



INSTITUTE OF MUSCULOSKELETAL HEALTH AND ARTHRITIS

INSTITUT DE L'APPAREIL LOCOMOTEUR ET DE L'ARTHRITE

Dr. Cyril B. Frank
Scientific Director
2001-2006





CIHR: Overview

CIHR Mandate

“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...”

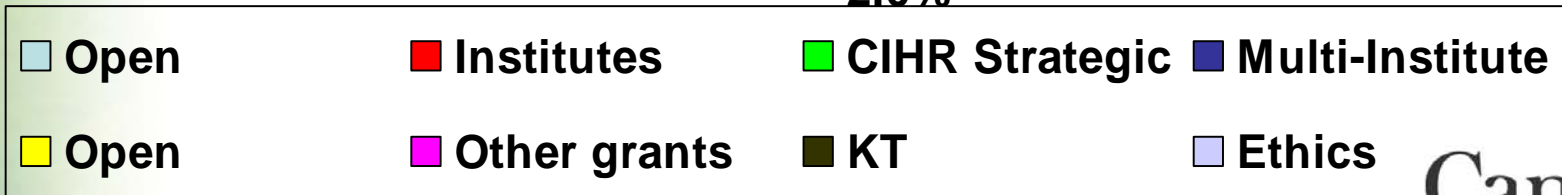
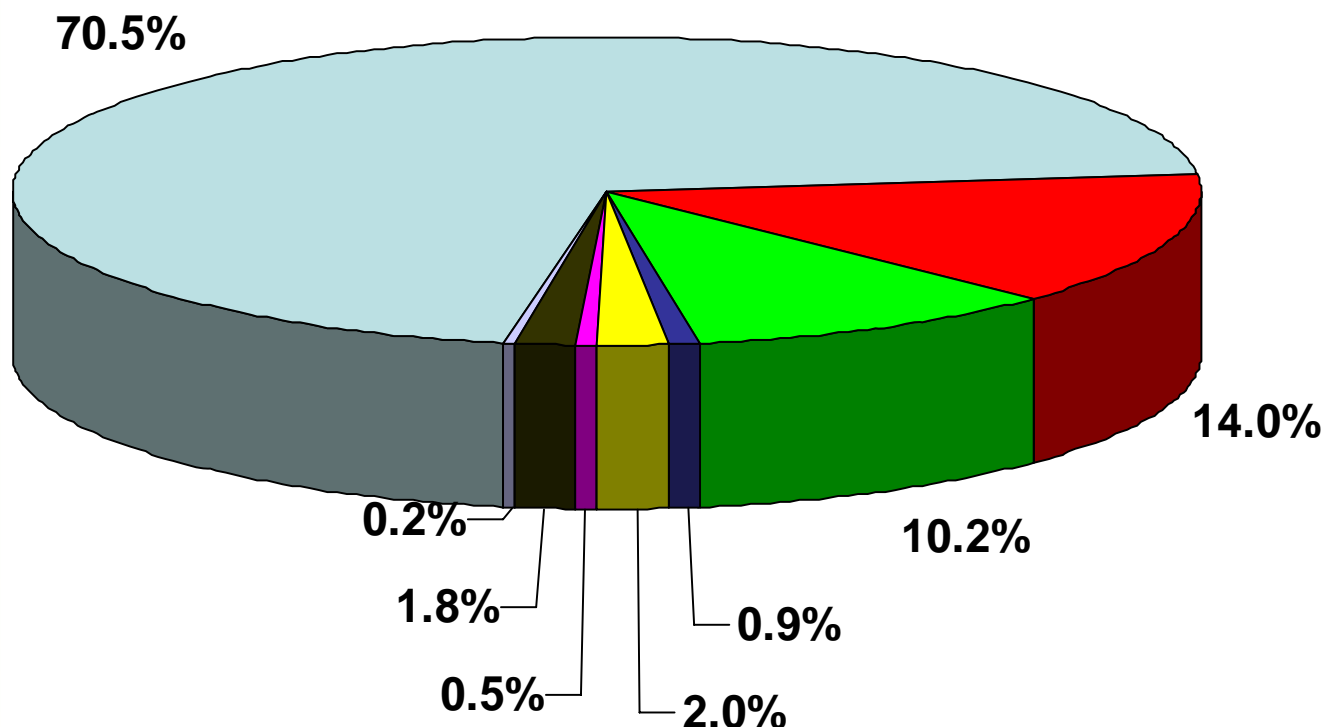
CIHR is:

- Government of Canada’s health research funding agency
- Supporting the work of up to 10,000 researchers and trainees in universities, teaching hospitals, and research institutes across Canada
- Developing high-quality people, excellent science and training the next generation of health researchers
- Funding research that improves Canadians’ health, health care system and quality of life
- Fostering commercialization, moving research discoveries from academic setting to the marketplace



