

# **Institute of Musculoskeletal Health and Arthritis**

*... Advancing the Science of Arthritis, Rehabilitation, Bone, Muscle, Skin and Oral Health*

## **Annual Report 2002-2003**



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## Message from the Scientific Director

On behalf of the Institute's Advisory Board, I am pleased to present the Institute of Musculoskeletal Health and Arthritis' (IMHA) 2002/03 Annual Report representing our best efforts to address the increasing incidence of musculoskeletal (MSK) diseases and conditions in Canada.

Over the past two decades, modern science has made tremendous strides in extending the length of human life. This is certainly cause for celebration. Still, the unfortunate fact remains that in spite of these advances, little has been done to add life to those years. In 2001, the most prevalent diseases and conditions plaguing Canadians were musculoskeletal in nature. As our population ages, these conditions - including those of the skin and oral cavity - are only going to increase. And so will the cost of treatment. In 1998, the direct and indirect cost of treating MSK conditions was in the neighborhood of \$20 billion per year – second only to cardiovascular disease.

True, MSK diseases and conditions, are rarely life threatening. Even so, the impact on an individual's quality of life can be devastating. And so the mystery remains. Why hasn't more attention been given to improving the quality of life of those suffering from these kinds of afflictions? That's where IMHA comes in. Through a wide variety of activities and initiatives, we are dedicated to "sustaining health and enhancing quality of life by eradicating the pain, suffering and disability caused by arthritis, musculoskeletal, oral and skin conditions".

Indeed, this is a huge undertaking - one that we certainly can't tackle single handedly. The answer to this dilemma was to develop a strategic plan that would stress the importance of working collaboratively. And so, over the course of 2002/03, we have been working to spearhead undertakings of a collaborative nature that will help build research capacity and support Canadian researchers who are seeking answers to some of the most pressing health issues of the day. Here are some highlights.

From IMHA's perspective, Canada's official support for the "Bone and Joint" Decade was one of the most significant events that took place in 2002. Recognizing that there is tremendous strength in numbers, IMHA lent its support to the initiative calling it "a template for the future of health care in this country". Representing the formation of equal partnerships with government and non-government agencies, researchers, physicians and consumers alike, the Bone and Joint Decade effectively serves as an umbrella for a wide variety of organizations engaged in MSK patient advocacy and treatment.

Another milestone was the organization of "IMHA On The Move". This two-day event - held from January 31 to February 1, 2003 - gave us the opportunity to draw stakeholders together from across the country to reconfirm our commitment to the Bone and Joint Decade and encourage others to follow suit; recognize our top researchers; and provide

interested parties with an opportunity to network and provide important feedback at the Partnership/Stakeholder meeting held on Feb 1. The information gleaned from the break-out sessions held at that session have been invaluable in helping us develop research questions and initiatives to support future Request for Applications (RFA) under our three strategic themes - Physical Activity, Mobility and Health; Tissue Injury, Repair and Replacement and Pain, Disability and Chronic Diseases. These reports also helped substantiate ongoing support for workshops and consensus conferences that will help contribute to the development of IMHA's longer-term strategies.

An equally important accomplishment in 2003 was the formation of the Alliance for the Canadian Arthritis Program (ACAP). Following up on the success of the Osteoarthritis Conference held in April 2002, IMHA joined with CAN, TAS the Cochrane Collaboration and the Canadian Arthritis Patient Alliance to form a strategic alliance dedicated to creating a Canadian Arthritis Program that will help reduce the impact of arthritis on individuals and society. As a member of this alliance, IMHA is playing a co-leadership role around the program's research and knowledge translation components.

From the beginning, IMHA has recognized the urgent need to build research capacity in this country. To this end, we have been attacking the problem on a number of fronts. Starting at the grass roots level, IMHA became a sponsor of the Canada Wide Science Fair (CWSF) held in Calgary in June 2003. Under the auspices of the Youth Science Foundation, the CWSF has been working to promote science and technology in Canadian schools for more than three decades. In addition to sponsoring the Awards Dinner, we created the first-ever "Human Health Research Award" presented to university student, Salvatore Mottillo. We believe that the CWSF provides an excellent framework for supporting the interests of budding researchers, and we intend to continue our support in future.

