



CIHR IRSC

Evidence-based Decision-making and Knowledge Transfer in Aging Societies: The CIHR Experience

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Canadian Institutes of Health Research

Canada

What is CIHR?

- ❖ **Major health research agency for Canada**
- ❖ **Launched on June 7, 2000**
- ❖ **Supports 10,000 researchers in universities, teaching hospitals, research institutes across Canada**
- ❖ **Replaces the Medical Research Council of Canada and NHDRP of Health Canada**
- ❖ **Establishes a new structure for funding research based upon virtual institutes, and a multidisciplinary approach**

“To excel, according to internationally accepted standards of scientific excellence in the creation of new knowledge

and its translation

into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system...”

From Cell to Society:

- ❖ **Biomedical**
- ❖ **Clinical**
- ❖ **Health services and health systems**
- ❖ **Health of populations, societal and cultural dimensions of health, and environmental**

70% Investigator-Initiated (Open Competition)

- University-based researchers develop proposals and submit applications
- Successful applications based solely on peer-review
- Includes operating grants, salary awards, training awards, equipment grants, etc
- Regular competition cycle (September, January & March)

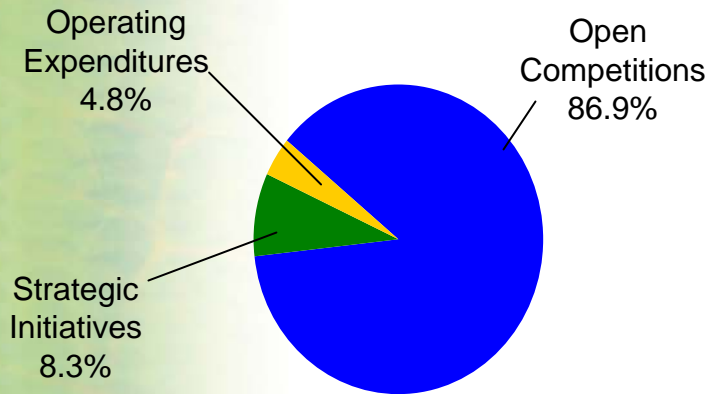
30% Strategic Initiatives

- Targeted to address major health challenges
- Requests for Applications (RFAs)
- Developed by **Institutes**
- Successful applications also based solely on peer-review
- Regular competition cycle (December and June)

CIHR Expenditures (\$ Millions)

