes it more likely for providers to work with more complete and accurate patient data, increasing the quality of care they provide.
Pros and Cons Patient portals – clinician contact (Heath)

Pro: Better communication with chronically ill patients

Enhanced ability for communication between patients and providers, felt to be most important with chronically ill patients.

Chronically ill patients are able to message their providers whenever they have a simple question, reducing time on the phone and unnecessary trips to the doctor’s office.

A recent study out of Kaiser Permanente of Southern California (KPSC) showed that online patient engagement through portals can improve chronic disease management by almost 10 percent, depending upon the condition.

Reminders from providers, and the capability for patients to discuss issues with their physicians, help increase patient engagement and therefore play a role in boosting the patient’s overall health.
Patients can view finalized radiology reports either before or after results have been reviewed and released by their referring physician.

They may communicate directly with health care providers using electronic portal messaging, but not generally with the radiologists creating the report.…..disruption to the classic radiology business model, positive moving forward?

Although this can improve access to and coordination of care, it also creates a large repository of patient data that requires safeguards for security.

Medico-legal issues not fully explored.

Potential advantage: By analyzing inquiries submitted by patients, health care providers may detect trends and identify gaps in practice that could be improved to provide a better patient-centered experience.
PURPOSE:
The authors describe the process of manual release of reports made by referring physicians, and patients' and referring physicians' experiences during the first year that release through the portal was available.

METHODS:
- A survey of 508 patients assessed perceived accessibility and importance of portal-released radiology reports, and communications with referring physicians before and after the release.
- A survey of 48 referring physicians and a group interview assessed the utility of releasing reports, preferences regarding automatic release, and workload impact. Data were analyzed using descriptive statistics and qualitative methods.

RESULTS:
- 74% of patients found reports easy to access
- 88% reported that the ability to do so was important
- 49% of patients were contacted by their referring physician before report release, and 25% (156) contacted their physician for more information after viewing a report.
- Of the referring physicians, 88% (42) found that releasing reports to patients was useful.
- Auto-release of x-ray reports, with a 1-week delay, was preferred by 58%, but they were more reluctant to auto-release CT and MRI reports.
- 86% of referring physicians reported that follow-up emails, telephone calls, and office visits were unchanged or had decreased.
Published evidence suggests that the potential benefits likely outweigh the risks of providing patients with direct online access to their medical records, including their radiology reports.

Radiologists will have more opportunities for direct communications with patients through web portals and direct consultations, enhancing their role in patient care.

Radiologists should engage referring physicians to collectively address how more direct radiology reporting may be able to lead to improved efficiencies in care.

Patient review of radiology reports can serve as a safety net for detecting errors and inconsistencies, representing an untapped resource for radiology quality improvement, patient safety, and malpractice mitigation efforts.

More patient involvement in radiology reporting may improve adherence to follow-up imaging recommendations for clinically significant findings.

Ultimately, these efforts may demonstrate that radiologists, as patients’ consultants, help decrease waste in health care and provide greater value.

Implications of portals (Lee, et al.)

Radiology report release
U Michigan study (perhaps Reed should be giving this talk)

Purpose: Describe the nature of radiology-specific patient information requests by analysis of patient-initiated messages submitted through an electronic portal.

All patient-initiated messages submitted to the web-based patient portal were analyzed.

Messages containing radiology-specific key terms were identified and messages categorized by content.

The demographics of message writers were also analyzed.

Diagnostic imaging studies performed during this period were tabulated by modality.