Our ongoing efforts to build capacity also included the organization of a meeting that brought representatives from the five strategic training centers under IMHA's leadership together to network, build synergies and capitalize on best practices. We also provided support for a number of Doctoral Research and Fellowship Awards, Operating (GAP) Grants and Interdisciplinary Capacity Enhancement Team Grants (ICE) – that bring teams of investigators together who are poised to conduct research and translate knowledge in strategically important areas. Of these, the Complementary and Alternative Medicine (CAM) ICE grant is of particular note representing a collaboration between the Institute of Infection and Immunity, the Institute of Health Services and Policy Research and Health Canada's Natural Health Products Directorate.

Today, a significant number of Canadians are turning to some form of complementary medicine or take natural health products (NHPs) to address certain health issues. And many are using these at the same time they are using conventional products and therapies. This trend demands that consumers, health care practitioners (both CAM and conventional) and policy makers come together to evaluate CAM and to determine how, why and if CAM should be integrated into the Canadian health care system. The Complementary and Alternative Medicine ICE grant provides a starting point for doing just that.

These are just a few of the actions and initiatives that IMHA has participated in towards achieving its goals. We hope that you will take the time to become familiar with the many other undertakings that we've been involved in, and that you will be inspired to join us as

we work to create a healthy, robust health research environment that, in the long run, will contribute to a better quality of life for those affected by the vast array of diseases and conditions that affect the musculoskeletal system.

## Profile of the Institute

The Institute of Musculoskeletal Health and Arthritis is one of 13 Institutes, under the umbrella of the Canadian Institutes of Health Research (CIHR), dedicated to bringing a broad range of stakeholders together to shape a national research agenda and help CIHR further its goal – to not only create new knowledge, but to translate that knowledge such that the health and health care of all Canadians will be improved.

Representing six equally important focus areas – arthritis, rehabilitation, bone, muscle, skin and oral health - each represented by a member of the Institute's Advisory Board - IMHA is committed to “sustaining health and enhancing quality of life by eradicating the pain, suffering and disability caused by arthritis, musculoskeletal, oral and skin conditions.”

In October 2002, IMHA took steps to sharpen its focus by refining its research priorities. In so doing, IMHA identified three strategic themes that will guide its future direction:

*Physical Activity, Mobility and Health:* A healthy musculoskeletal (MSK) system is fundamentally linked to an individual's ability to be mobile and physically active. More to the point, however, is the fact that personal well being, and the health of many if not all other body systems, is negatively impacted when musculoskeletal health is impaired. While these are commonly accepted principles, the real challenge for researchers is to take this general knowledge one step further. In other words, to conduct investigations that will help us better understand the complex relationships between physical activity, mobility, MSK health and overall health at every level.

*Tissue Injury, Repair and Replacement:* It is well known that injuries to bones, joints, muscles, teeth and skin are extremely common and recover slowly, if at all. While many are injured grossly, even more are likely to be damaged at a microscopic level. The accompanying pain and financial burden associated with these injuries can have a considerably negative impact on quality of life for these individuals as well as their families. In light of this, there is an urgent need for highly innovative research into the cause and prevention of the physical, psychological, psychosocial and economic impact of these acute and chronic injuries. A more thorough understanding of the biological, clinical, psychological health services and population-based aspects of injury and repair is also required.

*Pain, Disability and Chronic Disease:* Unfortunately, pain and disability (defined both physically and psychologically) are very common sequellae of all chronic diseases (congenital and acquired) that exist within IMHA's relevant areas. In addition to relevant congenital conditions such as muscular dystrophy and osteogenesis imperfecta, a wide variety of acquired conditions such as arthritis, metabolic bone disorders, fractures, osteoporosis, periodontal disease and soft tissue injuries, for reasons requiring further exploration, all become more common with aging. Over the next two decades, the prevalence of many chronic diseases and conditions is going to increase, consuming a far greater proportion of Canada's health care resources. To shed light on the mysteries associated with pain, disability and chronic diseases, IMHA will support research relevant to this strategic theme.

## Outstanding Research

Collaboration provides an excellent foundation for the creation of outstanding health research in Canada. Recognizing this fact, IMHA acts as a facilitator creating opportunities for stakeholders, who would not normally have the opportunity to interact (cross-pillar), to come together in a workshop setting to identify and define the important research questions of the day - in terms that are not only clear, concise, relevant and action oriented, but address IMHA's six foci and three strategic themes. It is through these spirited collaborations that strategic partnerships are formed and the necessary funds made available, through a variety of mechanisms, to support Canadian researchers – the very researchers who are performing the kind of outstanding research that is both improving the health of Canadians and strengthening our health care system.