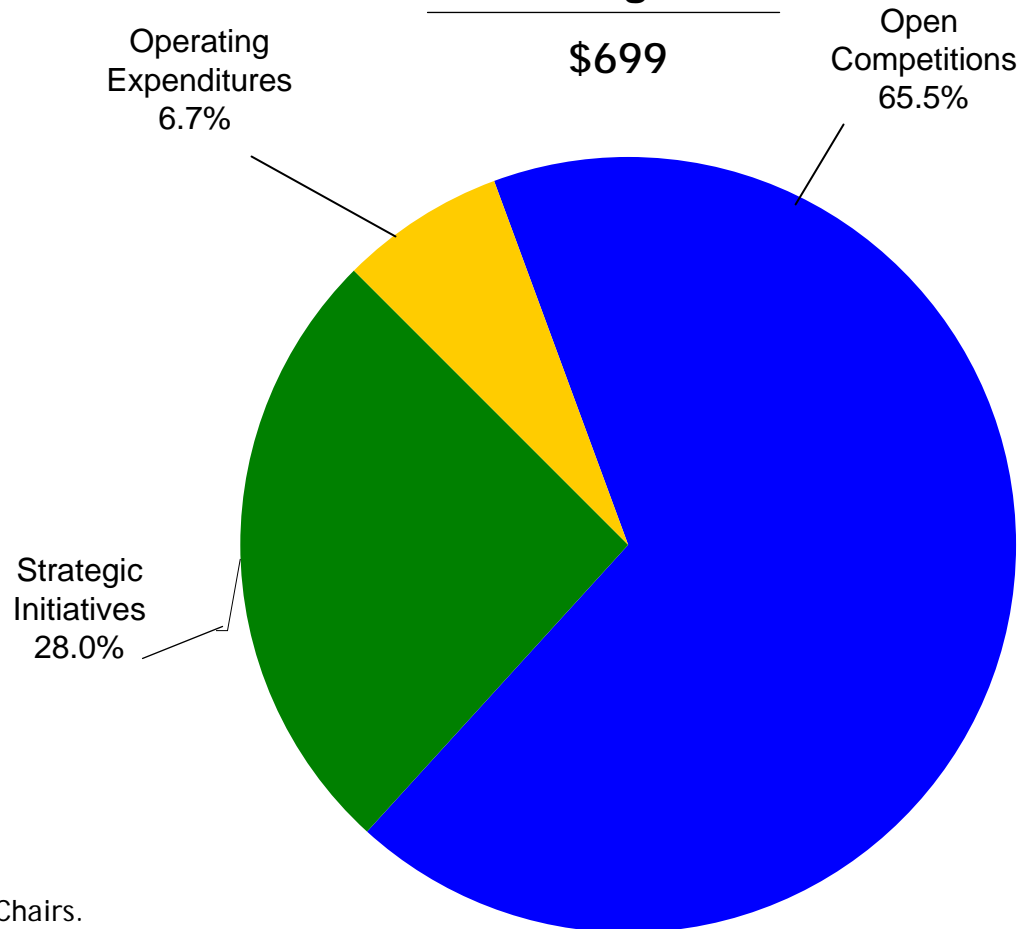
**1999-2000
(MRC)**

\$289



**2005-2006
Budget**

\$699



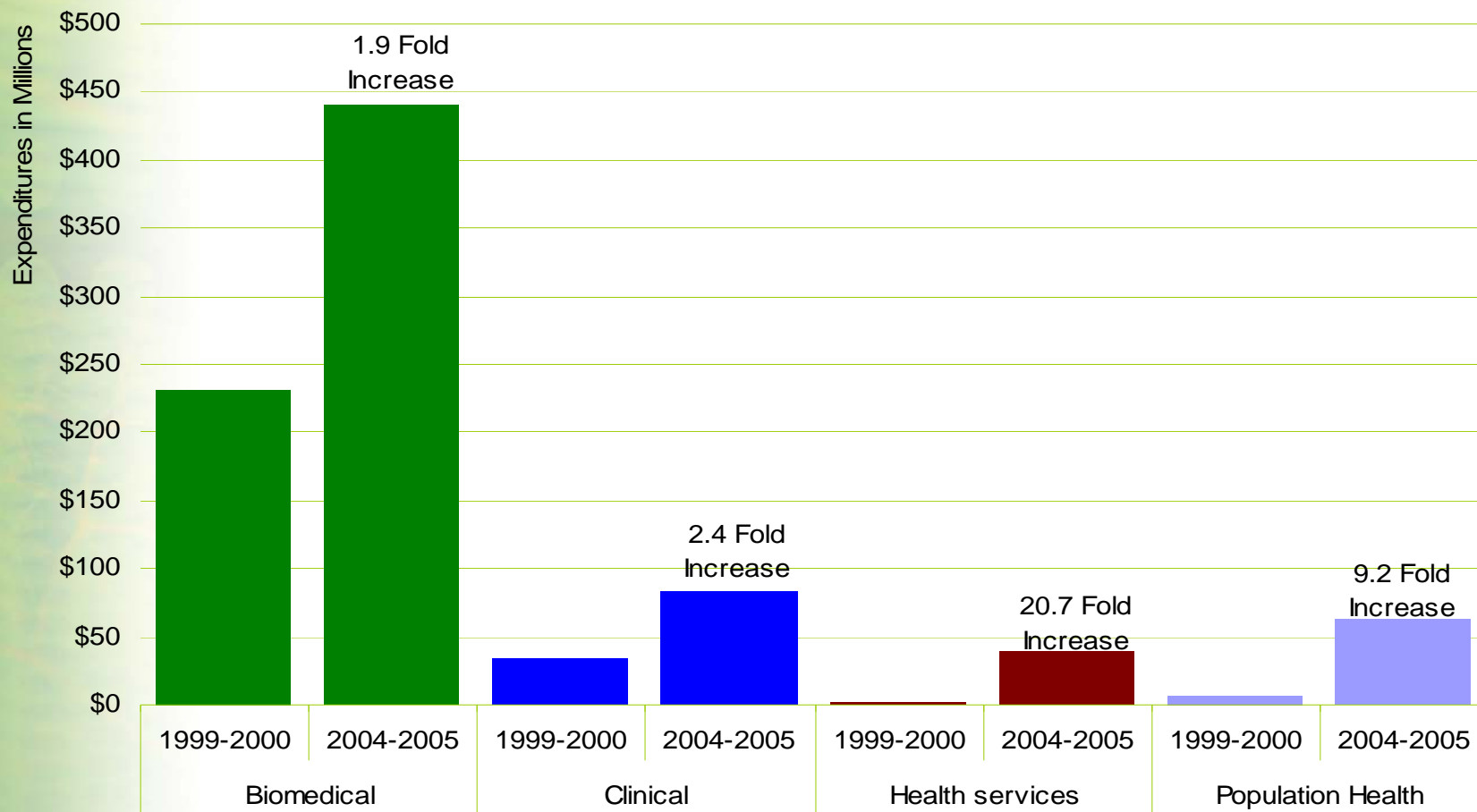
Note: Figures do not include NCEs and Chairs.



