NON-DRUG HEALTH TECHNOLOGY DECISION-MAKING IN CANADIAN HEALTH INSTITUTIONS

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ACKNOWLEDGEMENTS

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WHAT DID WE DO?

• Survey development
• Survey validation
• Survey mail-out
• Telephone interviews
• Data analyses
• Stakeholder consultation
WHAT DID WE DO?

Part 1:

Survey 1 development and validation

Survey 1 mail-out
N = 372

Key survey elements:
- Type of facility
- Number of beds
- Annual operating budget
- Sources of funding for NDHTs
- Extent to which decision-making on NDHTs challenges organization
- Relevant case study technologies
- Contact information

Survey 1 second mail-out to non-responders

Purpose:
- Collect demographic information
- Identify individual for telephone interview

• Regional health authorities (N = 41)
• Cancer agencies (N = 5)
• Hospital/health associations (N = 4)
• Ministry departments of health (N = 2)
• Local health integration networks (N = 14)
• Ontario acute care hospitals (N = 165)
• Ontario outpatient health service centres (N = 108)
• Centres Intégré de santé et de services sociaux (CISSS) (N = 13)
• Centres intégré universitaire de santé et de services sociaux (CIUSSS) (N = 9)
• Quebec acute care hospitals (N = 11)
Part 2:

**WHAT DID WE DO?**

**Purpose:**
- To understand how funding decisions on NDHTs are made in different organizations

**Telephone interview survey development and validation**

**Invitations to participate in telephone interview**

**Key survey elements:**
- Decision options
- Relevant decision-making bodies/individuals
- Decision-making processes
- Budget authority thresholds
- Types and sources of information considered
- Decision factors
- Off-label use
- Impact of ‘pilots’ on NDHT introduction

**Telephone interviews completed**

- Regional Health Authorities
- Health association
- Local health integration networks
- Academic teaching hospitals
- Secondary care centres
- Tertiary care centres
- Multiple hospitals within one organization
- CISSS/CIUSS
- Psychiatric hospital
- Other (small rural hospitals or community hospitals)

2 procurement organizations added
WHAT DID WE FIND?

### Part 1

Initial number of organizations included in Survey 1:  
N = 489

Final number of organizations included in Survey 1:  
N = 372

Number of organizations completing Survey 1:  
N = 73

Number of institutions excluded:  
N = 117  
(duplicate, part of another organizations or could not be found)

Number of non-responders:  
N = 298

### Part 2

Number of organizations invited to participate in telephone interviews  
N = 75

Number of institutions that completed telephone interview:  
N = 48

Additional organizations invited to participate in interviews  
N = 2  
(Identified during phone interviews)

Number of organizations that did not complete interview  
N = 27  
(Declined or did not respond to invitation)
## WHAT DID WE FIND?

### Characteristics of organizations completing interviews (N=47)

<table>
<thead>
<tr>
<th>Characteristic of organization</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of organization</strong></td>
<td></td>
</tr>
<tr>
<td>- RHA</td>
<td>21%</td>
</tr>
<tr>
<td>- LHIN</td>
<td>2%</td>
</tr>
<tr>
<td>- Acute care hospitals and care centres</td>
<td>55%</td>
</tr>
<tr>
<td>- Academic teaching hospital</td>
<td>19%</td>
</tr>
<tr>
<td>- Secondary care centre</td>
<td>21%</td>
</tr>
<tr>
<td>- Tertiary care centre</td>
<td>6%</td>
</tr>
<tr>
<td>- Multiple organizations within one larger organization</td>
<td>6%</td>
</tr>
<tr>
<td>- Other</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Number of beds</strong></td>
<td>433 (49 - 1,972)*</td>
</tr>
<tr>
<td><strong>Annual operating budget</strong></td>
<td>$878.9 million ($1.0 million - $13.6 billion)*</td>
</tr>
<tr>
<td><strong>Funding sources for NDHTs</strong></td>
<td></td>
</tr>
<tr>
<td>- Global budget/government funding</td>
<td>72%</td>
</tr>
<tr>
<td>- Specific/targeted government grant</td>
<td>76%</td>
</tr>
<tr>
<td>- Research funding</td>
<td>35%</td>
</tr>
<tr>
<td>- Hospital foundation</td>
<td>89%</td>
</tr>
<tr>
<td>- Manufacturers</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Extent to which NDHTs challenge decision-making</strong></td>
<td></td>
</tr>
<tr>
<td>- Extremely</td>
<td>11%</td>
</tr>
<tr>
<td>- Very</td>
<td>39%</td>
</tr>
<tr>
<td>- Moderately</td>
<td>41%</td>
</tr>
<tr>
<td>- Slightly</td>
<td>2%</td>
</tr>
<tr>
<td>- Not at all</td>
<td>7%</td>
</tr>
</tbody>
</table>

*Mean and range*
WHAT DID WE FIND?

Geographic location of participating organizations
WHAT DID WE FIND?

Basic steps of the technology decision-making process

- Who can request a NDHT?
- How is a request made?
- What types of information are required?
- What sources of information are used?
- To whom is a request made?
- Who is involved in making recommendations?
- What factors are considered?
- Are there explicit evidence expectations?
- Who is involved in making final decisions?
- What decision options are available?
- What innovative funding mechanisms are used?
- What is the role of ‘pilots’?
WHAT DID WE FIND?