CIHR Grants & Awards Budget 2005/2006 = \$700M

Budget for each Institute: \$7.1 million



CIHR funding increases over 7 years by Region

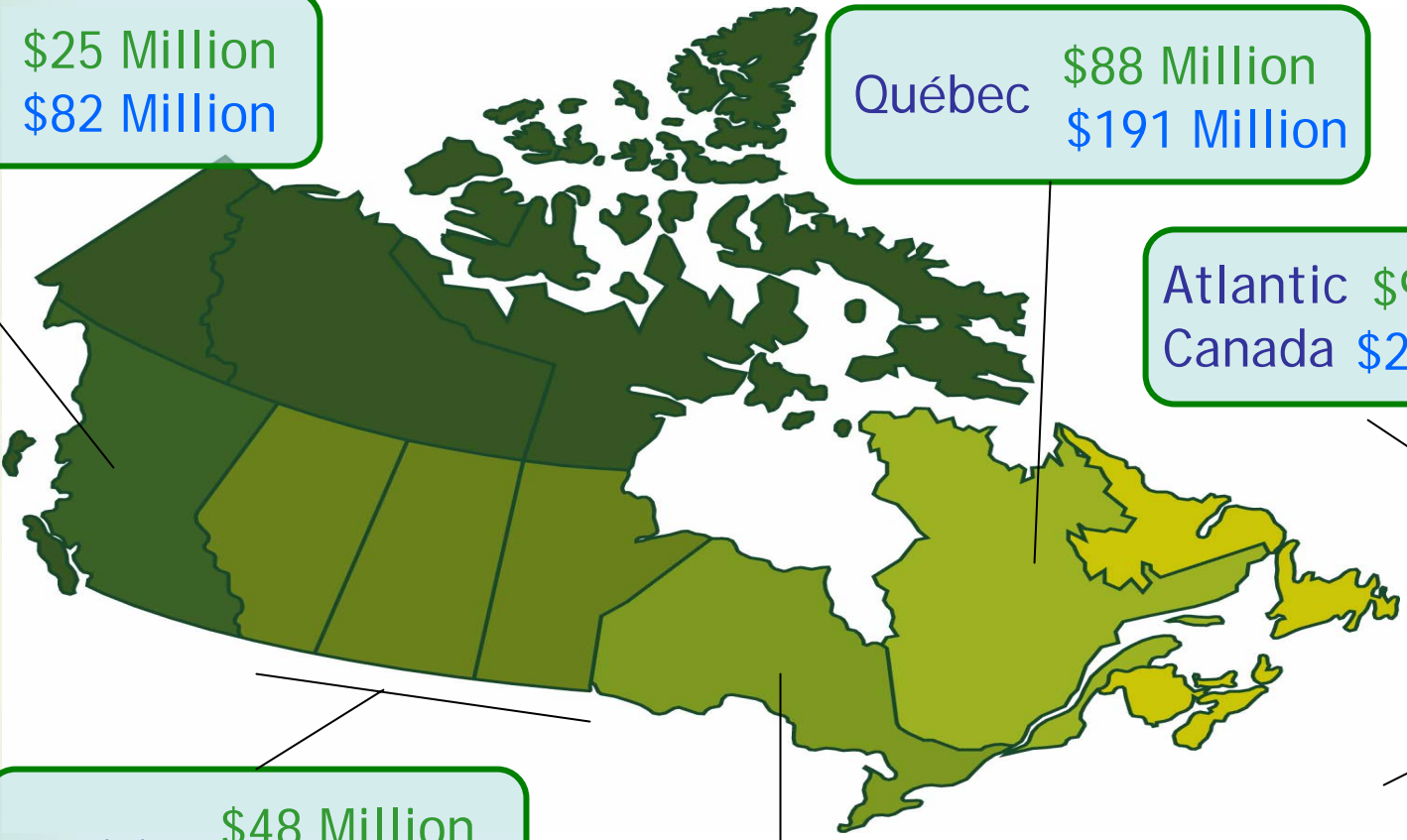
1999-2000

2005-2006

British Columbia
\$25 Million
\$82 Million

Québec
\$88 Million
\$191 Million

Atlantic
\$9 Million
Canada
\$21 Million



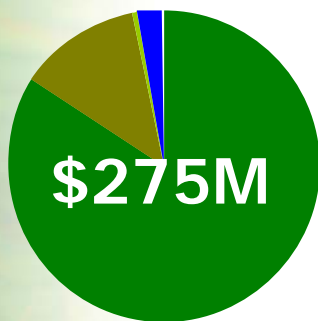
Prairies
\$48 Million
\$97 Million

Ontario
\$114 Million
\$269 Million

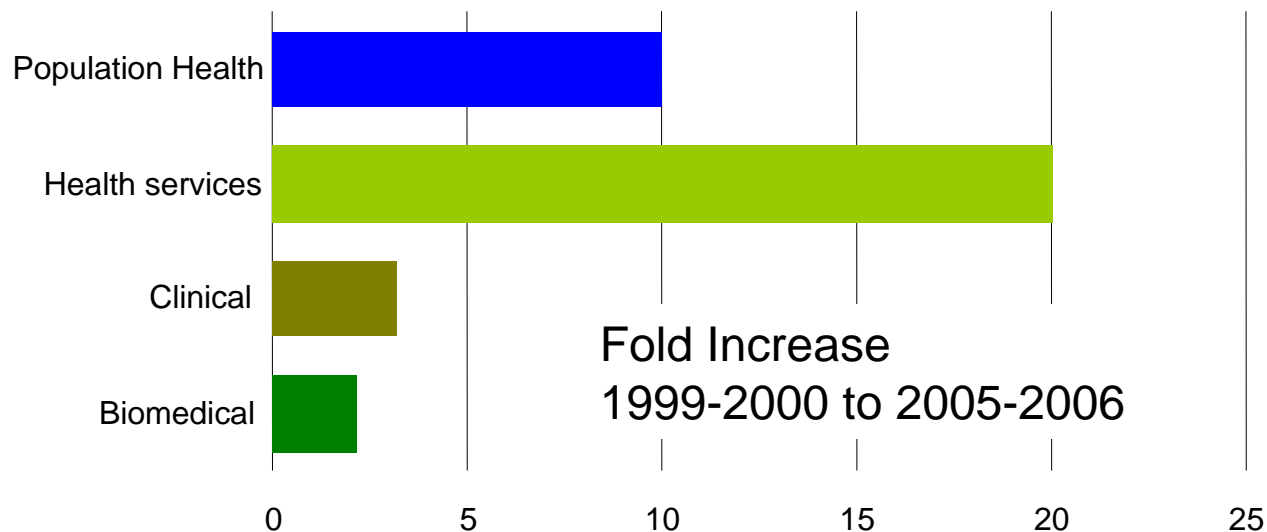
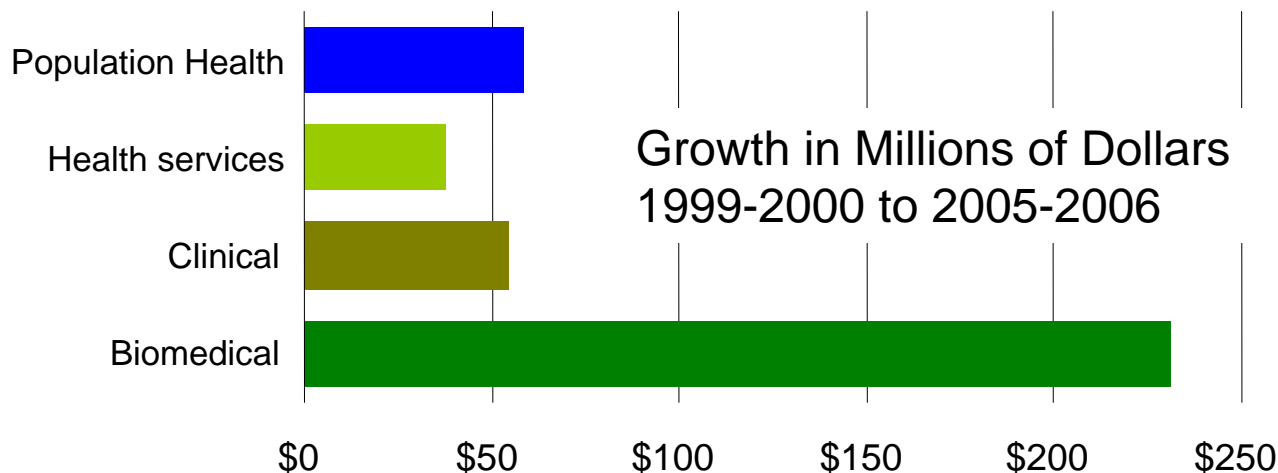
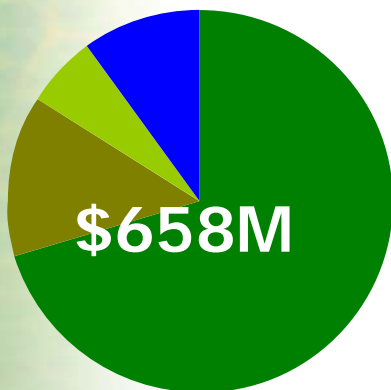
Includes CRC's and NCE's.

CIHR Funding of Four Research Themes 2000 - 2006

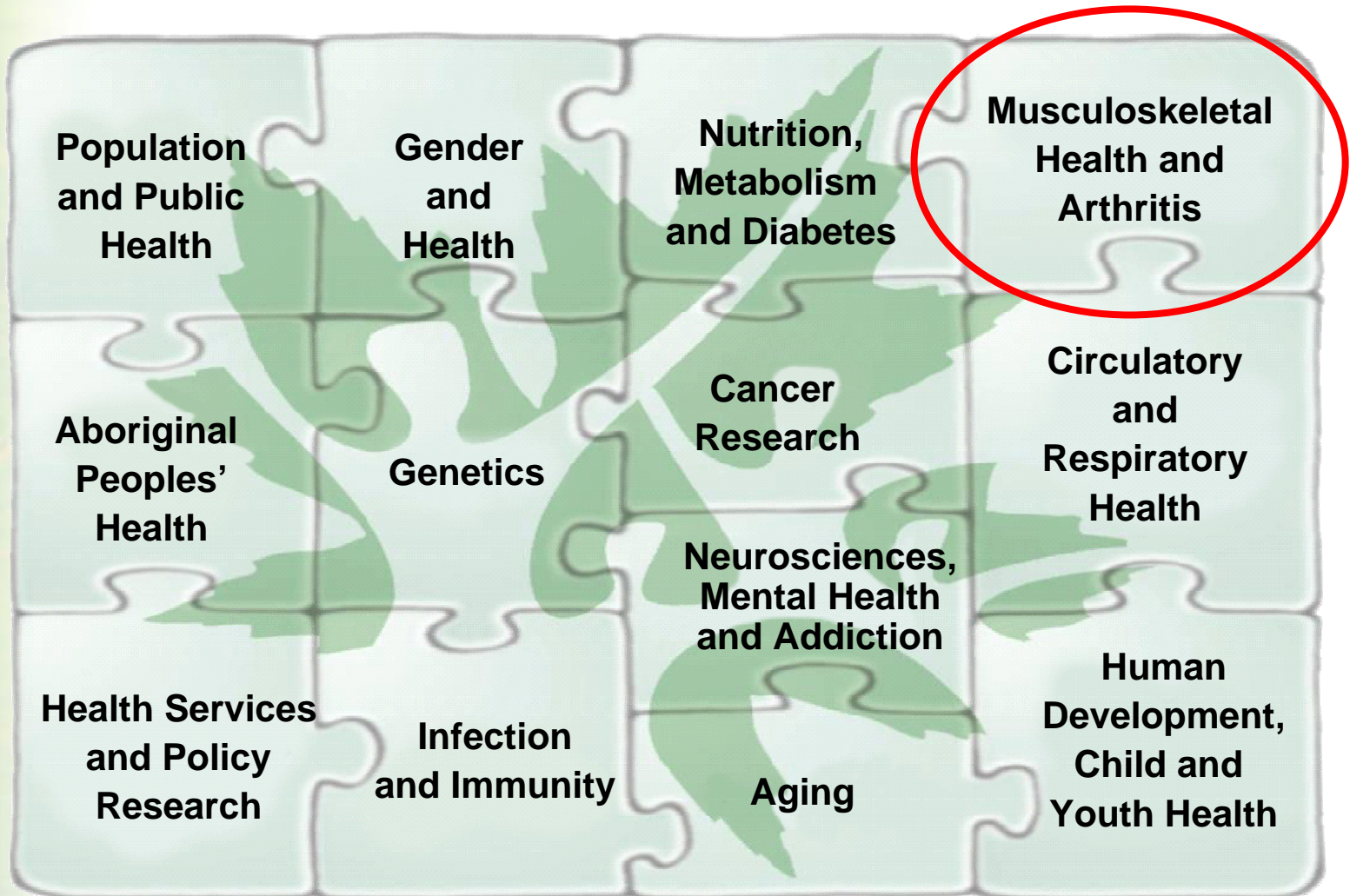
1999-2000



2005-2006



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.