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Allocation of CIHR Funding

1999-2000 to 2004-2005

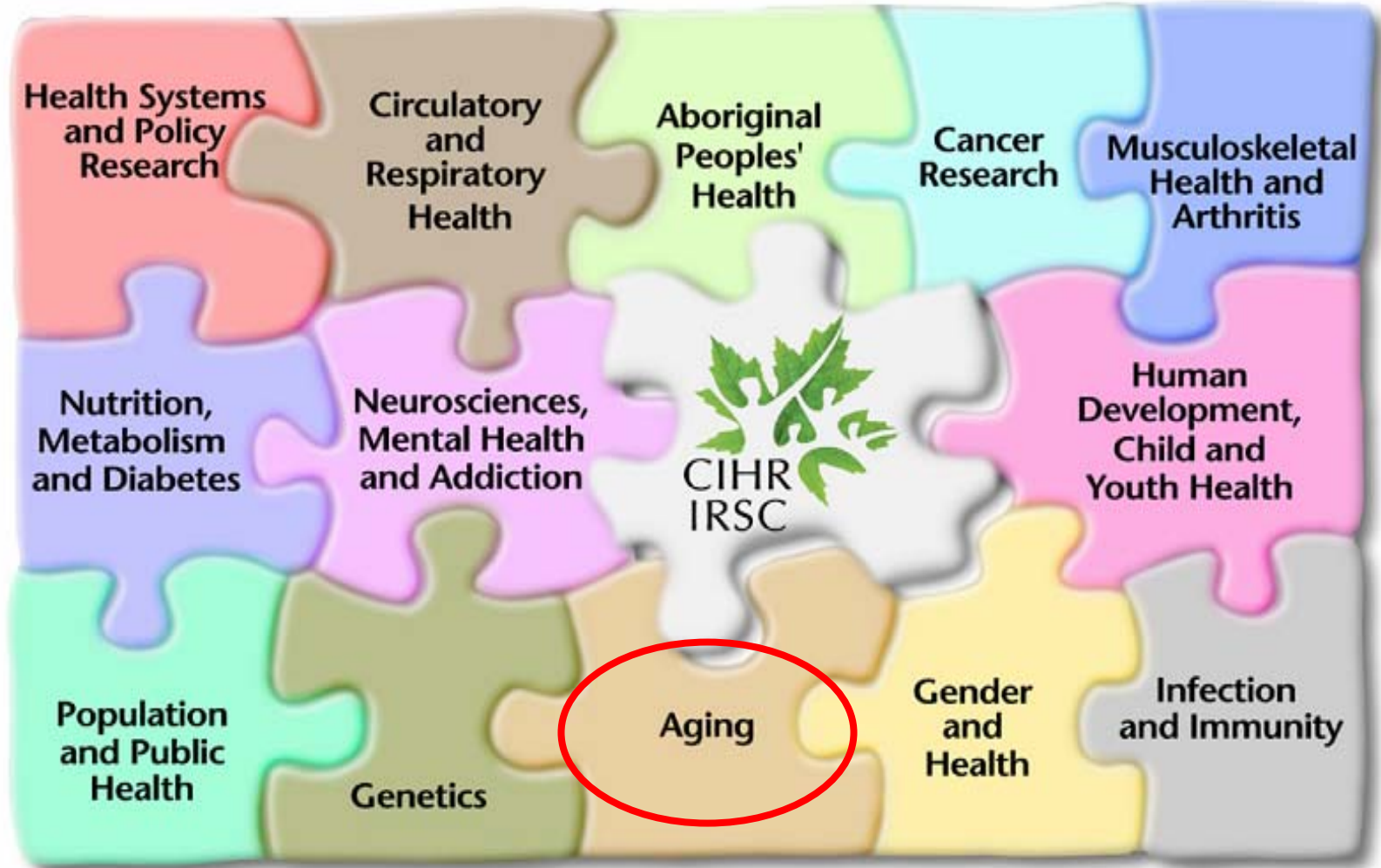


Figures include a proportional distribution of projects where researchers had not selected a primary research theme. These figures do not include CRC's and NCE's.



