

# Augmenting Patient - Radiologist Communication Through Government Mandate: Initial Results from an Implementation to Address the Patient Test Result Information Act



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### House Co-Sponsorship Memorandum

By Member: **Rep. Zoga** | Keyword Search  
House of Representatives  
Session of 2015 - 116th Congress  
MEMORANDUM  
TO: **Rep. Quinn**  
FROM: **Rep. Zoga**

"I know three people, and have heard of too many others, who would likely be alive today if their early test results were communicated to them. Getting the information of a diagnosis to a patient can be as important as the diagnosis itself. It is my intention to ensure that despite the burdens on and the excessive paperwork in our physicians' offices, communication of a significant abnormality will save lives."  
- Rep. M. Quinn

### The Bill

- Bill originally introduced as House Bill 1233.
- Rep. Margalita Quinn
- House Bill 1642 passed Unanimously on March 19, 2014.
- Prompted by several patients in Rep. Quinn's district who died as result of lack of notification.

### Most Common Approach

- Tag or flag reports with a token by reading radiologist that meet criteria.
- Use simple NLP in RIS, EMR or billing system to identify token and send form letter to patient.
- Small volume (image centers), potentially manual review could be performed.
- Challenge: Lots of extra effort for overworked rads and staff - risk poor compliance.

### Reporting Vendor Solution

- Build solution into our reporting system as this is the common IT solution for our entire heterogeneous practice.
- Build a custom solution using a variety of COTS Nuance products: P5360 v4.0, mPower NLP tool and Lung Cancer Screen Follow-up Manager.

### Are you kidding? Snail Mail?

- Ideal delivery mechanism would be electronic with confirmation (return receipt).
- Need a reliable mechanism to deliver communication that would work for our entire outpatient population.
  - Mailing address most readily available.
  - PAIR participation, email and FAX information spotty.
- Receipt of information not required by the legislation.
- Audit queue capable

### The Obstacle....

- Patient Test Result Information Act 112 signed into law by Governor Tom Wolf on 10/24/2018
- Word began to filter to the medical community by end of month
- All radiology practices were given 60 days to develop a solution
- No commercial solution in existence to "help" solve the problem

### Our Strategy

- Mixed environment
- Not all patients have EHR access
- Not all patients are TJUH patients
- Not all patients have access to FAX/email
- Various joint ventures we provide services for but providers or patients may not be part of our health system.

### Macros Developed (suspenders)

- COMMUNICATION (CRITICAL):
- COMMUNICATION (URGENT):
- COMMUNICATION (FOLLOW UP):
- COMMUNICATION (LETTER):

### Results

- Program began on schedule (< day 20 after 12/23/2018).
- @690 letters mailed to date @ 10/day
- 61,783 reports passed through system
- 43,132 were not relevant to PA112
- 15,528 candidates - no recommendations or macros
- 3,123 (5%) contained a recommendation
  - 372 met criteria for PA112 (12% of recs)
  - 2751 excluded from PA112 (88% of recs)
  - 9 FP (Type 1 error) and 2 FN (Type 2 error)

### The Punishment

- PRS and others lodged complaints stating hardship - no technical solutions readily available
- Amendments made to Bill now allows a one year grace period (2020) to achieve compliance.
- DOH will audit practices.
- DOH will open a complaint site for patients.
- No stipulated penalties as of yet.
- No idea what the legal community is planning

### The Specific "Ask" ...

- Beginning December 23, 2018
- Notify patients of significant abnormality for outpatient imaging services
- By mail, email, EMR or FAX
  - Within 20 days from release of results to provider.
- Provide notification that includes:
  - Name of ordering provider
  - Test date
  - Date results were sent to ordering provider
  - This verbiage:
    - You are receiving this notice as a result of a determination by your diagnostic imaging service that further discussions of your test results are warranted and would be beneficial for you.
    - The complete results of your test or tests have been or will be sent to the health care practitioner that ordered the test or tests. It is recommended that you contact your health care practitioner to discuss your results as soon as possible.
- NO REPORT REQUIRED - NO DETAILS

### Administrations Argument

- Use EMR to broker communication
- Flag reports with a token inserted by rads
- Develop build in EMR to recognize token
  - Alert ordering provider via in-box message
  - E-message to patient via portal
  - Copy of message permanently stored in EMR.
- Disadvantages:
  - Build required / less than 60 days available
  - Does not address patients out of EMR workflow
  - Relies on Radiologist to "flag" reports / compliance will vary

### Under the Hood

- COTS strategy - repurpose LCS tool.
- Lung Cancer Screening tool filters were modified to meet PA112 criteria
- Exam types broadened
- Exam types to exclude (e.g. radiographs, procedures, mammo etc.)
- Patient location (outpatient only)
- Findings broadened
- Follow up interval (<90 days only) when specified
- "Trigger" macros included

### Observations

- For follow up recommendations alone Radiologists triggered a letter more frequently [0.3x] (using manual method) than NLP tuned to PA112 requirements.
- Suggests that either radiologists don't understand/recall the PA112 requirements or are have a lower threshold for sending a letter.
- Increased "awareness" of the campaign.