Institute

Advisory Board



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Scientific Director



Dr. Archie Cooper
Cooper Chair



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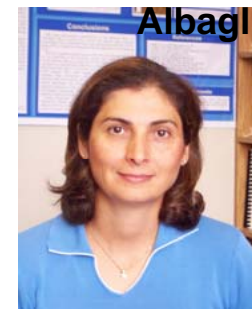
Dr. Richard Singleton



Dr. Ilona Skerjanc



Erna Snelgrove-Clarke



Dr. Maryam Tabrizian

Canada



CIHR IRSC

The IMHA Team





CIHR IRSC

The IMHA Team



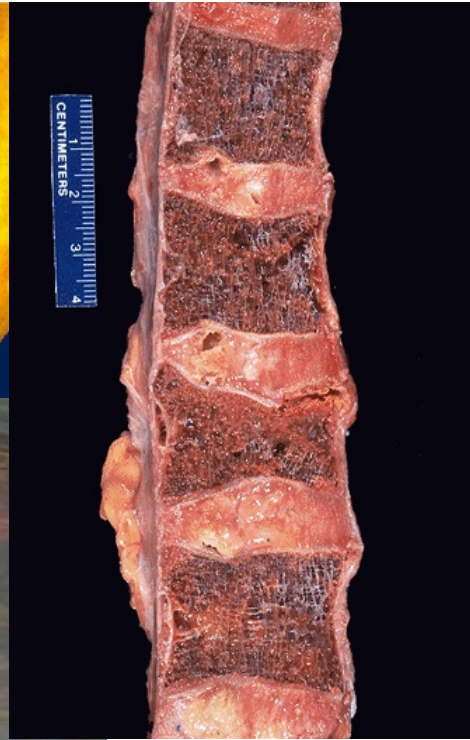


CIHR IRSC

MANDATE: Advancing the Science of Arthritis, Bone, Muscle, Oral Health, MSK Rehabilitation and Skin



Arthur Noug...

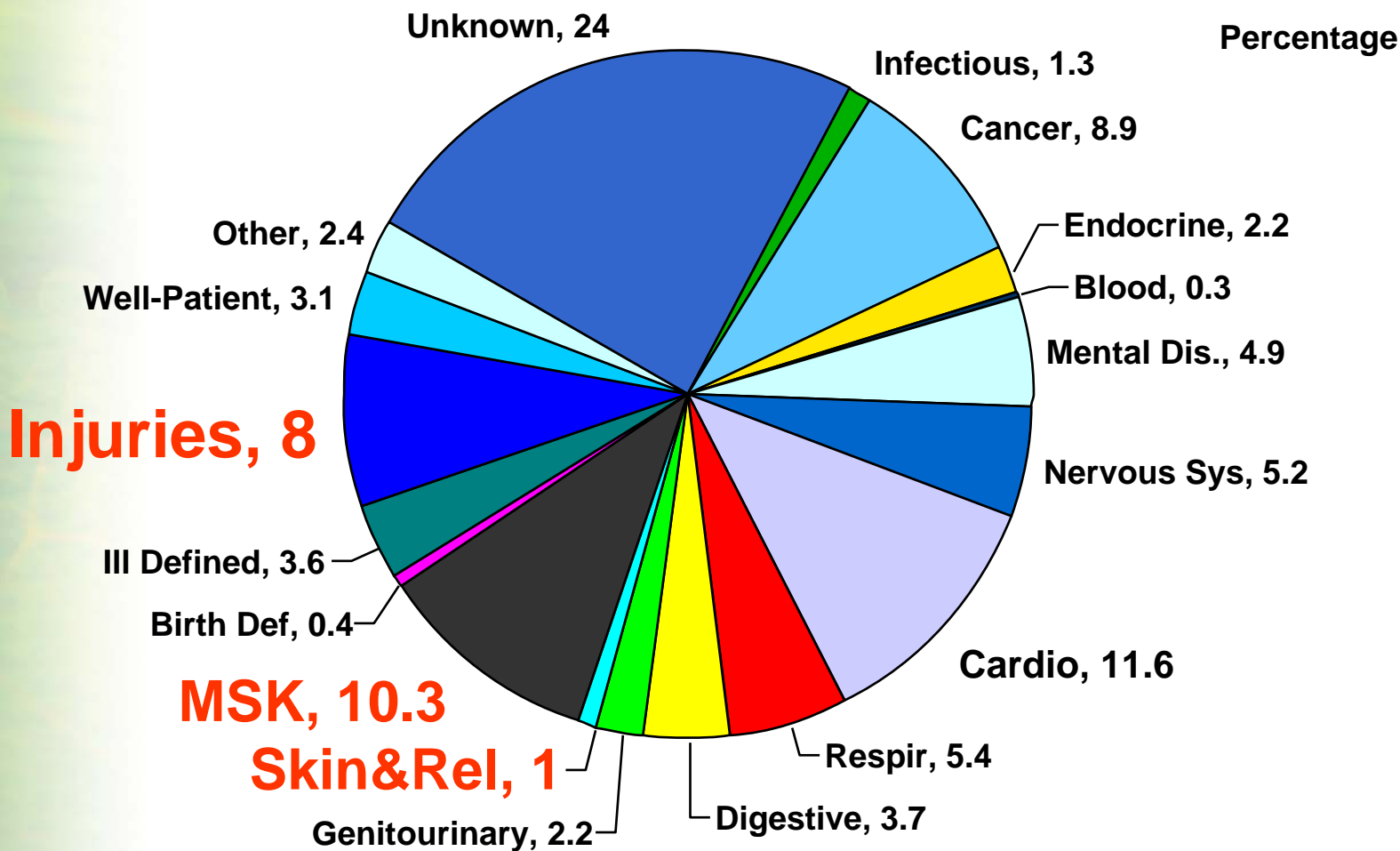




RATIONALE: Economic Burden of Illness

NOTE: ~ 19% of total burden relevant to IMHA

– plus 7% oral health



+ Oral Health ~\$6 Billion (7% of the economic burden of illness)



Ultimately Getting to Prevention = KEY

**If you can't afford prevention...
How will you afford disease?**



ORAL HEALTH = MODEL!



