Evolving the Use, Usability and Usefulness of WTIS Data: Focus on the Patient

May 30, 2007
As more information is collected in Ontario's Wait Time Information System (WTIS), opportunities exist to broaden the usage of the data in the short and longer terms.

Potential Uses for Existing Data - Short Term

- Presentation of Additional Data on Website
  - Data by priority
  - Distribution of cases by priority
  - Data by Surgeon
  - Volume of cases per Hospital, vs. Wait Times
  - Number and rate of cases/incidents within catchment area, versus waits

- National Comparisons
  - Comparing across provinces
  - Compare targets across provinces

- Improvement of Patient Experience
  - Wait list/referral management
  - Hospital patient flow optimization

- Health System Governance
  - Evaluation of resource mix
  - Distinguishing between patients who are on multiple wait lists
  - Identification of data gaming

Opportunities to Integrate Additional Data - Medium to Long-Term

- Patient Safety / Quality of Care
- Infection rates
- Death rates
- Patient outcomes
- All Surgery wait times
- Emergency department wait times
- Non-emergent clinic wait times
- Waits 1, 3

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What are some potential next steps in the collection, reporting and usage of Wait Time Data?

There is a perceived need to promote patient empowerment, by presenting and integrating the data currently being collected through the Wait Time Information System and other projects, in order to move toward more tangible outcomes in patient care.

- **For Providers:** Promote use of the data to manage and improve access to care for patients
  - Encourage collaboration among hospitals and clinicians to use wait time information to manage and reduce patient waits
  - Identify and share best practices in using wait time information to improve access to care
  - Integrate Wait Time data with other types of data (e.g. safety, outcomes) to gain valuable insights

- **For Policy Makers:** Use the data to support governance and stewardship of the health system
  - Monitor performance and improvement of the health system
  - Identify information gaps and develop action plans to collect additional data
  - Support insight-driven health system strategy and planning to improve patient access to care

- **For Researchers:** Integrate the data with other research supporting improved access to care
  - Conduct operational research to support process improvements
  - Develop additional evidence-based benchmarks
  - Apply data within other analytical models (e.g. queuing theory)

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**The Goal for Patients:**

- Increase their involvement and participation in using wait time information in order to:
  - Empower and encourage them to use the information in conversations with their care providers
  - Improve public education about uses of the wait time information, its benefits, and limitations
  - Educate them about how the data is being used by providers, policy makers, and researchers

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In a patient-centric world, we view patients as consumers served by an interdisciplinary team of health care providers.

Key Components of a Patient-Centric Health model

- Cost Analysis and Budgeting
- Health Policy and Funding
- Health Analysis and Planning
- Local Health Integrated Networks
- Health Funding Mechanism
- Outcome-Based Payments
- Family Health Teams/"Traditional" Providers
- Health Outcomes Performance
- Health Provider Performance

Impact

- Patients are at the centre of a more holistic healthcare model
- Innovation will be driven by an informed view of outcomes
- Proactive planning and management of individual health
- Interventions are insight-driven and integrated
- Regionalized networks would lead to more coordinated health care delivery for patients

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In Canada’s public health care model, adapting the concept of consumerism introduces new opportunities

As a term, 'consumerism' has two definitions that are traditionally opposite in meaning:
1. The emphasis of advertising and marketing efforts toward creating consumers
2. Advocating the rights of consumers to protect and support them in the decisions they make

### Traditional Consumer Model
- Firms advertise goods and services to induce additional demand
- Consumer groups support consumers in making educated decisions, which helps to temper demand

### Public Health Care Model
- Health care providers advertise available services; provide information on wait times, capacity and quality
- Patient groups support decisions based on information provided by healthcare providers and other sources to select appropriate services

**Goals conflict, simultaneously increasing and decreasing consumption**

- **Firms**
  - Advertising and Marketing
- **Consumer Groups**
  - Consumer Rights Advocacy
  - Decision Support

The universal goal is to create informed patients to ensure appropriate course of care
As we shift to serve patients as consumers, a new set of tools allows us to analyze and address their needs.