Working closely with other Institutes and stakeholders, IMHA has both supported and spearheaded a variety of initiatives and workshops designed to identify important research questions. The following provides highlights of some of these undertakings:

### **Alliance for the Canadian Arthritis Program (ACAP)**

In April 2002, the Institute of Musculoskeletal Health and Arthritis (IMHA), The Arthritis Society (TAS) and the Canadian Arthritis Network (CAN) formed a partnership that resulted in the successful execution of the Osteoarthritis Consensus Conference. One of the outcomes of the conference was the commitment to create an overarching National Arthritis plan.

Picking up on this commitment, IMHA, CAN, TAS came together with the Cochrane Collaboration and the Canadian Arthritis Patients Alliance in January 2003 to form a strategic alliance guided by a common vision to “improve the health of Canadians and the health care systems by reducing the impact of arthritis on individuals and society”.

In so doing, ACAP began working together to create The Canadian Arthritis Program. Their key objectives are:

- To provide an overview of the magnitude of the impact of arthritis on the health services, health and social outcomes in the Canadian population.

- Identify and implement strategies and solutions, which address prevention, reduce adverse consequences and improve access to care and services.

- Build upon our resources and established arthritis research partnerships to create further integration in the development of crosscutting, transdisciplinary evidence-based research programs from bench to bedside.

- Incorporate the recommendations of the Romanow report as a roadmap to reform and renew arthritis care in Canada.

- Confirm our collective vision for the future of arthritis care in Canada and clearly outline the responsibilities of consumers, health providers, industry, institutions and governments to achieve the vision.

To address its key objectives, ACAP formed three sub-committees - Access to Care, Research and Education. Each sub-committee is currently in the process of developing the program, which will focus on Awareness and Visibility, Advocacy, Knowledge

Translation, Communications and Partnerships and Funding. IMHA is playing a co-leadership role as it relates to the research component of the plan and is also involved in promoting knowledge translation.

### **Research Priorities and Planning Committee (RPPC)**

One extremely important function of the RPPC is to identify priority issues that cut across all Institutes. An active member of the RPPC, IMHA is a participant in both the Clinician Scientist, and the Canadian Longitudinal Study on Aging and the co-lead on the Intentional and Unintentional Injury, Repair and Rehabilitation Initiative.

While the objectives of each of these initiatives is quite unique, all three are of particular interest to IMHA in light of the increasing incidence and economic impact of musculoskeletal conditions on our health care system. The focus of the Clinician Scientist initiative is primarily capacity building – developing policies and programs that will better support clinician scientists in all research disciplines. The objective of the Canadian Longitudinal Study on Aging, on the other hand, is the execution of a cohort study that will help answer a variety of questions about healthy aging such as the effect of physical exercise, nutrition and other habits on the aging population, the immunologic and molecular determinants of healthy aging and the evolution of physical, psychological and cognitive abilities in aging.

Working with IHSPR as co-lead for the Intentional and Unintentional Injury, Repair and Rehabilitation Initiative, IMHA is interested in addressing the lack of policy, research profile, and commitment to the incidence of intentional and unintentional injury in Canada. The goal of the study is to reduce the incidence of these injuries and to explore the effectiveness and efficiency of approaches to care and rehabilitation of injured Canadians. In so doing, this cross-cutting initiative will strive to build an integrated national injury research agenda and a strong, vibrant and transdisciplinary community of injury researchers within a broader framework of capacity-building and investment strategies.

### **Improving Arthritis Care Through Research and Knowledge Transfer**

The goal of the Arthritis Health Professions Association (AHPA) is to improve care for people with rheumatic diseases through education and support of research among allied health professionals. In so doing, AHPA is committed to strengthening and expanding the role of allied health professionals in the areas of research and knowledge translation. AHPA's research priorities align particularly well with IMHA's strategic themes - Physical Activity, Mobility and Health and Pain, Disability and Chronic Diseases. Consequently, IMHA became a sponsor of the March 2003 AHPA planning day held in conjunction with the annual Canadian Rheumatology Associate meeting. As a result of the meeting, three priority areas were identified: partnerships, communication (internal and external) and documentation/surveillance of access and the impact of allied health professional interventions. Some of the recommendations were as follows:

*Partnerships:* provide opportunities for AHPA representation on IMHA research adjudication committees and encourage career and medical researchers to use multi-disciplinary teams of health researchers to address physical, psychosocial and educational issues.



*Communication:* consultation with members and partners regarding the services required to support AHPA research and education and connection with rheumatologists,

*Documentation/Surveillance of Access to and Impact of Allied Health Professional Interventions:* Research to identify/document gaps in rehabilitation services for people with arthritis Canada wide and research to evaluate the efficacy and cost-effectiveness of interventions to address the physical, psychosocial and educational needs of this population.