IMHA's Vision

*To **sustain health and enhance quality of life** by eradicating pain, suffering and disability caused by arthritis, musculoskeletal, oral health and skin conditions*

SWOT 2006

- Mid-Term Review *plus* our own analysis

Overall Approach

- Consensus building “Tools” 2006

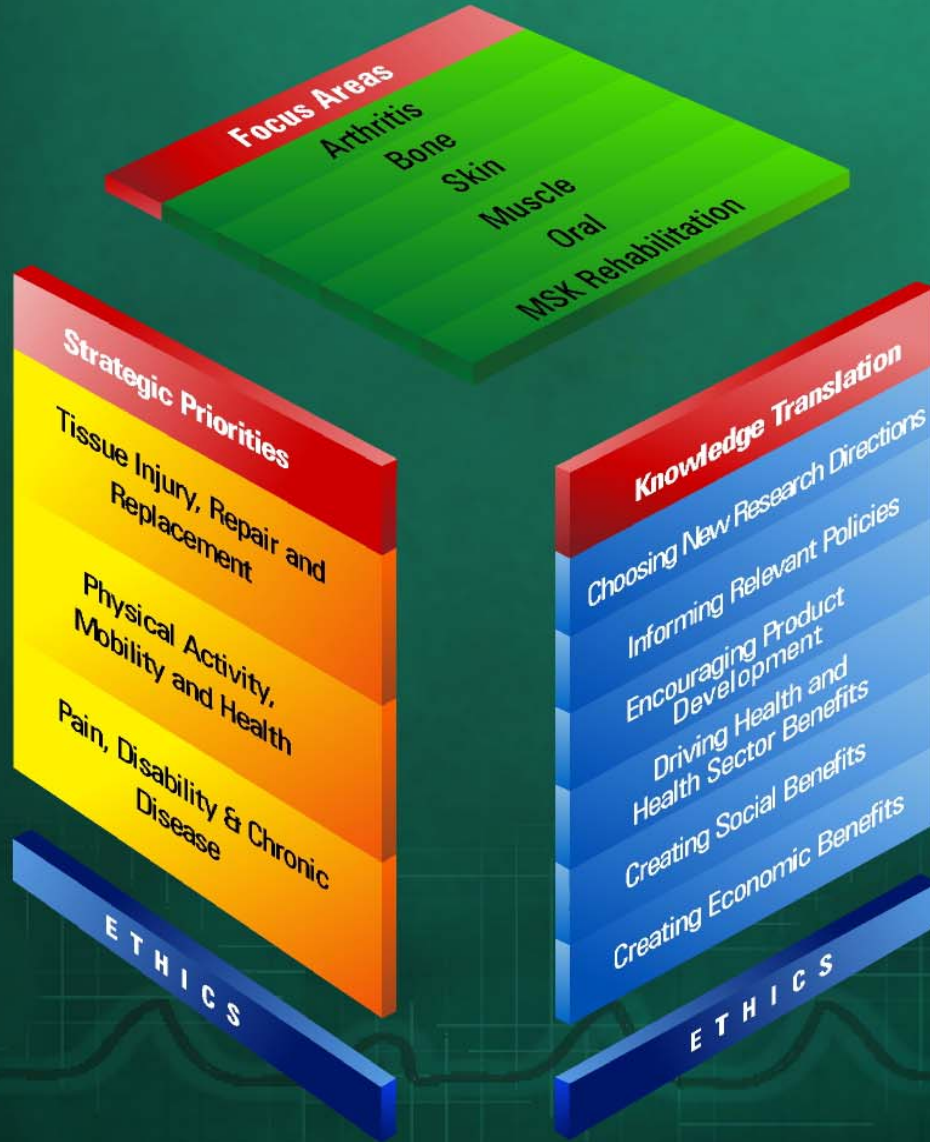
Priorities

- Capacity Building
- Research Priorities
- Knowledge Translation

***Evidence-Based
Decision Making**

Targets (2006-2010)

- Capacity
- Priorities (including KT)
- Partnerships and Public Engagement





Oral Health:

Development of a collaborative team to study the cytotoxic effects of dental curing lights, Richard Price, Dalhousie University

A scoping review and research synthesis on the organization and delivery of oral health services in long-term care facilities, Michael MacEntee

Skin:

Treatment of inflammatory skin disease with adoptive cellular gene therapy using hair follicle dermal papilla derived cells as vectors, Kevin McElwee, Vancouver Coastal Health Research Institute (New discoveries)

Development and application of non-rejectable skin substitute in wound healing, Aziz Ghahary, U of Alberta and UBC (Priority Announcement)

Muscle:

Kinetic and neuromuscular gait patterns of moderate knee osteoarthritis patients, Kevin Deluzio, UWO

Development of novel high content screens for investigating gene function in skeletogenesis, Michael Underhill, UBC
(Inventions, tools)

MSK Rehabilitation:

Development and testing of new virtual reality diagnostic tools for deficits in dexterity and coordination for the upper limb to enhance rehabilitation, Mindy Levin, Universite de Montreal (Invention, tools)

Development and Implementation of an Omni-Directional Treadmill and Virtual Reality Methods for Rehabilitation of Locomotor Disorders, Carol Richards, Universite Laval
(Invention, Tools)

Arthritis:

Priority criteria for hip and knee replacement addressing health services wait times for surgery, Bassam Masri, Michael Dunbar, Clive Duncan, Hans Kreder, UBC + Dalhousie + U of Toronto

A demonstration project of electronic patient generated data for point of care reporting in the management of rheumatoid arthritis, Claire Bombardier, U of Toronto

Bone:

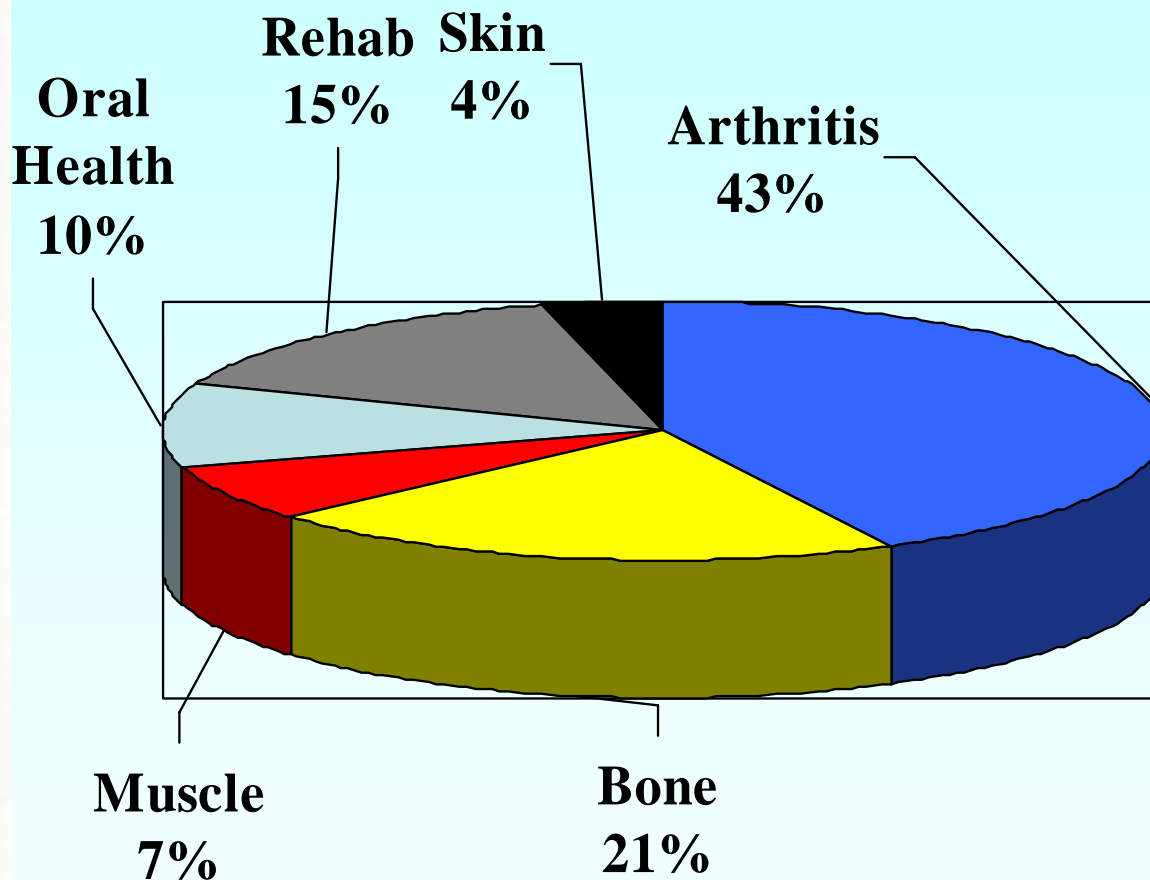
Optimal management of older women with distal forearm fractures, Ann Cranney

