Designing Imaging for Primary Care

Serving the Needs of Our Primary Care Partners

Radiological Society of North America
Annual Meeting 2016

Presentation Outline

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B.

Ensuring rapid access to appropriate high-quality imaging at a sustainable cost is a major challenge in Canadian healthcare

- Lack of integration between community primary care providers and hospital-based imaging
  - However, non-urgent cases account for 59% of referrals within our organization, 50% referred by primary care providers in the community
- Long wait times: Patients wait 89 days for an MRI and 42 days for a CT (90th percentile)\(^1\)

Result: Patients sent to overcrowded emergency departments to expedite imaging

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Primary Care Strategy

- Improve patient experiences by avoiding unnecessary waits and testing
- Ease pressure on imaging departments by avoiding duplicate and unnecessary procedures
- Create robust, Ontario-specific, guidelines, framed through primary care lens
Initiative
*Designing Imaging for Primary Care*

**Purpose:**
Redesign sub-specialized imaging department to serve the needs of the primary care community

**Goals:**
- Streamline referral process
- Provide convenient high quality imaging
- Create bi-directional communication
- Ensure appropriate care by providing integrated support

Methods
*Implementation Partners*

Radiology department comprised of the following organizations:
- Sinai Health Systems
- University Health Network
- Women’s College Hospital

JDMI partnered with community primary care groups

**SCOPE**
(n=128 primary care providers)
Program designed to provide community-based primary care providers with improved access to hospital-based resources

Local Family Health Team in downtown Toronto, Ontario
Medical Imaging Call Centre
“1-800-Medical Imaging”

Same Day Imaging
No appointment required

MRI Standby List

Service Elements

A call centre designed to improve integration with medical imaging by providing:
- Coordination of calls by a clerical staff
- Real-time consultation with radiologist

One contact number for support:
- Appropriateness consult
- Radiology consult
- Urgent imaging
- Urgent reporting
- General information

Medical Imaging Call Centre
Approach
Medical Imaging Call Centre

Approach

**Designed according to the principles of the Triple Aim** (Institute for Healthcare Improvement) to deliver:
- Decreased per-capita cost
- Improved population health
- Improved experience of care


Medical Imaging Call Centre

Results

**Medical Imaging Call Centre:**
Number of Calls and Unique Callers

**Year 1 – Pilot (May ‘14 – March ‘15)**
- n = 60 PCPs
- Total Calls: 227
- Median # of Calls/Month: 17

**Year 2 – Operations (April ’15 – March ’16)**
- n = 120 PCPs
- Total Calls: 353
- Median # of Calls/Month: 31

**Year 3** (April 16-July 16)
- n = 128 PCPs

*Call volumes and referrals are expected to decrease during summer months due to vacation schedules*
Medical Imaging Call Centre
Results

Call Types

April 2015 – July 2016
N=498 Calls

- Appropriate Consult: 9%
- Urgent Imaging: 28%
- Urgent Reporting: 7%
- Radiologist Consult: 23%
- Other: 33%

April 2016 – September 2016
N = 40 Survey Respondents

- Very Satisfied: 68%
- Satisfied: 13%
- Neither satisfied nor dissatisfied: 16%
- Dissatisfied: 5%

*Based only on data collected during pilot (n=218 calls)*

Caller Satisfaction

Avoided Emergency Department Visits
Referrers calling for urgent imaging were asked if they would have referred to ED if call centre was not available

- 40 reported by referring physicians
- 39% of 103 urgent imaging calls

Improvement in Appropriate Imaging

- 40 total number of appropriateness consults

Medical Imaging Call Centre
Outcome Measures

*Based only on data collected during pilot (n=218 calls)*
Same Day Imaging

*Results*

Patients can walk in with completed requisitions and receive imaging without an appointment for Nuclear Medicine, Ultrasound, and X-Ray

Ultrasound now ~30% same day imaging
Opportunity for growth in Nuclear Medicine & X-Ray

MRI Standby List

*Results*

Complete requisition; indicate "MRI STANDBY" on requisition

Patient receives MRI appointment in next available slot

Standby patient may be contacted at any time with an earlier appointment (within ~4 hours of available slot)

Preliminary Findings (July – September 2016):

<table>
<thead>
<tr>
<th></th>
<th>Patients on MRI Standby List</th>
<th>Rescheduled Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td># of patients</td>
<td>45</td>
<td>17</td>
</tr>
<tr>
<td>Wait time (90th percentile)</td>
<td>156 days</td>
<td>87 days</td>
</tr>
<tr>
<td>Wait time (average)</td>
<td>111 days</td>
<td>47 days</td>
</tr>
</tbody>
</table>

Rescheduled appointments were moved forward by an average of 46 days
Partnerships with Community-Based PCPs

Results

Targeted engagement of community PCP partners has resulted in increased referrals (e.g. 88% increase from August 2015 to August 2016)

Lessons Learned

• Primary care providers value conversations with radiologists to gain clinical insights and validation

• Partnership enhanced by ability to trial and modify solutions

• Primary care providers appreciate additional information about procedures to inform appropriate referrals

• Data collection should be expanded to capture impact on avoided inappropriate emergency department visits and specialist referrals
Conclusion

- Achieved an **88% increase in referrals** from community partners (one year, across all modalities)

- Transformed relationship between radiologists and community PCPs, creating formal and informal connections with high levels of physician satisfaction

- Recognized potential to improve quality of patient care and decrease burden on emergency department and specialist care

- Acknowledged importance of evaluating **patient and referring physician experience** to measure impact and sustainability

Future Initiatives

- Evaluate Patient and Referring Physician Experience
- Enhance the Role of Imaging as Navigator to Specialists
- Enable Email Appointment Notification and Report Delivery
- Enable eConsultation
- Implement Diagnostic Imaging Appropriateness Tools in Primary Care
Authors & Contributors

Authors:
• Jisla Mathews (Presenter), Senior Business Analyst, Office of Strategy Management, JDMI
• Karen Weiser (Presenter), Senior Business Analyst, Office of Strategy Management, JDMI
• Corwin Burton, Manager Diagnostic Imaging at Women’s College Hospital, JDMI
• Jennifer Catton, Manager, Strategy and Quality, JDMI
• Christina Ciapanna, Manager, Business Operations, JDMI
• Paul Cornacchione, Clinical Director, JDMI
• Dr. Danielle Martin, Vice President, Medical Affairs and Health System Solutions, Women’s College Hospital
• Dr. Ravi J. Menezes, Epidemiologist, JDMI
• Dr. Pauline Pariser, Associate Medical Director, Primary Care Lead, UHN (SCOPE)
• Dr. Heidi Schmidt, Cardiothoracic Division Head, JDMI; Site Director, Women’s College Hospital
• Catherine Wang, Executive Director, JDMI
• Dr. Lawrence M. White, Radiologist in Chief, JDMI

Key Contributors
• Medical Imaging Call Centre, JDMI
• Seamless Care Optimizing the Patient Experience (SCOPE)
• Taddle Creek Family Health Team
• Women’s College Hospital
• Women’s College Hospital Institute for Health System Solutions and Virtual Care

Contact Information

Dr. Heidi Schmidt
Cardiothoracic Division Head, Joint Department of Medical Imaging
Site Director, Women’s College Hospital
E-Mail: heidi.schmidt@uhn.ca