Mervak BM, Davenport MS, Flynt KA, Kazerooni EA, Weadock WJ. JACR 2016:13;1311,1318.
What the patient wants: An analysis of radiology-related inquiries from a web-based patient portal.
Results

- 1,597 messages from 1,489 patients inquiring about 1,609 examinations.
- The relative percentages of modality-specific patient inquiries were significantly discrepant from actual scan volume.
  - MRI: 38% [607/1,609] versus 11% [11,152/98,897]
  - CT: 25% [400/1,609] versus 19% [19,032/98,897]
  - Plain radiography: 23% [368/1,609] versus 55% [54,497/98,897]).
- The most common inquiry was for imaging results (33%).
- Submitted a median of 5 days after imaging (patients perceived a delay).
- Inquiry as to whether a radiologic examination might be warranted, given symptoms (8%)
- Specific request that their provider order one or more examinations (9%).
- Messages were significantly more likely to originate from women than from men (64%).
- Inquiries about radiation dose or radiation risk represented 0.1% of all inquiries.
Mean TAT of 5 hours was significantly shorter than the median provider viewing delay and provider dissemination delay (70 hours and 101 hours, respectively).

While patients waited a median of 5 days before writing to their provider for results, the radiology report was already finalized for the vast majority of this time.

The majority of patient inquiries occurred within the 14-day embargo period, during which radiology results are not available for patient viewing unless the referring provider or care team had manually released them.

A patient survey found that most patients preferred either immediate access to radiology reports or access within 3 days.
A few patients inquired about errors in radiology reports, with 0.8% commenting on a typographical or dictation error, wrong side error, or other perceived inaccuracy (regardless of whether this was actually inaccurate).

0.8% wrote specific complaints about the radiology department or negative comments about their experience with the process of image acquisition.

* My experience with social media
MWC Survey

- Does your practice/institution employ an EMR based patient portal?
- If so, are radiology results available through this portal?
- If results are available, are these automatically released to patients when the report is finalized by the radiologist?
- What is the embargo time for radiology results in your EMR base patient portal, if the ordering physician fails to release the report earlier?
- What percentage of referring physicians employ a patient portal linked to an EMR, whether or not all physicians employ the same office based EMR? If you do not know, please estimate.
MWC Survey

- Does your practice/institution employ an EMR based patient portal? Y-12, N- 1 -not yet- MSU

- If so, are radiology results available through this portal? Y-11,Y (report not images)

- If results are available, are these automatically released to patients when the report is finalized by the radiologist? N-9, Y-1 (Louisville)

- What is the embargo time for radiology results in your EMR base patient portal, if the ordering physician fails to release the report earlier? – 5 days, 3 days (Beaumont), results automatically posted after a 4 day embargo, unless released earlier by the ordering physician (Iowa), 48hours (Mayo), same day, twice a day (except weekends) the day the study is read, except for OB US and mammogram reports (Henry Ford), 48 hours (U Minn.), 48 hours (U Chicago), 72 hours – MCW, 36 hours after report final (started at 72 then moved up – (Indiana U), 4 business days (pushed for immediate but blocked – (Ohio State), 48 hours, immediate for mammo (U Cinn.)

- What percentage of referring physicians employ a patient portal linked to an EMR, whether or not all physicians employ the same office based EMR? If you do not know, please estimate: (100% - Derdeyn, Mayo, U Chicago but may change in 1-2 years), 90%, 25%, near 100%, (Patient use <15% - U Chicago), >90%, 80% IU - (50% of patient have signed up), 100%, only 30% of patients – U Cinn,

- Northwestern – 7 business days, will be revised as part of EPIC project One – only patient encounter results released as a brief summary given to patient in office as well by clinicians
MWC Survey

Comments

- Official policy: “The patient only gets access to the Radiology report 4 days after the ordering physician has verified it.
  - There are many instances in which the ordering physician never verifies the result so it doesn’t go to the portal. This is very frustrating for the patients. Given your question, I’m going to send a reminder to the physicians about this topic.” – (Kentucky)

- This is a very hot debate between patients wanting instant results vs delivery by the PCP.
  - Due to a fluke in 3 days after biopsy the results may get to the patient at the same time or earlier than the PCP. The clock starts ticking at the performance of the biopsy….and at 72 hours the results are released.
  - Our referring docs are aware and we work together to mitigate the possibility of pts getting the results before the doc.
  - Personally I am in the camp that would release as soon as we sign off…..that’s not going to happen anytime soon - many referring docs want it 7 days or longer. – (Beaumont)