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CIHR - Institutes



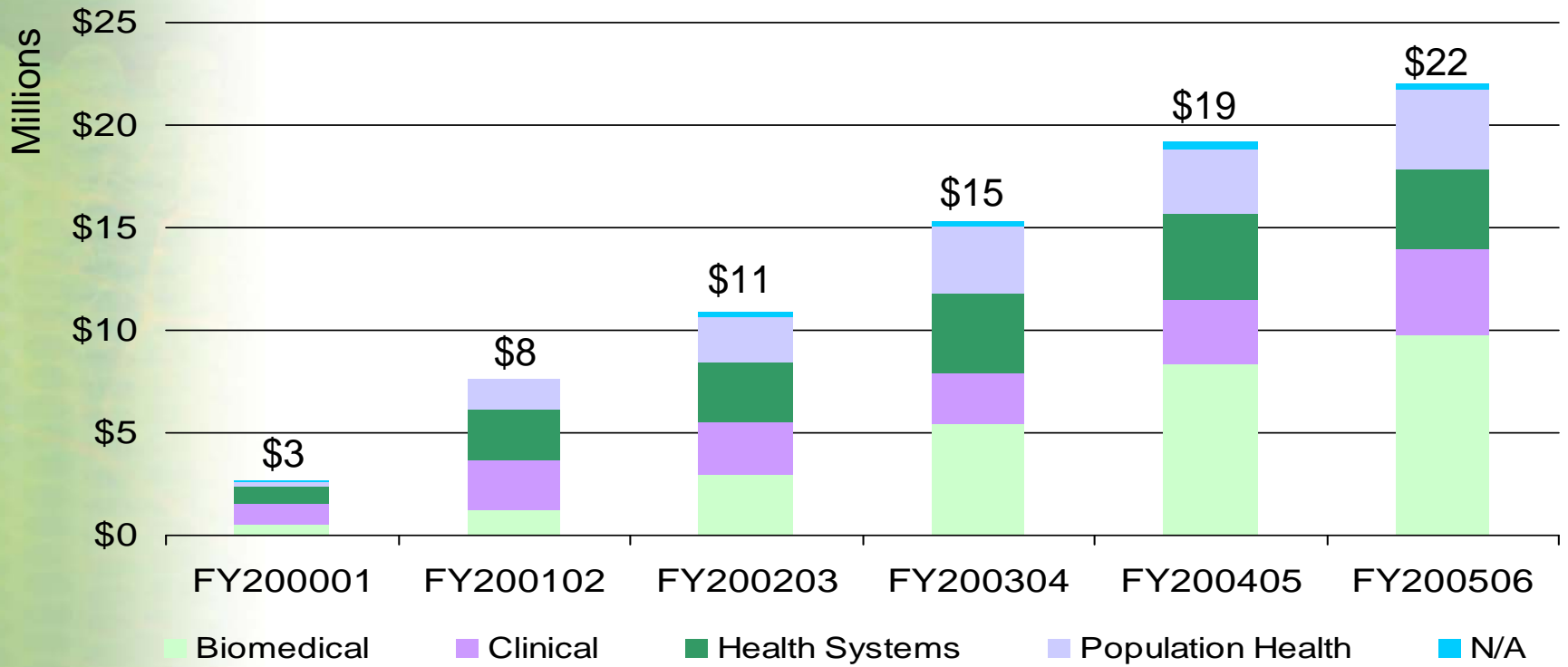
Growth in CIHR Investment in Aging

Estimated CIHR Investment in Research in the area of Aging
in millions of dollars



IA Funding by Research Theme

Funding by Research Theme Researcher Self-identification of IA as Primary Institute



The fundamental goal of the Institute of Aging is the advancement of knowledge in the field of aging to improve the **quality of life** and the **health** of older Canadians.



Five Priority Research Areas

- ❖ Healthy and successful aging
- ❖ Biological mechanisms of aging
- ❖ Cognitive impairment in aging
- ❖ Aging and maintenance of functional autonomy
- ❖ Health services and policies relating to older people

What We Do... in Aging

- ❖ **Fund Research: Operating Grants, Seed Grants**
 - ❖ Lynn Martin: aging of adults with intellectual disabilities (interRAI ID)
- ❖ **Support Researchers (Career Awards)**
 - ❖ Hirdes (Investigator): LTC, home care, mental health)
 - ❖ Maxwell (New Inv): RAI-HC, drug utilization, assisted living)
- ❖ **Fund Teams of Researchers:**
 - ❖ Team Development Grant Paul Stolee (IMHA): hip fracture
- ❖ **International Research Collaborations:**
 - ❖ NIA(US); JSPS (Japan); NDA(UK)
- ❖ **Build Capacity: Training of Students**
 - Career Support (Peter Brink- interRAI Palliative Care inst.)
 - Summer Program in Aging (SPA)

❖ **Set Strategic Priorities**

- ❖ Cognitive Impairment in Aging
- ❖ Mobility in Aging
- ❖ Canadian Longitudinal Study on Aging

❖ **Public Engagement**

- ❖ Seniors and Professional Organizations
 - National/Regional Seniors Research Workshop
 - Professional Associations (CAG, CGS, CGNA)

❖ **Caregiving in Dementia: Research Initiatives**

- Biological causes / prevention
- Clinical: treatment
- Health services and caregiving: management
 - Special populations: rural, ethno-cultural

❖ **Research to Action Program in Dementia: RAPID**

- Application of research: requires effective knowledge translation (KT)
- Partnerships/collaborations: enhance relevance of research and optimize research impact
- Translation of research findings: priority

CIA Partnership



Strategic Research Focus: Mobility in Aging

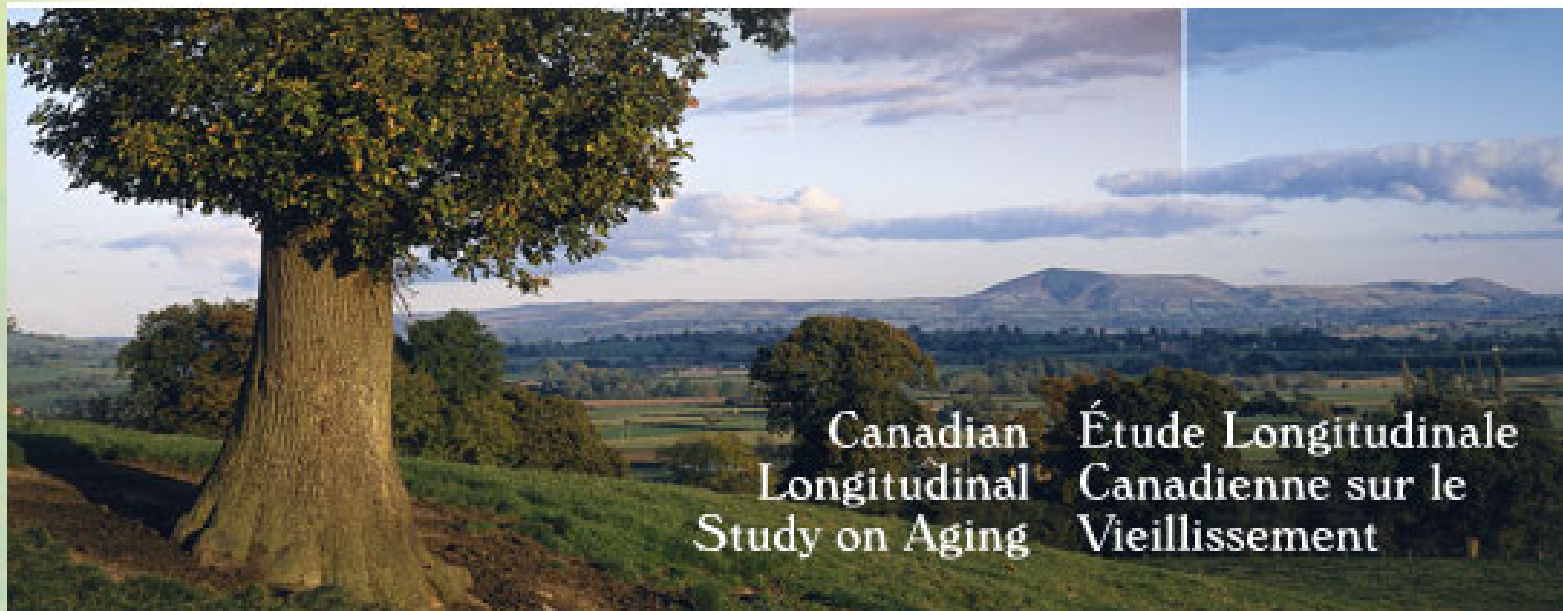
- ❖ Understanding and defining mobility
- ❖ Maintaining and restoring mobility
- ❖ Measures, tools, and technologies in research, assessment and mobility aids
- ❖ Supportive designs for mobility in aging: housing, communities, and transportation