### Improving Patient Communication

- Fundamentally this law mandates an improved communication cycle with the patient.
- Opens door for direct radiologist-patient interaction.
- Enhances our value/role in continuum where we are an unknown entity.
- This law doesn't go far enough:
  - Should include ALL exams in INPAT and ED setting
  - Should include all instances when follow-up is needed.
  - Patients should get copy of report with letter
  - Patients should have opportunity to speak to rad if they feel it is necessary.
- May catch on in other states.

### Exceptions..

- Radiographs
- Routine obstetrical ultrasounds
- Mammography
- ED or Inpatient imaging services

### Our Objectives

- Single common solution
- Focus on Reporting not RIS.
- Reliable
- Minimize burden on Rads
- Address heterogeneity of our practice
- Meet or exceed criteria set by PA112
- Rely on conventional mail (for now)
- Our reporting vendor proposed elegant solution.

### Need Precision To Identify Appropriate Exams

Reduce false positive "noise" - mPower CR

- Remove Lung Cancer Screening patients
- Remove recommendations from Mammo exams
- Remove OB US exams
- Remove short-interval IP exams
- Remove hedged recommendations
- Remove non-specific recommendations
- Filter by type of finding

### Minor bumps in the road....

- No patient address
- Multiple accessions for exam = multiple letters
- Recommendations baked into reports (e.g. Venous ultrasound)
- Recommendations in procedures

### How Radiologists Can Benefit From Direct Communication With Patients

Accepted Manuscript

How Radiologists Can Benefit From Direct Communication With Patients

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To appear in: Current Problems in Diagnostic Radiology

### The Challenge for Our Organization

- November - by the time a strategic group could be convened.
- Holiday preparation - low motivation to tackle new projects by our own IT staff.
- In middle of a merger of 14 hospitals, no common IT infrastructure
- A major upgrade to our EMR planned for that time.
- Full IT integration plans in various stages of flight.
- No commercial solution available.

### Our Approach: Belt AND Suspenders

Right Vs Wrong

Wearing Suspenders With A Belt?

Presented By: Real Men Real Style

### Workflow

- Final reports filtered by PA112 criteria captured to a workflow for management.
- Normally this would be a follow-up recommendation management.
- Instead, this list triggers a print queue which creates a templated letter containing the "key" fields - required by the legislation.
- A clerk manually triggers the print queue to a local printer once/twice a day.
  - @ 20 letters/day
  - Stuffed in envelopes and dropped in daily mail.

### Legitimate Concerns?

- Will patients absolutely freak out?
- Will patients begin calling rads in alarming numbers?
- Will referring MDs complain about the extra calls from patients?

### How Radiologists Can Benefit From Direct Communication With Patients

- To understand the direct impact of radiologists' day to day work.
- To help a greater sense of purpose and job satisfaction
- To help prevent radiologist burnout
- To broaden radiologists' clinical understanding of the disease processes they image
- To improve the clarity, accuracy and overall impact of radiologists' reports
- To reinforce imaging follow up recommendations
- To strengthen relationships with referring physicians regarding shared patients
- To increase the visibility of the specialty
- To solidify radiologists' role as vital members of the healthcare team

Vijayarath A, Duzak R. 2019. Current Problems in Diagnostic Radiology

### Technical Considerations

- How to identify exams that meet the PA112 criteria?
  - Manual process - Radiologists?
  - Automated process.
- How to communicate with patients?
  - Epic My Chart
  - Patient email
  - FAX
  - Snail mail

### Belt & Suspenders Approach

- **Belt:** Use advanced NLP engine to "search" reports for key elements related to:
  - Critical findings
  - Relevant follow up
  - Recommendations for follow-up within 90 days.
- **Suspenders:** Standard set of macros/tokens inserted at discretion of radiologist that will automatically generate a letter (safety net).

### Workflow

### Carrot vs Stick

### Future Work

- Selective data mining - study trends & behaviors
- Look for opportunities outside of PA112 criteria to inform patients and forge relationships
- Majority of work is radiography - lots of opportunity for incidental findings for follow-up.
- Tremendous opportunity for ED and INPAT population.
- Better understand if NLP can serve as a stand alone for informing patients.
- Product enhancement - baked into front end of product
- Better understand if implementation of law has changed Radiologists behavior for initiating communication.
- Examine radiologist recommendations before and after implementation