### **National Workshop on Dental Hygiene Research**

The Canadian Dental Hygienists Association is the collective voice and vision of dental hygienists in Canada advancing the profession, supporting its members, and contributing to the oral health and general well being of the public. The objective of this workshop was to develop a national dental hygiene research agenda to reflect current national oral health priorities and to advance and direct future dental hygiene research efforts that will contribute to the theoretical knowledge base that guides education and practice. At the Workshop's conclusion, the primary research issue identified was "what are the health outcomes of dental hygiene services"? This research issue aligns well with IMHA's strategic theme "Pain, Disability and Chronic Diseases". Emerging research areas identified included: how dental hygienists practice; what prevention initiatives work; pain and pain management and what do other health professionals know about dental hygiene.

### **Consensus Workshop on Geriatric Rehabilitation**

In May 2003, 75 researchers, clinicians and health administrators from across the country met in Ottawa to develop an agenda for Canadian research in geriatric rehabilitation. Participants at the workshop also laid the groundwork for a national network that will increase research in geriatric rehabilitation and support the use of research evidence to guide practice and policy. Workshop participants generated many potential research questions and ideas and arrived at a consensus on the major themes that should guide Canadian research in geriatric rehabilitation over the next five to 15 years. Participants also identified the principles that should guide a national research network and the factors that would contribute to its success. Next steps will include the preparation of a report and other strategies for communicating this information to interested stakeholders.

### **National Roundtable on Physical Activity**

In March 2003, IMHA participated in the National Recreation Roundtable organized by Health Canada and provincial-territorial government departments responsible for physical activity, recreation and sport. The mandate of the meeting was to provide an opportunity for federal, provincial and territorial governments and other stakeholders to discuss issues and concerns, and to develop a prioritized agenda identifying the knowledge required to shape, advance and better manage policy decisions in the area of physical activity.

## **Excellent Researchers and a Robust Research Environment**

While it is true that the majority of diseases and conditions affecting the musculoskeletal system are not life threatening, the reality is that they often lead to the loss of mobility and function and ultimately a diminished quality of life. Coupled with this is the fact that the incidence of these kinds of conditions – from arthritis, systemic rheumatic diseases, and osteoporosis to caries, periodontal and skin diseases and muscle disorders - is increasing, and that governments and taxpayers are beginning to realize the impact of these kinds of diseases on their health agendas, systems, services and budgets. For its part, IMHA is committed to cultivating programs and initiatives that will not only support the researchers of today, but will help lay the foundation for a robust Canadian research environment in the years to come.

### **New Discoveries**

Novel, innovative research initiatives are inherently high-risk ventures. As a result, it may be difficult to find funding to support these undertakings. The New Discoveries program was specifically designed to provide seed grants to enable researchers to think outside the box. Successful applications, however, must represent more than a unique and extraordinary thought or approach; they must demonstrate excellent quality and significant potential. In 2002, three successful applications were generated out of IMHA's New Discoveries RFA. Of these projects, two were dedicated to the translation of knowledge – “Understanding Optimal Management of Distal Forearm Fractures in Older Women” and “How to Measure an Effective Musculoskeletal and Arthritis Consumer”. The third project involved “Working to Understand the Nuclear Retention of mRNAs with Triplet Expanded Repeats Using Live Cell Imaging”.

### **Inventions – Tools, Techniques and Devices for Research and Medicine**

Successful biomedical research is intricately tied to the availability and use of an array of tools, techniques and methodologies. Invention, development and/or improvement of these tools and techniques is therefore critical to the success of ongoing research initiatives and new scientific discoveries. The Inventions – Tools, Techniques and Devices for Research and Medicine program was developed to encourage researchers to specifically focus on advancing these vital tools and techniques. IMHA successfully funded four applicants in this category ranging from the development and testing of new virtual reality diagnostic tools for deficits in dexterity to establishing a methodology for delivering peptides and proteins to skeletal tissues.