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Canadian Longitudinal Study on Aging



Canadian Longitudinal Study on Aging
Étude Longitudinale Canadienne sur le Vieillissement

Principal Investigators:

- Dr. Susan Kirkland
- Dr. Christina Wolfson
- Dr. Parminder Raina



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Why is Knowledge Translation important to CIHR?

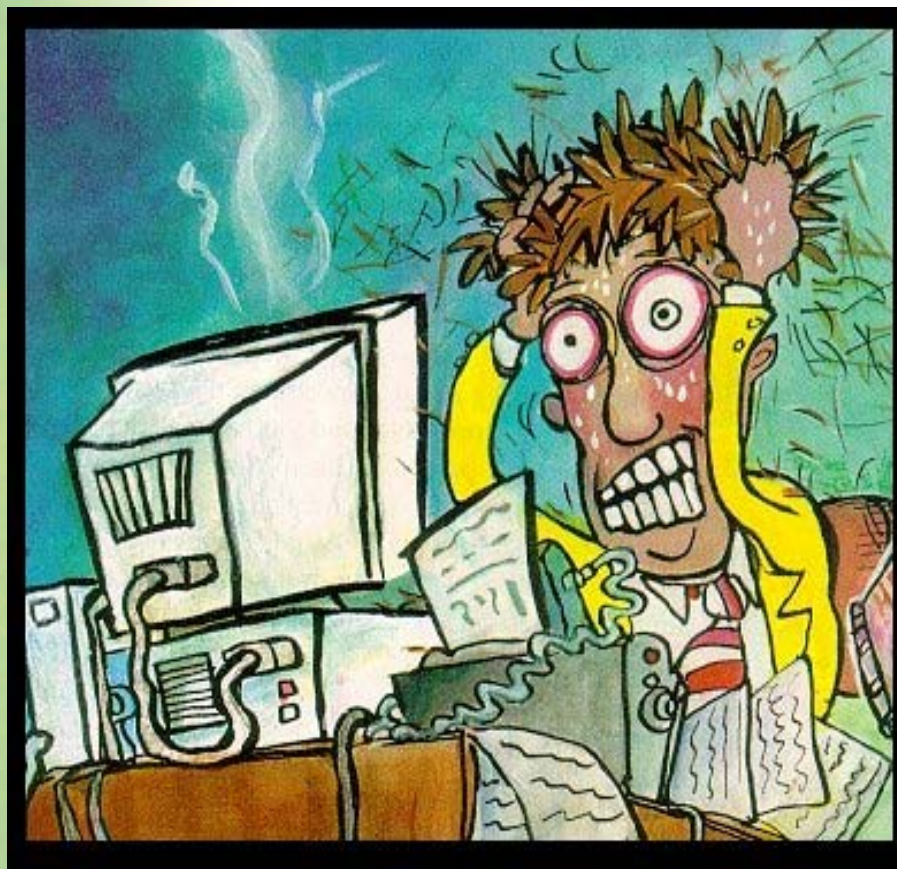
Given CIHR's mandate, we really must do something to get people to use all the research we fund





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“Knowledge Translation”: It’s all in the name



Knowledge to action (KTA)

Knowledge Transfer (KT)

Knowledge Translation (KT)

Research Use/Utilization

Knowledge Exchange (KE)

Commercialization

Knowledge Transfer



“is about transferring good ideas, research results and skills between universities, other research organizations, business and the wider community to enable innovative new products and services to be developed.”

UK Office of Science and Technology

Knowledge Exchange



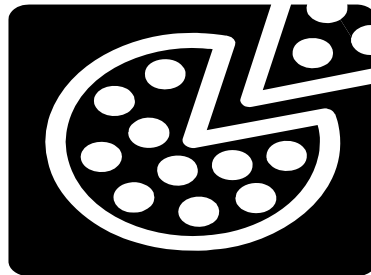
- ❖ *Collaborative problem-solving between researchers and decision makers*
- ❖ *Happens through linkage and exchange*
- ❖ *Involves interaction between decision makers and researchers and results in mutual learning through the process of planning, producing, disseminating, and applying existing or new research in decision-making*

Canadian Health Services Research Foundation

Research Use/Utilization

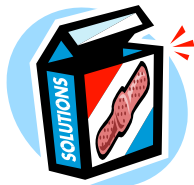
“process by which specific research-based knowledge (science) is implemented in practice.”