- I have heard few ordering caregiver complaints about the patient calling them to discuss a report they haven’t reviewed. No great surge of patient calls to the radiologists – U Chicago

<table>
<thead>
<tr>
<th>Northwestern</th>
<th>Release Schedule</th>
<th>Examples</th>
<th>Epic Customers</th>
<th>Release Schedule</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>West</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blocked</td>
<td>Never</td>
<td>N/A</td>
<td>Drug Screening (West)</td>
<td>Blocked</td>
<td>Never</td>
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<tr>
<td>Delayed (Sensitive)</td>
<td>3 days</td>
<td>7 business days</td>
<td>CT, MRI, Imaging, Radiology, Mammography</td>
<td>Delayed Category Enabled (86%) 7 days / 14 days (33%) *Multiple Categories of Delay (33%)</td>
<td>CT, MRI, PET, US, Pathology</td>
</tr>
<tr>
<td>Abnormal Delay</td>
<td>N/A</td>
<td>7 business days</td>
<td>Reflexive Testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td>1 day</td>
<td>3 business days</td>
<td>All others</td>
<td>Standard</td>
<td>Within 24 hours (50%) 3 days (29%)</td>
</tr>
</tbody>
</table>

**Epic Customers Surveyed:**
- Johns Hopkins
- Rush University Medical Center
- North Shore University Health System
- University of Chicago
- *University of Wisconsin Health
- *University of Colorado Hospital
- Duke Health
- University of Virginia
- *University of Pittsburgh Medical Center
- Sanford Health
- Geisinger Health System
- Cedars Mount Sinai
- University of Rochester
- Henry Ford Health System

Of the 86%, 33% use either 7 or 14 calendar days
MyChart (EPIC) - NU

- MyChart rules will be embedded in Project One. The anticipated delay time frame will move to 3 days from exam.

- Clinicians are able to add comments to results and release to patients, but the trend is that all results would be released automatically.

- More granular breakdown (IR procedure reports, MR, CT, mammo, etc) will be determined by a clinical workgroup.

- Radiology currently does not have the ability to message patients.

- “Do we want to broach the idea of patient-readable impressions (using more lay language). This is obviously more work……
## Results Release: Future State

### Approved Release Timeframes

<table>
<thead>
<tr>
<th>Time zones</th>
<th>Release Schedule</th>
<th>Release Time Example</th>
<th>Category Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMBULATORY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time zone 1</td>
<td>Next calendar day</td>
<td>Finalized: Monday, 2pm Released: Tuesday, 6am</td>
<td>Lipid, CBC</td>
</tr>
<tr>
<td>Time zone 2</td>
<td>3 calendar days</td>
<td>Finalized: Tuesday, 10am Released: Friday, 6am</td>
<td>Imaging</td>
</tr>
<tr>
<td>Time zone 3</td>
<td>7 calendar days</td>
<td>Finalized: Wednesday, 2pm Released: Wednesday, 6am</td>
<td>Pathology</td>
</tr>
<tr>
<td>Manual</td>
<td></td>
<td>Released by clinician only</td>
<td></td>
</tr>
<tr>
<td>Blocked</td>
<td></td>
<td>Unable to auto release and unavailable to manually release</td>
<td></td>
</tr>
<tr>
<td><strong>INPATIENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finalized pre discharge</td>
<td>Hourly*</td>
<td>Finalized: 12pm Released: 1pm</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Finalized post discharge</td>
<td>Follows Ambulatory time zones</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Released hourly starting at 5:00am; cutoff time is between 2:00pm – 3:00pm*
Comments from my faculty (NU)

- Oncologist remarked that he is having to spend a lot of time explaining our reports to his patients as "they read every word" and want everything explained.

- I had a patient page me directly at 9 am on a Sunday morning to ask if "sub segmental atelectasis" mentioned on a chest CT report from a week before, was the cause of her shortness of breath. I assume she found the report through my chart. It took me a long time to get off the phone with her, and I didn't know of a good way to document that we had a discussion, since I don't normally write notes in Powerchart or Epic.