### **Strategic Training Grants**

The Strategic Training Grants program was spearheaded in 2002 to foster collaboration by bringing researchers together to share knowledge and experience. IMHA has contributed to ten of these initiatives and has taken a lead role on five. Working as the lead, IMHA organized the first formal networking meeting in November 2002 to formally bring the following centres together to learn more about each other, build synergies and capitalize on best practices:

Oral/Dental – Richard Ellen – Health applications of cell signaling in mucosal inflammation and pain (partners: III, INMD, ICRH, IHSPR, MSFHR, HSFC, TAS)

Mobility – Hubert Labelle – Formation multidisciplinaire en évaluation et traitement des trouble de la mobilité et de la posture (partners: FRSQ, TAS)

Oral/Dental Health – Graeme K. Hunter – Network for oral research training and health (partners: TAS)

Skeletal/Bone and Joint – Ronald Zernicke – Alberta provincial training program in bone and joint health (partners: IGH, IPPH, AHFMR, TAS)

Skeletal – David Goltzman – Training program in skeletal health research (partners: FRSQ, IGH, TAS)

### **Capacity Building**

Building research capacity cannot occur in a vacume. Networking, sharing knowledge and experience and ultimately bringing individuals together with complementary skills and abilities to form working collaborations is one of the most effective ways to build capacity among Canada's researchers. Building a team, however, is a step-by-step process. In this regard, IMHA is currently supporting the following initiatives:

*Doctoral Research Awards and Fellowships:* Bench to bedside research has been shown to be extremely important in helping answer a broad range of research questions and patient-outcomes. In 2002, IMHA presented a total of nine Doctoral Research Awards and seven Fellowships designed to enable post-doctoral students to continue to build their skills and abilities in appropriate research settings, while addressing important research questions and issues.

*Interdisciplinary Capacity Enhancement Team Grants (ICE):* The Interdisciplinary Capacity Enhancement Teams Grants Program (ICE), brings together teams of investigators who are poised to conduct research, answer questions and translate knowledge in strategically important areas. In 2002/03, IMHA supported the following ICE initiatives:

Complementary and Alternative Medicine (CAM): Led by Dr. Heather Boon from the University of Toronto and Dr. Marja Verhoef from the University of Calgary

Movement in The Mind's Eye (MIME): A Multidisciplinary Study of Body Motion: Led by Geoffrey Edwards from Laval University.

New Coordinated Applications For Bone Health: Led by Thomas Oxland from the University of British Columbia.

*Operating Grants (GAP):* One of the easiest ways to build capacity is to support researchers with peer review ratings that are already very close to CIHR's cut-off. By providing "GAP" grants, IMHA is making it possible for these researchers to obtain pilot data, take advantage of peer review feedback and resubmit an application that will most likely take them over the CIHR funding bar. IMHA funded 23 applicants from the March 2002 competition for a period of one year. Each of these applicants had submitted projects that crossed IMHA's six foci and three strategic themes.

### **Multi-Institute Initiatives**

IMHA believes in working together with other Institutes to support initiatives that are in line with its foci and strategic priorities. To this end, IMHA supported the launch of a research development grant RFA, sponsored by IPPH and IGH, that was designed to enable interdisciplinary groups of researchers in health and other sectors to develop programs of research around the health impacts of policy and programs that affect the quality of physical and social environments. Sixteen applications were adjudicated in March 2003 and eight were funded, totaling \$764,655. Topics included: the role of media in structuring normative influences on population health; research into the potential of the school as a setting for health promotion; and the impacts of local, family and work contexts on health inequalities

### **Canada Research Chairs**

The Canada Research Chairs program is designed to empower Canadian universities, along with their affiliated research institutes and hospitals, to achieve the highest possible levels of research excellence; to ultimately become world-class research centres; and to favorably position themselves in today's global economy. There are currently 44 research chairs representing IMHA's six foci areas. Through its training and program initiatives, IMHA will continue to monitor their progress and achievements and help integrate their excellent work with national networks of relevance to IMHA.

## Partnerships and Public Engagement

To achieve its goals, it is critical that IMHA work closely with a wide variety of stakeholders with an interest in, and commitment to, the various conditions and diseases falling under IMHA's mandate. To build synergies and capitalize on collective strengths, it is equally important to engage stakeholders early on in the agenda-setting process. Working together in partnership, IMHA and its stakeholders are well positioned to generate new knowledge that will address the pressing health issues that Canadians face each and every day. The following provides an overview of the kinds of initiatives the Institute has undertaken to build its stakeholder network:

### IMHA On The Move

From January 31 to February 1, IMHA brought stakeholders from across the country together to celebrate the Institute's successes and to set the course for the future. In addition to the announcement of \$5.5 million to support research in Osteoarthritis, "IMHA On The Move" featured presentations from keynote speakers who provided an overview of the current research landscape; confirmed the Institute's commitment to the Bone and Joint Decade and recognized IMHA's top researchers – those individuals who were among CIHR's highest-ranked awardees in the 2002 peer reviewed competition. In addition to oral scientist Dr. Christopher Overall who was IMHA's overall top-ranked CIHR investigator, for his research initiative entitled "Molecular Determinants of Human MMP-2 Specificity", awards were presented to:

Dr. Gordon Asmundson – Maintenance of Chronic Pain: Cognitive and Physiological Mechanisms

Dr. Robert Faulkner – Relationship of Growth and Lifestyle to Peak Bone Mass

Dr. Marvin Fritzler – New Targets of Autoimmune Diseases

Dr. Kenneth Hastings- Gene Expression in Specialized Muscle Cells

Dr. Wendy Rodgers – Health Effects of Lifestyle Versus Rigorous Physical Activity

Dr. Victor Tron – How Does The Protein Gadd45 Protect Our Skin From The Sun

The event also included a "Stakeholders Forum" designed to involve IMHA's stakeholders in the planning, development and implementation of a national IMHA strategy. IMHA recognizes that it must provide the tools that will not only assist stakeholders achieve their individual goals, but contribute to the creation of a strong, vibrant network of research in arthritis, rehabilitation, bone, muscle, skin and oral health. A supporter of the "International Bone and Joint Decade", the event also provided the venue for a meeting of stakeholders also committed to activities that will support this initiative in Canada.

To maintain the momentum created through IMHA On The Move, the Institute is currently in the process of organizing a "Theme Conference" that will take place in 2004. The conference will bring stakeholders together to develop research questions that will hopefully contribute to the creation of RFAs around its strategic themes – Physical Activity Mobility and Health; Tissue Injury, Repair and Replacement; Pain Disability and Chronic Disease; provide information that will feed back into its Workshop Program and contribute to the development of new research networks supported by the New Emerging Teams initiative (NET).

## Partnership Agreements

*Fellowships and Operating Grants:* IMHA is one of many stakeholders in Canada committed to supporting research across its strategic priorities and six foci areas. By engaging stakeholders, IMHA is working towards building a research enterprise that can collectively address pressing research questions and ultimately improve the health of Canadians. In August 2002, IMHA partnered with Health Canada's Health Products Directorate, the Canadian Cystic Fibrosis Foundation, the Ontario Neurotrauma Foundation and the Arthritis Society to create new opportunities to co-fund fellowships and operating grants of relevance to IMHA.

*ICE:* In June 2003, IMHA joined with the Institute of Infection and Immunity, the Institute of Health Services and Policy Research and Health Canada's Natural Health Products Directorate to support research in complementary and alternative medicine (CAM) in Canada. The collaboration is part of an innovative CIHR program, the Interdisciplinary Capacity Enhancement Teams Grants Program (ICE), which brings together teams of investigators who are poised to conduct research, answer questions and translate knowledge in strategically important areas - like complementary and alternative medicine. Today, approximately half of all Canadians use some form of CAM or take natural health products (NHPs). In fact, many use NHPs and CAM therapies at the same time they are using products and therapies recommended by conventional health care providers. This trend has prompted the need for consumers, health care practitioners (both CAM and conventional) and policy makers to evaluate CAM, examine utilization patterns and to demand evidence to support how, why and if CAM should be integrated into the Canadian health care system.

*Bone and Joint Decade:* In October, 2002 IMHA formally lent its support to "The Bone and Joint Decade" calling it a template for the future of health care in this country. Stressing the importance of forming equal partnerships with government and non-government agencies, researchers physicians and consumers alike, the template is clearly in line with IMHA's partnership philosophy. An active member of the Canadian National Action Network of The Bone and Joint Decade International, IMHA supports the goals of the Bone and Joint Decade and is working to sustain health and enhance quality of life by eradicating the pain, suffering and disability caused by arthritis, musculoskeletal, oral and skin conditions. To this end, IMHA partnered with The Arthritis Society (TAS) and the Canadian Arthritis Network (CAN) to launch the 2002 Osteoarthritis (OA) Consensus Conference. In 2003, IMHA joined with The Arthritis Society, The Canadian Arthritis Network, the Cochrane Collaboration (Musculoskeletal Review and Back Groups) and the Canadian Arthritis Patient Alliance (CAPA) to form the "ACAP" alliance dedicated to developing a coordinated National Arthritis Plan.

