Clinical research: Measuring outcomes and impact

Dawn McArthur, PhD
Head, Research & Technology Development
Why?  
What?  
How?
Why?

There is a need for
  • Accountability
  • Return on current investments
  • Enhanced investment
  • Evidence of benefit
Why?

Health research is expensive

<table>
<thead>
<tr>
<th>CANADA $2.3 billion</th>
<th>USA $70 billion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CIHR</strong> (2011) $753 million</td>
<td><strong>NIH</strong> (2013) $30.9 billion</td>
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<tr>
<td>Biomedical $47.5 million -- 63%</td>
<td>Basic $14.2 billion – 46%</td>
</tr>
<tr>
<td>Clinical $12.9 million -- 17%</td>
<td>Applied $16.7 billion -- 54%</td>
</tr>
<tr>
<td>Population health 9.1 million -- 12%</td>
<td><strong>Pharma R&amp;D</strong> (2011) $38.5 billion (est)</td>
</tr>
<tr>
<td>Health services $5.8 million -- 8%</td>
<td><strong>Pharma R&amp;D</strong> (2011) $38.5 billion (est)</td>
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</tbody>
</table>

**Pharma R&D** (2010) $1.5 billion

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CIHR Annual Report 2011-12
CIHR Rx&D report 2010

NIH Director’s Budget Overview 2013
International Pharmaceutical Associations
Industry report 2012

NORDP 2013 Clinical research metrics
Why?

Disease and health care are very expensive

Clinical trials are big business
What?
What? More than trials

**BASIC**
- Biomedical studies
- Drug discovery
- Epi/Genomics
- Epidemiology
- Health technology assessment
- Devices

**TRANSLATIONAL**
- Clinical trials
- Health promotion
- Health economics
- Surveillance
- Social medicine
- Community based research

**APPLIED**
What?

Measures of processes vs products

Discovery
Data Knowledge

Start-up
Ethics
Contracts
Recruitment

Study
Sampling
Attrition
Data collection
Data analysis
Adverse events

Outcomes
Key findings
Dissemination
Practice
Policy
Impacts
Change
More studies
What?

What you care about defines what you measure

Study

Researcher

Institution/Organization

Sponsor

Government

Public

Study progress
Study primary outcome
Knowledge

Study progress/outcomes
Study impact
Partnerships
IP/Tech transfer

Study outcomes/impact
Return on investment
Addressing mandates
IP/Tech transfer

Curing disease, better health
Creating “wealth”, social good
How?
How?

Frameworks, models & indicators

Figure 4. The three clusters of sponsor expectations for this assessment. These drove the assessment and the structure of this report: Frameworks (Chapter 2), Evaluation Issues (Chapter 3) and Metrics (Chapter 4).
How?

Case study: Becker Library Model

Research output = 24 indicators
Five “pathways for diffusion” = 85 indicators

Advancement Of Knowledge
Clinical implementation Legislation & policy
Community benefit Economic benefit

NORDP 2013 Clinical research metrics
How? Integrated registries & tracking
How? Enhancing outcomes & impacts

USA: NIH National Center for Advancing Translational Sciences
Canada: CIHR Strategy for Patient-Oriented Research
Thanks !