Estabrooks et al 2003



“the exchange, synthesis and ethically-sound application of knowledge - within a complex system of interactions among researchers and users - to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products, and a strengthened health care system”

<http://www.cihr-irsc.gc.ca/e/29418.html> accessed Jan 24)



Knowledge translation is about:

- ❖ Making users aware of knowledge and facilitating their use of it
- ❖ Closing the gap between what we **know** and what we **do**
- ❖ Moving knowledge into action

Knowledge translation research is about:

- ❖ Studying the determinants of knowledge use and effective methods of promoting the uptake of knowledge

Consistent evidence of failure to translate research findings into clinical practice

- 30-40% patients do not get treatments of proven effectiveness
- 20–25% patients get care that is not needed or potentially harmful

(Schuster, McGlynn, Brook, 1998; Grol R, 2001; Graham et al, 2006)

Cancer outcomes could be improved by 30% with optimum application of what is currently known

10% reduction in cancer mortality with widespread use of available therapies

(

CSCC 2001; Ford et al, 1990)

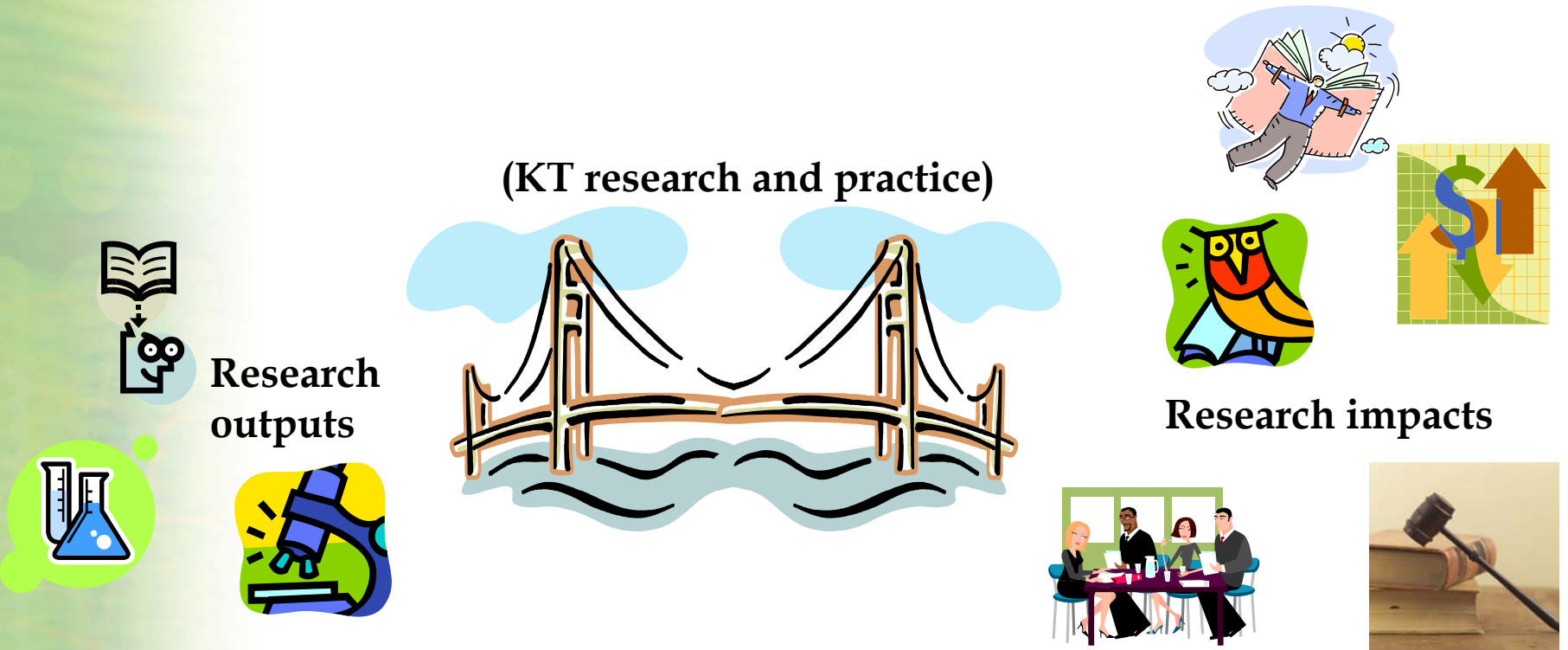
The research - practice/policy gap

- ❖ **Costs to health of Canadians:**
 - ❖ Unnecessary research done
 - ❖ Important research not done
 - ❖ Duplication of effort
 - ❖ Inability to generalize to real world

- ❖ *Consistent evidence of failure to translate research findings into practice that would improve the health of Canadians*

Why?