*International Long-Term Bed Rest Study:* In June 2003, the Canadian Space Agency (CSA) and the Institute of Musculoskeletal Health and Arthritis (IMHA) formed an exciting partnership that will create opportunities for Canadian researchers to take part in a study that will hopefully shed light on the physiological changes occurring during long-term bed rest. Many of the changes that occur during long-term bed rest, including the loss of bone and muscle mass, are similar to those seen in astronauts during space flights, in patients affected by certain diseases and in aging people. The International Long-Term Bed Rest Study organized by the European Space Agency (ESA) and the

Centre National d'Etudes Spatiales (CNES), in cooperation with the National Aeronautics and Space Administration (NASA), will specifically test the efficacy of exercise and drug therapy in mitigating the loss of bone and muscle mass while conserving muscle strength and aerobic capacity. Approximately 25 female volunteers will participate in the 60-90 day long-term head down bed rest study.

### **Communications and Marketing**

IMHA has developed a comprehensive Communications Plan designed to ensure that stakeholders and the general public are fully aware of the Institute's activities and initiatives. In 2002/03 a variety of activities were undertaken to implement the plan including the re-organization of IMHA's website to improve accessibility; launch of the Institute's first newsletter "IMHA On The Move"; creation of an Institute video "IMHAgine" that premiered at IMHA On The Move; ongoing promotion of current IMHA-related research through the "Spotlight on Research" web feature; media contact to help build Institute awareness and consistent communication with stakeholders through the Institute's database. IMHA also participated in the CIHR Communications Retreat designed to lay the foundation for an overarching CIHR Communications Strategy.

### **Patient/Consumer Outreach**

Patient/consumer outreach is integral to the Institute's success. IMHA is currently in the process of developing a strategy to ensure that this important function is effectively carried out, and Flora Dell, to oversee its implementation.

## Translation and Use of Knowledge

In order for new knowledge to be useful in the real world, there must be a meaningful two-way exchange of information. From the public's perspective, this exchange is important because patients and consumers are looking for answers to specific issues, and will ultimately incorporate this new knowledge into their daily lives. But, it is equally important for the research community, health care professionals and policy makers who are seeking public input to help guide their decision-making. The following provides examples of how IMHA is working to facilitate this critical knowledge exchange process:

### **Cochrane Pilot Project**

The Canadian based Cochrane Musculoskeletal Group, the Cochrane Back Group of the International Cochrane Collaboration and IMHA joined forces in January 2002 to launch a pilot project that would provide free literature searches for new investigators who are applying for their first independent CIHR grant. The objective of the project was to give investigators, who do not have individual CIHR funding, the best possible chance of being successful by providing them with up-to-date literature in a timely fashion. This free service was extended in 2003.

### **Canada Wide Science Fair**

In May 2003, some 500 regional finalists from across Canada converged on the University of Calgary's Olympic Oval for the 2003 Canada Wide Science Fair (CWSF). Participants in this year's Fair submitted projects under six categories —engineering, physical and environmental sciences, biotechnology and life sciences, computing and mathematics. As a silver sponsor at this year's event, IMHA presented the first-ever "Human Health Research Award" to university student Salvatore Motillo for his winning project "Virus Control II". The CWSF offers a perfect venue for outreach at the high school level and ultimately bridges with university and IMHA training programs. The Fair also serves as an excellent vehicle for capacity development of future health researchers and, for this reason among others, IMHA is committed to continuing its support.



## Organizational Excellence

An excellent organization requires the vision and leadership, human resource capabilities, project management and communication skills required to help it achieve its short and long-term goals and objectives. To this end, IMHA has implemented the following organizational structure:

Dr. Cyril Frank  
Scientific Director

Hélène Levesque  
Assistant Director

Doris Ward  
Communications Manager

Elizabeth Robson  
Administrative Officer

Sophia Tsouros  
Project Manager/Analyst

Alexis Jackson  
Communications Assistant

Asimina Xidous  
Institute Support Project Officer

Andrew McColgan  
Partnership Specialist- Private Sector

The Institute also has a highly involved and committed Advisory Board that meets four times a year to review and fine-tune IMHA's future direction. As of September 2003, IMHA's Board was comprised of the following:

Juliette Cooper  
Chair (Manitoba)

Jane Aubin  
(Ontario)

Elizabeth Badley  
Vice-Chair (Ontario)

Edmund Biden  
(New Brunswick)

Flora Dell  
(New Brunswick)

Jan Dutz  
(British Columbia)

T. Douglas Kinsella  
(Ontario)

James Lund  
(Québec)

Joan McGowan  
(NIH)

Robert McMurtry  
(Ontario)

Henri A. Ménard  
(Québec)

Denis Morrice  
(Ontario)

A. Robin Poole  
(Québec)

Ilona Skerjanc  
(Ontario)

### **Board Retreat**

In November 2002, IMHA held a Board retreat to re-evaluate and set the course for the future. In line with its strategic plan, and CIHR's Performance Outcome Categories, the following activities were identified:

*Outstanding Research:* Determine IMHA activities and priorities to advance research in arthritis, rehabilitation, bone, muscle, skin and oral health.