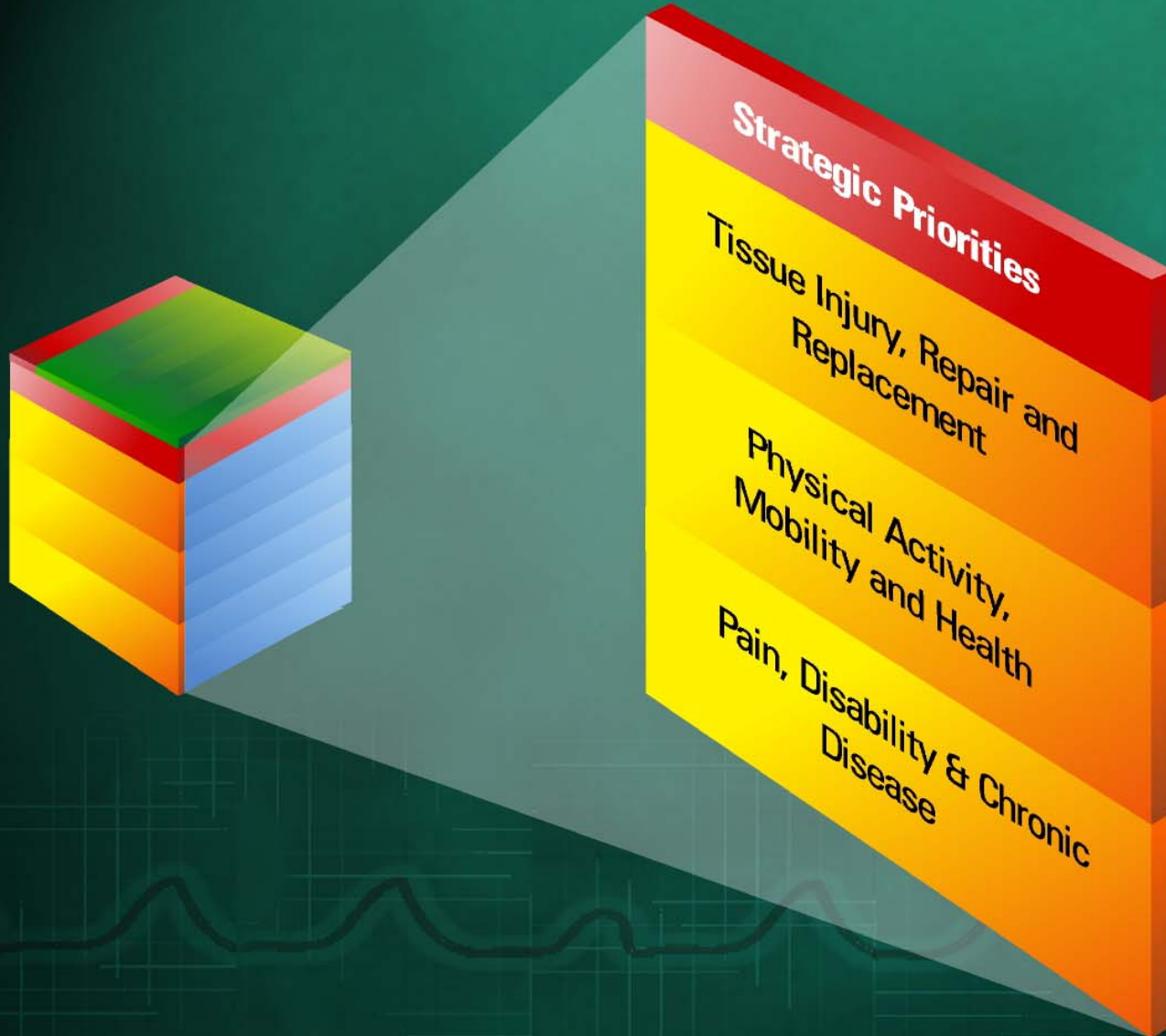
Mesenchymal stem cells and biomaterials in bone regeneration:
a team approach, Fabio Rossi, UBC (Network)



IMHA Strategic Initiative Budget

Percentage of funds by research foci areas 2005-06





IMHA's Three Research Priorities



**Tissue
injury,
repair and
replacement**

**Physical
activity,
mobility and
health**

**Pain,
disability
and chronic
diseases**



CIHR IRSC

IMHA Quality of Life Research Award Award Winner 2005-2006

Aileen Davis, Toronto Western Research Institute

Title of Research: Predictors of disability outcomes following revision knee arthroplasty

Research Category: Rehabilitation: Physical Activity, Mobility and Health

Research Summary: Dr. Davis' study will evaluate how factors such as pre-surgery disability, general health status, the classification of revision, co-morbidity, previous experience with surgery, outcome expectations and demographic variables affect physical disability two years and five years following revision TKA. This study also has important implications for determining indications for revision TKA, resource allocation and new policy for the treatment of these patients.



CIHR IRSC

IMHA Quality of Life Research Award Award Winner 2005-2006

Sophina Abida Jamal, St. Michael's Hospital

Title of Research: The effect of organic nitrates on osteoporosis

Research Category: Bone: Pain, Disability and Chronic Disease

Research Summary: Osteoporosis or "thinning of the bones" affects one in four Canadian women and one in eight Canadian men. Dr. Jamal's research will endeavor to address this issue by **exploring whether nitrates, a group of drugs that are widely available, inexpensive, and commonly used to treat chest pain or angina, **can prevent osteoporosis thereby improving a women's quality of life.****

IMHA Quality of Life Research Award Overall Award Winner 2005-2006

Andrew Leask, University of Western Ontario

Title of Research: Connective tissue growth factor (CTGF) action in fibroblasts: Cellular and molecular mechanisms

Research Category: Skin – Tissue Injury Repair and Replacement

Research Summary: Fibrotic disease, caused by excessive scarring, represents well over 25 per cent of the economic burden of illness in Canada, and is one of the largest groups of disorders for which there is no effective therapy. Why fibrosis occurs is unknown, and there are no fibrotic therapies. Dr. Leask and his colleagues have discovered a potential mediator of fibrosis, called CTGF, which is over expressed in fibrotic tissues. “The objective of our study,” said Leask, “will be to **discover what CTGF does, and whether CTGF provides a good framework for developing anti-fibrotic therapies.”**