- I've had a few patients in the past call wanting something corrected in report that they said was incorrect.

- I have had 2 patients in the past 4-6 months who called regarding omission or incorrect family history of their mammography report. In addition, I received a message from a patient that she was trying to contact me through My Chart to ask a question, but was unable to do so.

- Our Vein Center pts will often review their medical record, including imaging studies I order, in MyChart and send follow-up emails with questions/concerns. Usually these can be handled by our Vein Center RN.
MWC Survey

- Considering that patients now read their reports, have you made any changes in reporting to make a more patient friendly/understandable report?
- If so, please describe the changes. (e.g., extra impression meant just for the patient?)
- If so, is this true in all divisions?

We have templates that try to standardize to the extent possible. Awareness of trying to be clear and avoid jargon, but it’s a very slow culture change. I wish we could get feedback from patients regarding our reports. (U Kentucky)

All said no, except for Ohio State – Slightly, avoid hard diagnosis cancer and strong recommendations – replacing buzz word descriptors at request of referrers – patient in a frenzy when jumping on reports.
To justify our place in the value based health care system, radiologists are advised to prove our value.

Our leadership has implied that we have to be more visible to patients, that we must make it clear we are “part of the team.” Then patients will finally understand the important role we play, which will somehow translate into a stronger position for us at the ACO’s round table.

This issue is illustrated by the concept of reporting our results directly to the patient.

The usual course of events established decades ago is that results are communicated to the physician who ordered the study, and he or she then discusses them with the patient. There are few reasons to force this responsibility onto the radiologist.

Cabarrus et al.** presented the results of a patient survey (617 patients responded) that found “to no one’s surprise” that patients preferred to hear results of imaging exams from the physician who ordered them (63%). 85% wanted to see their images.

** Cabarrus M, Naeger DM, Rybkin A, Qayyum A. Patients prefer results from the ordering provider and access to their radiology reports. JACR 2015;12:556-562
It is said that additional “value” through direct communication could result from a reduced number of intermediary communication errors, decreased delays in patient management, reduced patient stress, and anxiety, and improved patient adherence to follow-up recommendations.

“Really? Communication errors? Reduced stress and anxiety? How about when the patient doesn’t understand anything I have written past the word “cancer”? All we’ve managed to do in that scenario is scare them and then throw them out in the cold until their clinician can see them.”

“In the end, a patient’s need to know right now may cause more harm than good.”
Historically, radiologists’ official written reports have traditionally been archived in the medical record, with tightly controlled access. Patients rarely viewed reports directly. As patient-centered care, transparent communication, and electronic archiving have converged, radiologists’ reports are increasingly accessible to patients via web-based “portals.”

Radiologists harbor justified anxiety about whether and how radiology reports should change in response to these portals.

Direct patient access to radiology reports raises several questions, including: who are reports really for, what is their essential purpose, what content should they include or omit, what limits should be placed on their accessibility, and what ethical and legal ramifications arise from the reports’ unfettered accessibility.
It is hard to disagree with their conclusions........

“The train which has left the station”

Patient portals are a nationwide reality, and transparency is now a public and professional expectation.

“Radiologists need to consider quality implications for their report writing in order to address the challenges these developments pose.”
Closing points

- Radiologists can help control the process or passively comply as others formulate key policies about patient access to radiological reports. Radiologists have much to gain by leading the discourse and much to lose by avoiding it.

- Well-implemented portals enhance patient understanding of their radiological results and empower them to take greater roles in their health care. Portals carry potential to reduce errors, improve communication, and promote informed decision making.

- With added focus on report quality, and development of organizational policy regarding access and responsiveness to patient concerns, radiologists may find that this new development serves their interests as well.

- By boosting radiology’s visibility to and direct engagement with patients, web-based portals are an opportunity for radiologists to counterbalance marketplace trends toward commoditization.

- Although many questions remain regarding best practices, patient portals may ultimately prove to be one of the most powerful tools radiologists have to enhance the value they bring to health care.