*Excellent Researchers:* Attract, educate and sustain excellent researchers and stimulate and promote a robust research environment.

*Partnership and Public Engagement:* Pursue partnerships and engage the public and all stakeholders in IMHA activities.

*Translation and Use of Knowledge:* Develop, undertake and promote the use of knowledge.

*Organizational Excellence:* Excellence in management and operations and providing an outstanding work environment.

The Board also worked to consolidate its strategic priorities identifying three interconnected themes that will guide the Institute's future research initiatives:

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

### **Succession Planning**

The Institute Advisory Boards were established to provide input and advice to the Scientific Directors of the thirteen CIHR Institutes. Recruited through a public process with final appointments made by Governing Council, these volunteers bring invaluable knowledge, experience and expertise to the table that serves to shape an Institute's future direction. The IAB renewal process has been carried out in close consultation with the CIHR President, the Nominating Committee of Governing Council and the Chairs and Members of IABs and all Scientific Directors. In July 2003, Governing Council announced new memberships with commencement of new members in September 2003.

**INSTITUTE OF MUSCULOSKELETAL HEALTH AND ARTHRITIS**  
**INVESTMENTS IN STRATEGIC INITIATIVES**

For the year ended March 31, 2003

	Number	Contributions through Grants and Awards				Total
		2002-03	2003-04	2004-05	2005 and beyond	
STRATEGIC INITIATIVES						
Unallocated	2	\$20,000	\$0	\$0	\$0	\$20,000
Invention - Tools, Techniques and Devices	2	17,138	289,763	281,815	164,761	753,477
New Discoveries	1	18,417	53,000	48,583	-	120,000
Ice Teams	3	110,165	405,660	440,660	1,229,315	2,185,800
Impact of Physical and Social	4	234,431	-	-	-	234,431
Operating Grants	23	1,304,404	2,073,454	427,046	404,250	4,209,154
Knowledge Translation	2	18,463	48,879	36,715	-	104,057
New Emerging Team Grant Program (NET Program)	1	75,000	75,000	75,000	143,750	368,750

Training Awards	16	138,501	369,499	28,500	-	<b>536,500</b>
Gene Therapy-Neuroscience Diseases	1	100,000	-	-	-	<b>100,000</b>
Strategic Training Initiative in Health Research	9	996,058	996,660	983,326	2,781,925	<b>5,757,969</b>
	<b>64</b>	<b>\$ 3,032,577</b>	<b>\$ 4,311,915</b>	<b>\$ 2,321,645</b>	<b>\$ 4,724,001</b>	<b>\$ 14,390,138</b>

\* Note : Grants and awards in respect to these programs are approved for 1 to 6 years. Figures displayed represent CIHR financial commitments for these programs in 2002-03 and subsequent years. Availability of these funds in future years are subject to funding appropriations by Parliament. For some initiatives, partners also contributed to the funding of the grants and awards.

# INSTITUTE OF MUSCULOSKELETAL HEALTH AND ARTHRITIS

## INSTITUTE SUPPORT GRANT

For the year ended March 31, 2003

<b>Available Funds</b>		<b>\$</b>	<b>1,731,835</b>
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### Expenses

#### Institute Development

Conference, symposia and workshops	\$	215,797		
Institute Advisory Board		90,861		
Professional services		10,800		
Travel expenditures		61,268		
Other costs		154,700	\$	533,425

#### Institute Operations

Salaries and benefits	\$	363,692		
Telephone and communication services		15,614		
Supplies, material and other services		26,627		
Office furniture and fixtures		1,886		
Computer equipment and IT support		7,660		
Professional Services		-		
Travel expenditures		85,756		
Translation Costs		3,538		
Other expenditures		40,944	\$	545,716

<b>Total Expenses</b>			<b>\$</b>	<b>1,079,141</b>
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<b>Unspent Balance*</b>			<b>\$</b>	<b>652,693</b>
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\* Note : The unspent balance as at March 31, 2003 is carried forward to the subsequent fiscal year