The Consumer Decision Cycle:
Adapted for Public Health Care

<table>
<thead>
<tr>
<th>Stage</th>
<th>Possible Support Tools for Public Health Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCEIVE NEED</td>
<td>• Advertise patient’s level of control of own health</td>
</tr>
<tr>
<td></td>
<td>• Set realistic expectations for good health</td>
</tr>
<tr>
<td>SEARCH FOR INFORMATION</td>
<td>• Reputable online sources for self-diagnosis</td>
</tr>
<tr>
<td></td>
<td>• Alternatives</td>
</tr>
<tr>
<td></td>
<td>• Current clinical guidelines</td>
</tr>
<tr>
<td></td>
<td>• Availability of primary physicians to support next steps</td>
</tr>
<tr>
<td>EVALUATE OPTIONS</td>
<td>• Appropriateness of possible courses of care</td>
</tr>
<tr>
<td></td>
<td>• Availability and quality of services regionally and elsewhere</td>
</tr>
<tr>
<td></td>
<td>• Overall costs to patient and health care system by option</td>
</tr>
<tr>
<td>CHOICE AND ACTION</td>
<td>• Unified view of available options</td>
</tr>
<tr>
<td></td>
<td>• Online booking</td>
</tr>
<tr>
<td></td>
<td>• Ability to track progress in decision process</td>
</tr>
<tr>
<td>REINFORCE DECISION</td>
<td>• Quality data</td>
</tr>
<tr>
<td></td>
<td>• Patient support groups</td>
</tr>
<tr>
<td></td>
<td>• Follow-ups</td>
</tr>
</tbody>
</table>

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Traditional frameworks applied to the public health care sector assist us in developing novel solutions.

Factors Affecting Consumer Decisions:
Adapted for Public Health Care

Traditional Consumer Model

Public Health Care Model

- Quality of Care Metrics
- Patient Safety Data
- Patient Experience

- Availability of Information
- Presence of Facility

- $ Cost to System
- $ Cost to Patient
- Quality of Life
- Cost of Travel

- Current Wait Time
- Location
- Scheduling Flexibility
- Additional Capacity

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The Personal Health Record provides an integrated view of consumer-oriented information, which requires common definitions, shared technology standards and vast collaboration.

### Private Lifetime Record

<table>
<thead>
<tr>
<th>Help</th>
<th>Patient Details</th>
<th>GP Details</th>
<th>Other Healthcare Providers</th>
</tr>
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<tbody>
<tr>
<td>Plus</td>
<td>GME0000 Smith, Caroline</td>
<td>Name: Jones, Brians</td>
<td>Name: Diaz, Allen Cardiology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phone: 333-465-5545</td>
<td>Address: 1111 Tonne Ave., Edmonton, AB T6Y 8G9</td>
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<tr>
<td>Logout</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sex: Female</td>
<td>Disp:</td>
<td>Diag:</td>
</tr>
<tr>
<td></td>
<td>Phone: 365-555-4090</td>
<td>Last Encounter: 01/2006</td>
<td>Next encounter: 07/2006</td>
</tr>
<tr>
<td></td>
<td>Address: 1944 Wilderness Rd.</td>
<td>Right of Access: Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>City:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Next of Kin:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>John Smith</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Alerts

- Allergies - Sulfas Drugs
- Pap smear due
- Td due
- AIC above target

### Encounter History

<table>
<thead>
<tr>
<th>Date</th>
<th>Facility</th>
<th>Specialty</th>
<th>Clinician</th>
<th>Reason</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>02/2006</td>
<td>GP</td>
<td>Cardiology</td>
<td>Diaz, E.</td>
<td>Hypertension</td>
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<td>12/2006</td>
<td>GP</td>
<td>Dietitian</td>
<td>Johnson, H.</td>
<td>Diabetes teaching</td>
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<tr>
<td>08/2005</td>
<td>GP</td>
<td>Cellulitis</td>
<td>Fournier, J.</td>
<td>Cellulitis</td>
<td>Outpatient</td>
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<tr>
<td>08/2005</td>
<td>Home Visit</td>
<td>Cellulitis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/2005</td>
<td>Polyclinic</td>
<td>Dermatology</td>
<td>Cohen, R.</td>
<td>Stasis dermatitis</td>
<td>Outpatient</td>
</tr>
</tbody>
</table>