Knowledge Translation is the bridge between discovery and impact



KT is about making a difference

“the exchange, *synthesis* and ethically-sound application of knowledge –

within a complex system of interactions among researchers and users –

to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products, and a strengthened health care system”

(<http://www.cihr-irsc.gc.ca/e/29418.html>)

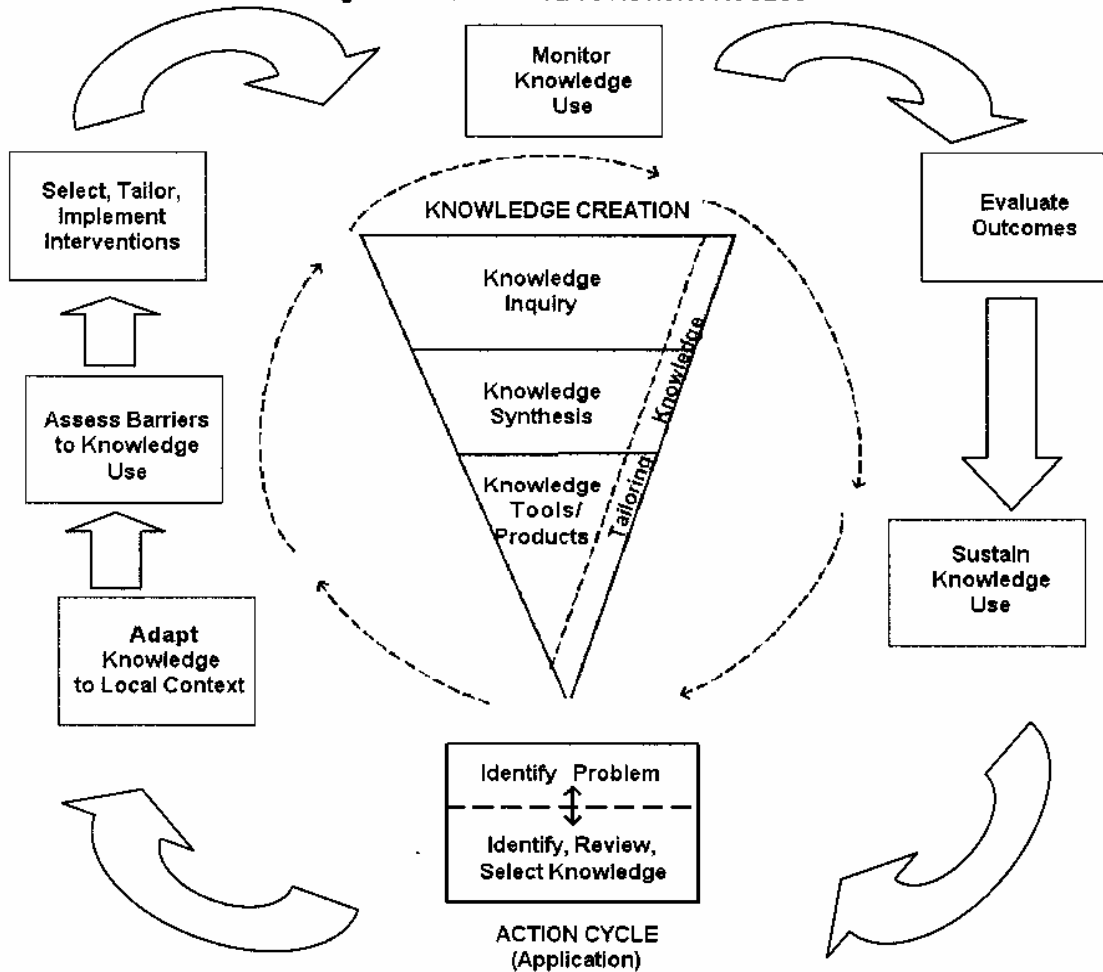


KT: A Conceptual Model

From :

Graham et al: Lost in Knowledge Translation. Time for a Map?

Figure 1: KNOWLEDGE TO ACTION PROCESS



What is involved in KT?

- ❖ **The model shows range of activities from:**
 - ❖ dissemination of research results
 - ❖ application in the real world

- ❖ **Two broad categories of KT at CIHR**
 - ❖ End of grant KT
 - ❖ **KT woven into the research process**
(integrated/embedded KT)

1. End of Grant KT

- **Diffusion**
 - **researcher-'push'**
- **Dissemination**
 - **activities that tailor the message and medium to a specific audience**
 - **researcher-push / user-pull**
- **Implementation**
 - **engaging end users in developing & executing dissemination/implementation plan**
 - **commercialization**
 - **tools creation** e.g. practice guidelines
 - **media engagement**
 - **use of knowledge brokers**

How do Canadian applied health researchers disseminate the results of funded research?

- **2004 Cross-sectional national survey**
(sample n=313; N=228; Response Rate =73%)
- **PIs of funded by CHSRF, NHRDP, MRC, CIHR 1995-2001**
- **53% male**
- **47% full professor**
- **51% clinicians**
- **34% social scientists**
- **32% epidemiologists**

KT activities of Canadian researchers: Diffusion

Diffusion activity	Total
Conference presentations	86%
Peer reviewed publications	80%
Final report to funders	53%
Non-peer reviewed publications	36%
Website posting	23%
Purchasing reprints	16%

KT activities of Canadian researchers: Dissemination

Dissemination activity	Total
Summary to policy makers	25%
Summary to practitioners	21%
Press releases	18%
Summary to patients/consumers	16%
Newsletter	15%
Targeted mailings/e-mails	13%



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KT activities of Canadian researchers: Implementation

Implementation activity	Total
Educational sessions w/ practitioners	43%
Stakeholder involvement	41%
Media involvement	23%
Tools creation	21%
Educational sessions w/ policy makers	19%
Educational sessions w/ patients	15%
Involving consumers in KT activities	15%
Use of knowledge brokers	9%

A reminder: CIHR's Mission

“To excel, according to internationally accepted standards of scientific excellence in the creation of new knowledge

and its translation

into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system...”