From whom requests are initiated

<table>
<thead>
<tr>
<th>Types of Individuals</th>
<th>Organizations (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>100</td>
</tr>
<tr>
<td>Clinical managers/directors</td>
<td></td>
</tr>
<tr>
<td>Patient groups</td>
<td></td>
</tr>
<tr>
<td>Executive team</td>
<td></td>
</tr>
<tr>
<td>Anyone</td>
<td></td>
</tr>
<tr>
<td>Other staff</td>
<td></td>
</tr>
<tr>
<td>Ministry</td>
<td></td>
</tr>
<tr>
<td>Foundations</td>
<td></td>
</tr>
<tr>
<td>Manufacturers</td>
<td></td>
</tr>
</tbody>
</table>
WHAT DID WE FIND?

When NDHT requests are considered

Where specified:
- **Ad hoc:**
  - Donors
  - Replacement NDHTs
  - Consumables
  - “Low cost” NDHTs

- **Regular intervals:**
  - Capital equipment
  - “New initiatives”
WHAT DID WE FIND?

Information required in request

Requests:
- All require form
- Common template
- Usually called a business case

Organizations (%)

Type of information
WHAT DID WE FIND?

Sources of information used

- Expert opinion
- Regulatory documents
- Peer-reviewed studies
- Formal HTAs
- Promotional material
- Unpublished information
- Patient or public input
- Standards and guidelines
- Social media
- Horizon scanning
- Administrative data

Organizations (%)

Information sources
WHAT DID WE FIND?

To whom requests are forwarded for recommendations (as part of centralized processes)

Seems to depend on:
- Whether separate processes exist for capital equipment
- Whether process involves multiple levels
- Potential budget impact of request (cost threshold)

Does not seem to depend on:
- Type of organization
- Size of organization

All committees include (at a minimum):
- Physicians
- Clinical managers/directors
WHAT DID WE FIND?

Explicit evidence expectations of requested NDHTs

Organizations with explicit evidence expectations:
- Experience of other centres
- Randomized controlled trial
WHAT DID WE FIND?

Factors considered during NDHT decision-making
WHAT DID WE FIND?

Use of ‘innovative’ funding mechanisms

<table>
<thead>
<tr>
<th>‘Innovative’ funding mechanism</th>
<th># of organizations (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>37 (79)</td>
</tr>
<tr>
<td>Yes</td>
<td>10 (21)</td>
</tr>
<tr>
<td>• Manufacturer provides equipment and organization pays higher price for consumables/supplies</td>
<td>4 (40)*</td>
</tr>
<tr>
<td>• Lease agreements/contracts with manufacturer</td>
<td>6 (60)*</td>
</tr>
</tbody>
</table>

*Percent based on number of organizations that responded ‘yes’
### WHAT DID WE FIND?

#### Processes for identifying and addressing off-label use of NDHTs

<table>
<thead>
<tr>
<th>Availability of process</th>
<th># of organizations (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>42 (89)</td>
</tr>
<tr>
<td>Yes</td>
<td>5 (11)</td>
</tr>
<tr>
<td>• Academic teaching hospital</td>
<td>4 (80)*</td>
</tr>
<tr>
<td>• RHA that includes academic teaching hospital</td>
<td>1 (20)*</td>
</tr>
</tbody>
</table>

*Percent based on number of organizations that responded ‘yes’

#### Pressure to fund technology initially provided through ‘pilot’

<table>
<thead>
<tr>
<th>Pressure to fund</th>
<th># of organizations (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>26 (55)</td>
</tr>
<tr>
<td>Yes</td>
<td>21 (45)</td>
</tr>
<tr>
<td>• Academic teaching hospital</td>
<td>7 (33)*</td>
</tr>
<tr>
<td>• RHA that includes academic teaching hospital</td>
<td>5 (24)*</td>
</tr>
<tr>
<td>• Other</td>
<td>9 (43)*</td>
</tr>
</tbody>
</table>

*Percent based on number of organizations that responded ‘yes’
WHAT CAN WE SAY?

• Decision-making processes vary widely across institutions
• But most are formal processes
• Involve different types of committees, with different memberships
• Often a “business case” is required with numerous information inputs

In larger organizations:

• Innovativeness/economic development may be a decision-making factor
• Influence of pressure from clinicians
• Few processes for managing off-label use of NDHTs
• Complexity of decision-making processes
• Pressure to fund NDHTs initially introduced as part of ‘pilots’ or trials
CONSULTATION FEEDBACK

- Decision-making processes for non-drugs are lagging behind those for drugs
- Key challenges exist regarding health technology management in institutions
- In multi-facility institutions, access to NDHTs varies because of different infrastructure
- “Back door” entry to NDHTs (pilots, SAP) is possible, even where there are formal processes established
- Philanthropic foundations sometimes can influence priorities and technology acquisition
- There is a lack of linkage between HTA and procurement in many institutions
- HTA is sometimes underutilized because of a lack of literacy on HTA among decision-makers
SUGGESTIONS

• Identify the right technologies for HTA, examining both investment and disinvestment decisions
• Move the focus of the assessment away from a provider focus to an “appropriateness” focus
• Ensure that the organizational context is embedded in the HTA
• Include examining the downstream effects of a new technology
• Align HTA processes with research processes in an institution
• Establish a single point of entry for new non-drug technologies
• Ensure that the risk and accountability of introducing emerging technologies are shared by institutions and innovators
• A set of tools for contextualizing HTAs for individual institutions should be developed, as no single economic model can account for contextual differences
• There is a need for good, easily digestible and accessible HTAs to support capital equipment replacement decisions
• Priority areas shared by organizations could be identified and technologies for these areas assessed to support appropriate use
• A centralized HTA process akin to drug reviews in Canada is unlikely to be helpful
Thank you!

Survey results: http://sph.digitaltea.com/