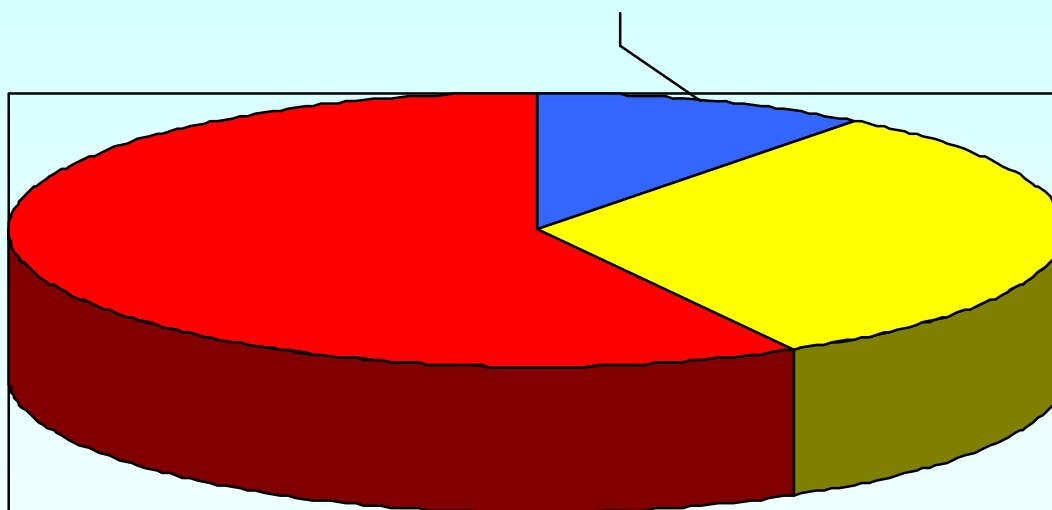





IMHA Strategic Initiative Budget Percentage of funds by research themes 2005-06

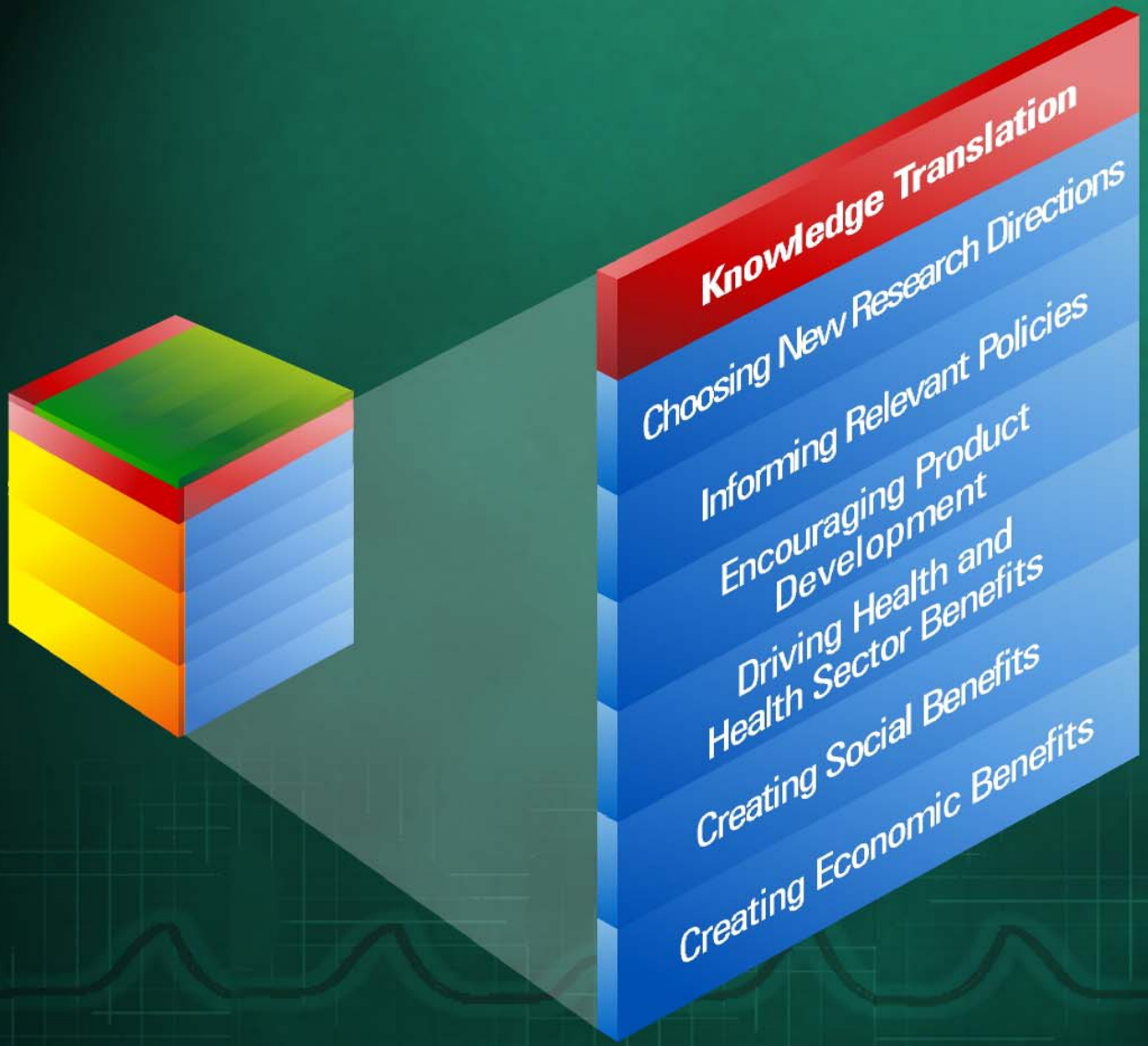
**P, D &
CD
58%**

**PA, M &
H
10%**

**TI, R &
R
32%**



-  Physical Activity, Mobility and Health
-  Pain, Disability and Chronic Disease
-  Tissue Injury, Repair and Replacement



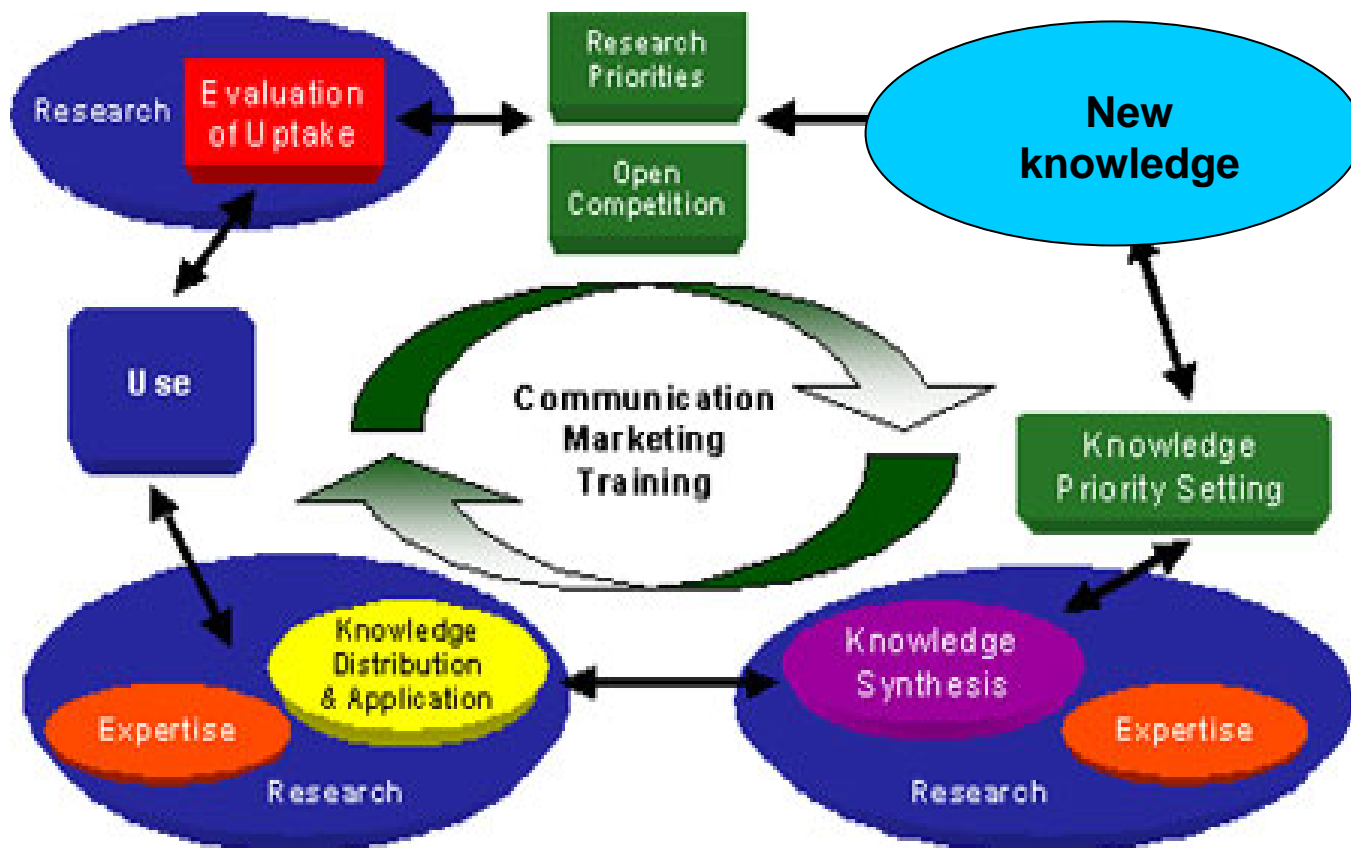


CIHR' s Definition of KT

"the exchange, synthesis and ethically-sound application of research findings within a complex set of interactions among researchers and knowledge users..... an acceleration of the knowledge cycle; an acceleration of the natural transformation of knowledge into use."



Knowledge Translation and Exchange: Understanding the cycle





What KT is NOT

KT goes beyond mere dissemination and/or diffusion.

- It is **NOT** just researchers disseminating or discussing things to each other
- It is **NOT** just researchers communicating things to an audience (which would be only a one-way, passive process)



What KT IS

KT is an on-going and iterative process requiring active and conscious participation of both researchers and research-users.