What are researchers doing in terms of CIHR's mission?

How important are your research results in terms of:	Response
Creating new knowledge/scientific importance	80% Quite/very important
Potential to improve the health of Canadians	46% Quite a lot/great deal of potential
Potential to create more effective health services	57% Quite a lot/great deal of potential
Potential to create products to improve health	19% Quite a lot/great deal of potential

The move to a more “integrated” KT

- ❖ **Another way of doing research**
- ❖ **Collaborative research, action-oriented, co-production of knowledge, engaging researchers and stakeholders (end-users)**
- ❖ **Involves integrating stakeholders into the entire research process**

Stakeholders include:

- Investigators from different disciplines, teams, countries
- Policy makers, decision makers, research funders, the public, clinicians, the media

Beware of the “KT Imperative”!!!

What does a **single research study** tell us?

“We need to bring **common sense** as well as **academic rigour** to bear on our decisions about the degree and intensity of KT activities warranted by a **single research study**” Graham et al 2006

Should *every* researcher be involved in integrated KT?

NO – not necessarily

- ❖ **For many researchers, disseminating research results to the appropriate audience (including other researchers) sufficient**
- ❖ **Sometimes more intense knowledge translation warranted to roll out the results of research proven to be effective**
- ❖ **This more intense form of KT can occur at end of grant, or in a more integrated fashion, depending on the circumstances**

❖ **Synthesis:**

An important part of CIHR definition of KT

- results from a single research study should be contextualized within a **synthesis** of global research results
- before extra-ordinary dissemination or implementation efforts are undertaken

What is integrated KT?

The role of stakeholders

Stakeholders can be involved in:

- ❖ **Shaping the research questions**
- ❖ **Deciding on the methodology**
- ❖ **Helping with data collection and tools development**
- ❖ **Interpreting the study findings**
- ❖ **Crafting the message and disseminating the research results**
- ❖ **Moving the results into practice**

- ❖ **Commonality in the comments and concerns from this diverse group of agencies:**
- ❖ Keeping track of proposals funded:
 - ❖ what research has been completed?
 - ❖ what results obtained?
- ❖ Problem of contextualizing research
 - ❖ What do the results mean and who needs to know about them?

New roles for funding agencies

- Training programs for policy makers
- Study grants for science writers/ media
- Coaching researchers in communication with the decision-making world
- Creating research summaries
 - **plain language**
 - **stories for public consumption**
 - **targeted email notification**
 - **centralized clearinghouse: research and results**
- Commissioning syntheses and reviews

New roles for funding agencies

Actively changing cultures -

- **Universities to reward KT activity**
- **Evidence-based decision making**

Funding the science of KT

Moving to more systematic KT plans and policies, a common set of terms and operational definitions

Set minimum expectations of researchers

- to encourage KT
- to ensure that there is a scientific record of a project

Closing the Research to Action “Gap”

Researcher to researcher communication about the next study (“more research is needed”) is well organized and all too common.

Researcher to practitioner dialogue about implementing findings (“actionable messages”) is poorly organized and all too rare.

Lavis JN et al., " Milbank Quarterly 2003, 81:221-48.

The Social Focus of Knowledge Translation

- ❖ **Human interaction as the engine that drives research into practice:**
 - implies the need for both human intermediaries between the worlds of research and action (knowledge brokers)
 - supporting infrastructure (knowledge brokering agencies and resources)

Lomas J. The in-between world of knowledge brokering. BMJ 2007;334:129-132

What are CIHR and IA doing about KT?

- Institute strategic initiatives
 - IA's Research to Action Program In Dementia (RAPID)
- KT workshop and symposium opportunities
- Partnerships in Health Services Innovation (PHSI)
- Knowledge to Action strategic initiative
- Synthesis Request for Applications (RFA)
- KT awards – Regional and National
 - Betty Havens Award in KT in Aging
- Training Awards: Fellowship priority announcements
 - Knowledge Translation
 - Health communication
- KT Branch name change: Knowledge Synthesis and Exchange?
- Pan-CIHR KT Casebooks: success stories (and not)
- Implement End-of-Grant Reporting mechanisms

Translation to Product, Policy or Practice



Commercialization (Proof of Principle) Funding:

- **Clinical Trials: ‘SoleSensor’: Balance Enhancing Shoe Insert**
- **Policy Manuals?**
- **Commercial Application of Research Tools?**
- **Under-utilization of tool for policy or practice applications**

In an ideal world: Research based health service

Universities would reward:

- ❖ Including decision makers in research processes
- ❖ Creation of centres that connect researchers directly with health service clinicians, managers, and policy makers
- ❖ Synthesis of interdisciplinary bodies of knowledge into key **actionable messages** relevant to pressing service questions
- ❖ Dissemination of **brief, plain language research summaries** through face to face exchanges between the doers and users of research

In an ideal world: Research based health service

The health service world would reward:

- ❖ **Active involvement of its clinicians, managers, and policy makers in research relevant to pressing health service questions**
- ❖ **Support for operational research and development on its own activities**
- ❖ **Change management driven by research based evidence**
- ❖ **Inclusion of researchers in decision making processes**



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The Future is AGING!

Cap sur le VIEILLISSEMENT!



Canada



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