### Immunizations

<table>
<thead>
<tr>
<th>Type</th>
<th>Most Recent</th>
<th>Number Received</th>
<th>Type</th>
<th>Value</th>
<th>Most Recent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>11/2005</td>
<td>1</td>
<td>AIC</td>
<td>0.071</td>
<td>12/2005</td>
</tr>
<tr>
<td>Pneumovax</td>
<td>08/2005</td>
<td>1</td>
<td>LDL</td>
<td>2.41</td>
<td>12/2005</td>
</tr>
<tr>
<td>Tetanus</td>
<td>08/2002</td>
<td>3</td>
<td>BP</td>
<td>135/75</td>
<td>02/2006</td>
</tr>
<tr>
<td>Td</td>
<td>04/1994</td>
<td>1</td>
<td>Urine</td>
<td>0.02</td>
<td>08/2005</td>
</tr>
<tr>
<td>Microlab</td>
<td></td>
<td></td>
<td>Eye Exam</td>
<td>65/2005</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Home Gluc</td>
<td>7.4</td>
<td>01/2006</td>
</tr>
</tbody>
</table>

### Source:

Canada Health Infoway

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In order to quickly align the interests of a complex network of stakeholders including patient-consumers, new mass collaboration tools can be leveraged

Using provided or self-organized online communities, patient-consumers and other health system stakeholders can work together to solve problems using shared, flexible tools

- Possible Uses of Mass Collaboration Tools
  - Empower patient-consumers with information to select best course of care
  - Optimize operations within departments, hospitals, regions
  - Objective interpretations of timely access and patient safety

- Possible Tools to Offer
  - Analytical tools to synthesize new sources of data
  - Educational tools on interpretation of information for patients
  - Mass collaboration tools for analysis and planning across stakeholders

- Crucial Considerations for Health Care
  - How to balance empowerment with integrity, privacy and security of data
  - Appropriate format for widely differing stakeholders
    - Patients, providers, practitioners, researchers, managers, and policy-makers
  - Effect of volume funding on information sharing
    - Risk of reduced cooperation when in competition for funds
  - Relationship between wait time reduction and overall system cost reduction

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Example: In the longer term, analytical and educational tools could be developed, improved and shared more efficiently, consistently and responsively through an open collaboration model.

Components of Mass Collaboration Tools

- Standard Tool Set
  - User categories (e.g., patient-consumer, media, hospital executive, lab, physician, ministry analyst, etc.)
  - Range of tool capability (reporting, query, online analysis, data mining, etc.)
  - Launch point to analytic applications, metadata, business rule management
- Portal Integration
  - Navigation support
  - Integration with enterprise security
- Collaboration Model
  - Idea and best practices sharing
  - Business area roles and responsibilities
  - Governance
- Access Architecture
  - Read access
  - Create/update access
  - Data file exchange
  - Data quality and integrity rules
- Security
  - Sign-on management
  - Enterprise security integration
  - Privacy regulations compliance

A collaborative model could be a potential longer-term option to create continuous improvement in the system.
Example: Business Intelligence technologies targeted at different audiences, including patient-consumers, could also be deployed in order to understand, analyze and guide system performance in the short term.

Business Intelligence

- Optimization
  - What's the best that can happen?
- Predictive Modeling
  - What will happen next?
- Forecasting/extrapolation
  - What if these trends continue?
- Statistical analysis
  - Why is this happening?
- Alerts
  - What actions are needed?
- Query/drill down
  - Where exactly is the problem?
- Ad hoc reports
  - How many, how often, where?
- Standard reports
  - What happened?

Sophistication of Intelligence

Analytics can bridge the gap between data, insight, and action

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Example: Accenture has developed an “Innovation Grapevine”, which allows participants to drive innovations together to quickly achieve highly-integrative results in a mass-collaboration setting.

Accenture Innovation Grapevine Overview:
- Works like a telephone tree in that the vines multiply with each “hop.”
- Can be “low tech” (email chain) or run on secure site leveraging Web 2.0 technologies (Wikis, text mining, etc).
- In the context of Wait Times, could be used to quickly drive innovation around use of the WTIS data by patient-consumers, providers, payers, and researchers

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