- Researchers deliberately get together with end-users with an explicit intent of changing the behaviour (outputs) of both sides

KT has FOCUS and GOALS

- **Targets** - Sectors (who researchers interact with)
- **Outputs** - Outcomes (behaviours change in what happens)

Examples (outputs) of KT by Sectors

Health providers/caregivers

Case reports, clinical trials, practice guidelines, professional communications, meta-analyses and literature syntheses

Policy makers/decision makers in Gov't or Health Admin

Notes or policy papers, commissioned reports, case studies, literature syntheses, pilot testing new models of care

Private Sector Organizations

Patents, commissioned studies, clinical trials, commercialized products or services

Consumer/public

Media products, internet products, marketing materials, patient education materials

Examples (outputs) of KT by Sectors eg. Health system improvements

Health providers/caregivers

Case reports, clinical trials, practice guidelines, professional communications, meta-analyses and literature syntheses

Policy makers/decision makers in Gov't or Health Admin

Notes or policy papers, commissioned reports, case studies, literature syntheses, pilot testing new models of care

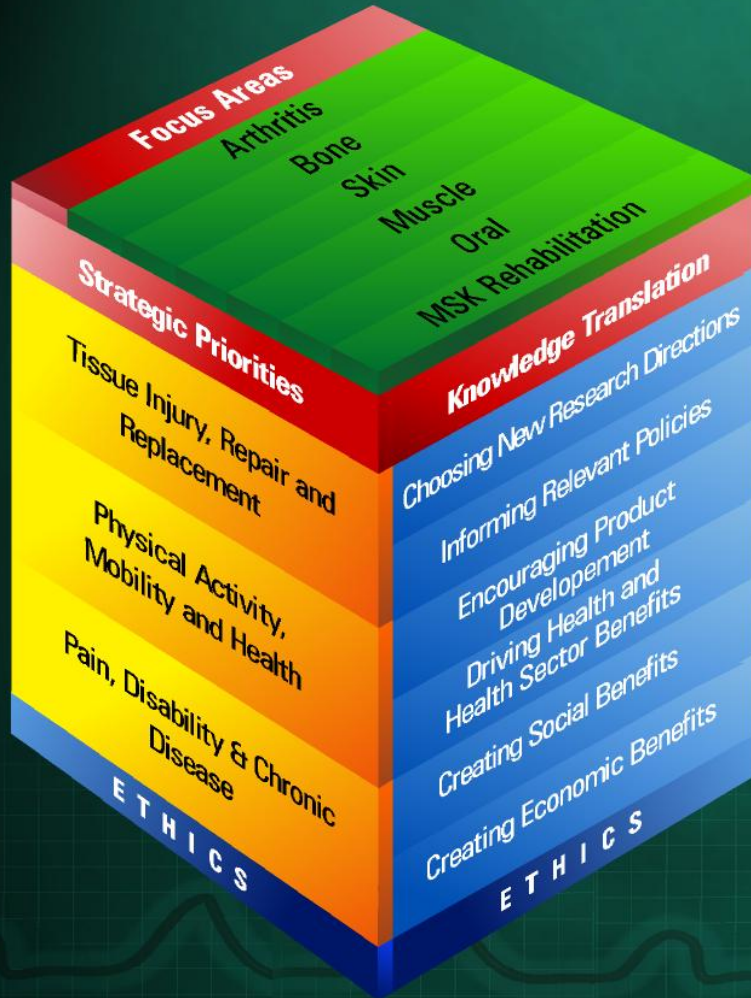
Private Sector Organizations

Patents, commissioned studies, clinical trials, commercialized products or services

Consumer/public

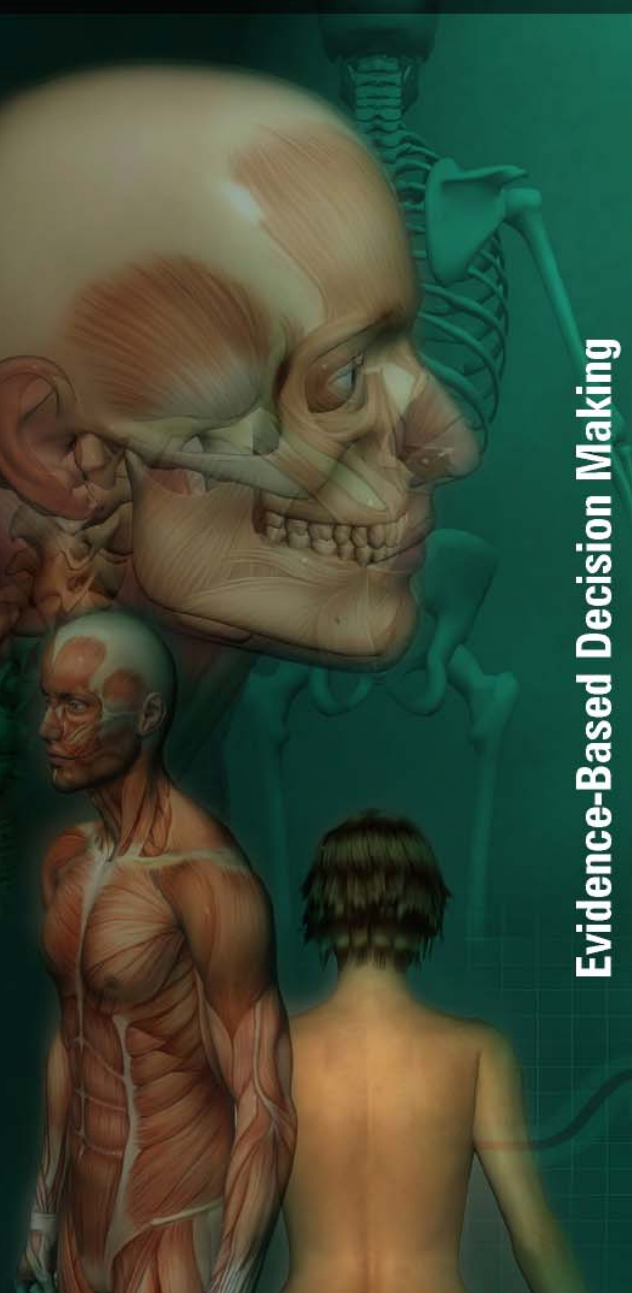
Media products, internet products, marketing materials, patient education materials

IMHA KNOWLEDGE TRANSLATION CUBE

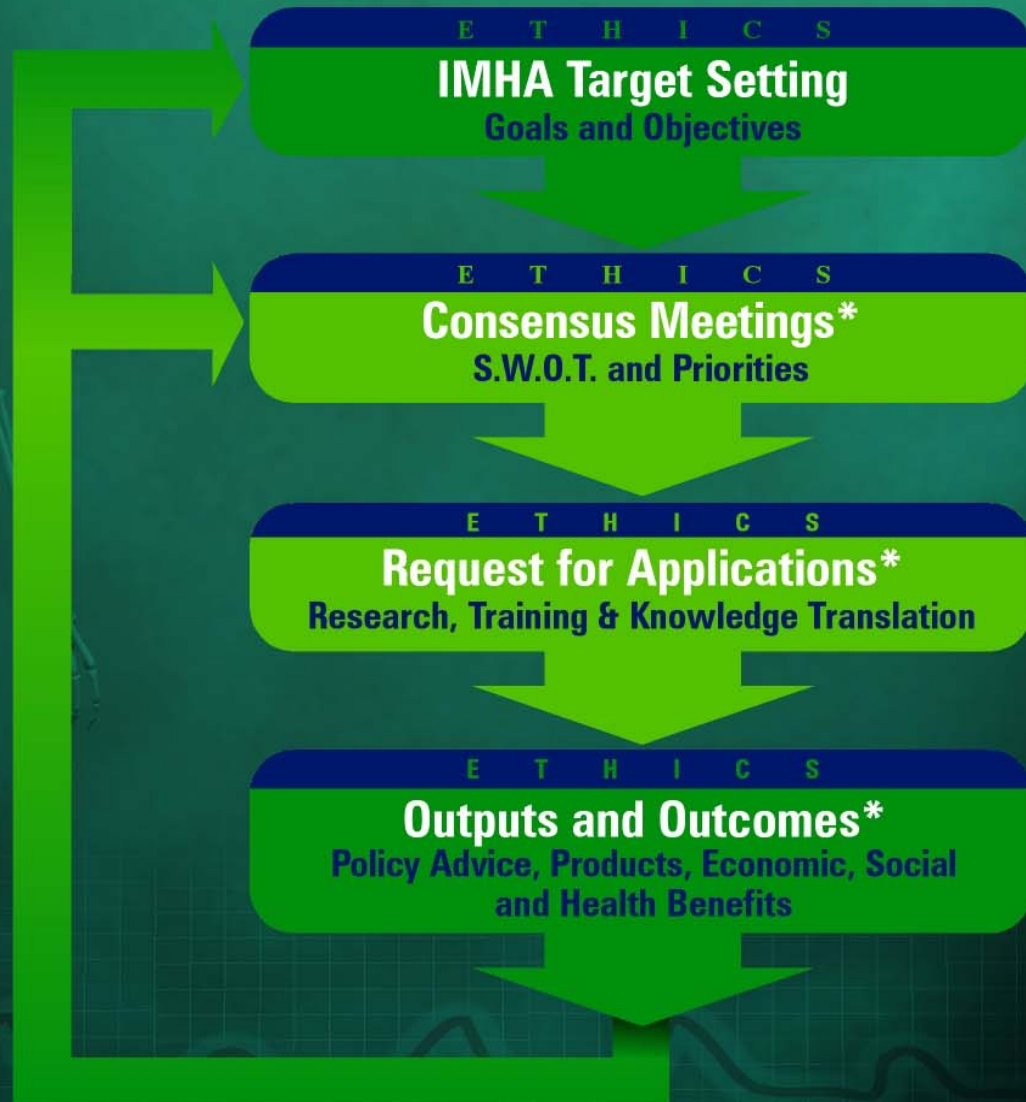


Researchers
Health care providers
Policy makers
Canadian public
Private sector
Patients/patient groups

IMHA STRATEGIC PARTNERSHIPS



Evidence-Based Decision Making



Data Collection

*Partners can engage in the process.



Partnerships

Partners' contributions can include :

- Formulating research agendas
- Providing input into the development of research, research training programs and/or specific projects
- Support of strategic programs (eg. help enhance general or specific capacity, help build general or specific networks or centres, support specific strategic research priorities, strategically advance KT and/or ethics research agenda) –
 - ✓ **financial or in-kind (eg. Co-op programs, etc)*
- Disseminating findings
- Applying and/or evaluating the outcome of research (e.g., products, services, policy advice, etc)



“PARTNERS in KT”

From Consensus Conference through to product development

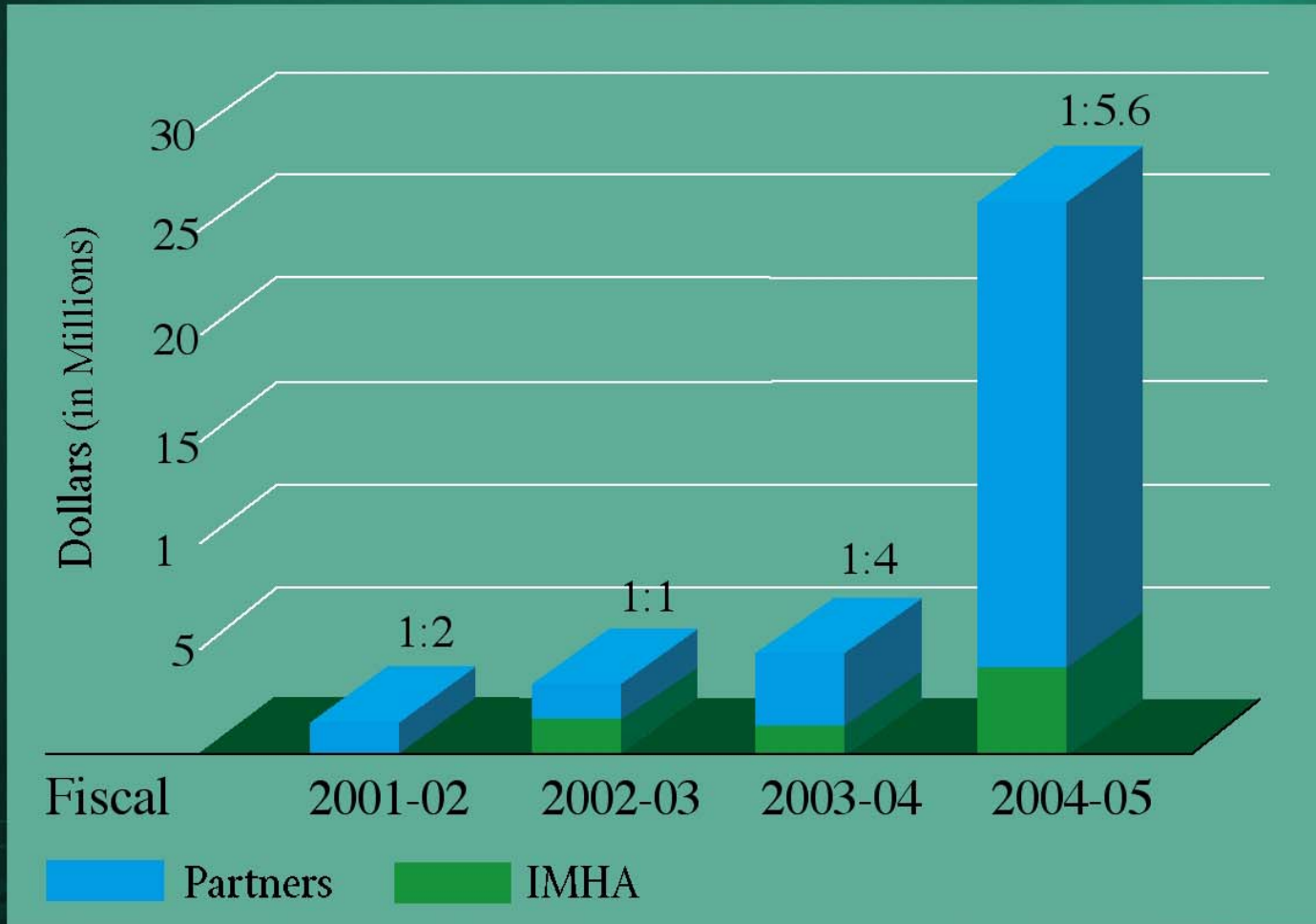
- Broad interaction/consultation amongst stakeholders
- International researchers; consumers-patients/industry/government;
- Development of research agenda/priorities

•6 Priorities Identified

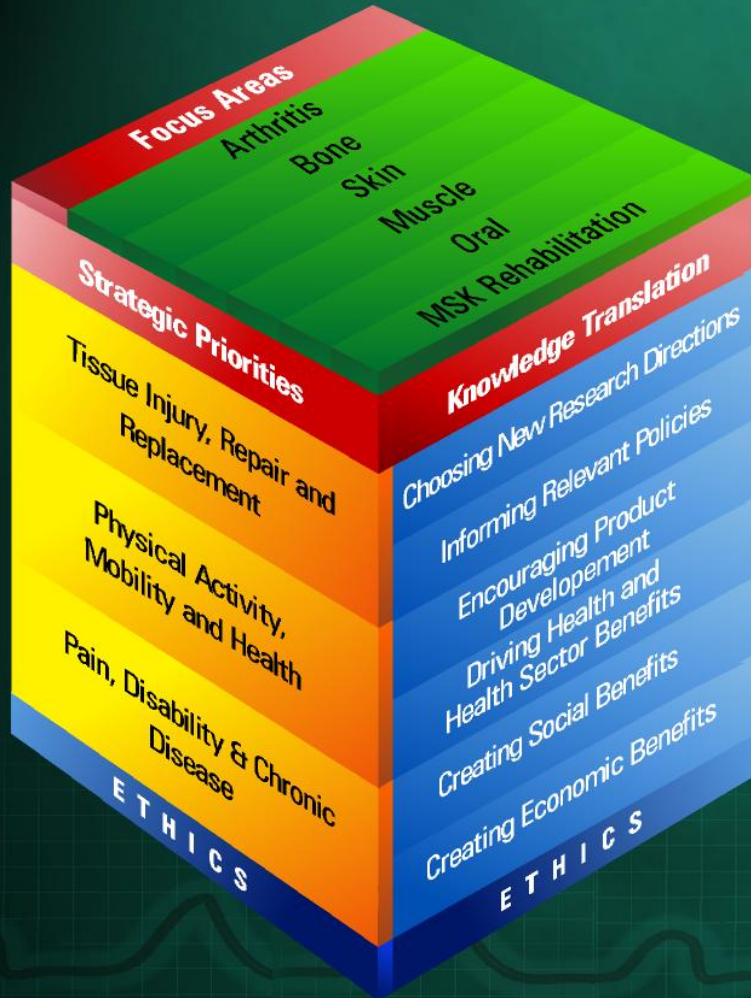
\$6.6 MILLION INVESTED IN OSTEOARTHRITIS - NEW EMERGING TEAMS

>\$5.7 MILLION INVESTED IN PAIN -TEAM GRANTS

Increasing Investments in Research Through Partnerships



IMHA KNOWLEDGE TRANSLATION CUBE



Researchers
Health care providers
Policy makers
Canadian public
Private sector
Patients/patient groups



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