

2010/2011 ITG PROGRAM – Program Year 3, Summary Annual Results: HIGHLIGHTS

AIHS ENABLING ACTIONS...

- **Funding:** Teams received \$7.8 M (\$3.5 M contributed from AHW ITG Fund Agreement), which supports various activities including the development of shared infrastructure, establishment of collaborations, and trainee recruitment

▪ Promotion of Research (selected examples):

- Feature stories on Team research were published in the AIHS *Research News* magazine
- Media events were launched, which involved media training for Team members, preparation of video material, and liaising with media outlets (T.V., radio, and print)

▪ Knowledge Translation Activities (selected examples):

- Research Network Fests introduced Team research to various government ministries via presentations, lab tours, etc.
- ITG Lunch & Learn events brought together Team members and government representatives to facilitate the exchange of research results and related policy concerns

- A Scientist Knowledge Translation Training workshop was provided
- RTNA Water Cooler sessions were presented by Team members on topics such as “The Journey: Integrated KT within an Interdisciplinary Team”
- Various Team leaders presented Lightning Talks on Team research at the annual Making Connections conference

ENABLED THE FOLLOWING...

ITG Program Goals

2010/2011 ITG Program Results

Exemplars

1. Support interdisciplinary and multi-institutional research teams

Goal Intent: To catalyze research activity on multiple fronts of a complex health problem simultaneously, by bringing together investigators with a range of expertise and across institutions

- All 10 Teams are conducting interdisciplinary research that **span more than one CIHR pillar of health research** (total will exceed 100%): 40% biomedical, 30% clinical, 22% health services, and 18% social/cultural/environmental population health research.
- The Teams supported a total of **719 highly-skilled people** (approximately 190 FTEs), including 197 (27%) primary investigators, as well as trainees and technical staff. 199 (28%) of the people were **newly recruited** this year with 37 (5%) coming from outside Canada, for example, the United States and China.
- In addition to the \$7.8 M provided by AI-HS, Teams attracted **\$14 million this year from other funding sources**.

1 in 10 Canadians suffer from osteoarthritis (OA). Unfortunately, there’s no known cure for this chronic disease of the joints. To improve our understanding of the underlying causes of OA, and develop better therapies for patients, the *Alberta Osteoarthritis Team* has recruited an interdisciplinary team of basic and clinical scientists, policy and public health investigators, and others, including biobanking experts. Recently, the OA Team successfully modified synthetic Calcitonin, a drug prescribed to prevent bone breakdown, to target it specifically to bone and limit its interaction with other tissues in the body. This result represents the development of a new class of drugs, and more importantly, could lead to a more effective treatment for OA.

2. Provide interdisciplinary training and mentorship opportunities

Goal Intent: To foster the next generation of interdisciplinary researchers by providing a unique interdisciplinary training environment

- **259 trainees** were supported with 16% post-doctoral fellows, 19% PhD students, 26% Master’s students, and 39% trainees in other categories.
- Interdisciplinary training and mentorship activities included: **journal clubs and lab meetings, skills training** outside a trainee’s primary discipline, **interaction with collaborators**, and **co-supervision** by investigators representing different disciplines.

Alberta has the highest provincial pre-term birth rate in Canada at 9%. The *Preterm Birth and Healthy Outcome Team (PreHOT)* formed to better predict and prevent pre-term birth, as well as improve the health outcomes of pre-term babies. To prepare its trainees for the challenges of research in an interdisciplinary environment, PreHOT launched a course entitled “Building Foundations: An Introduction to Transdisciplinary Research”. Participants in the course recently contributed to two publications that are intended to stimulate policy discussions on the future of interdisciplinary training.

3. Support quality research addressing complex health issues using collaborative team approaches

Goal Intent: To leverage expertise and resources within each Team, as well as with external parties, through the establishment of active and meaningful partnerships

- Teams engaged in **181 collaborations**; 23% at a **national level** and 24% **international**.
- The ten Teams generated **398 peer-reviewed journal articles**.

The *Microfluidics Team* is developing a “lab on a chip”: a low cost, microfluidic device that can run multiple laboratory tests at once to test for various markers of disease. Availability of this type of device would facilitate point-of-care testing of vulnerable or remote populations, thereby improving patient care. To develop novel microfluidic technology, while ensuring the technology can produce reliable, clinical results, the Team’s engineers and biomedical scientists work collaboratively between neighbouring facilities. Recently, the Team has successfully implemented novel gel post technology that generates reliable results for a *Herpes simplex* test.

4. Timely transfer and knowledge exchange with end-users to improve health/ healthcare systems

Goal Intent: To ensure research findings are relevant and the benefits to society realized, by involving appropriate end-users at various stages of the research process

- Teams gave **366 invited presentations**; 42% at a national level and 33% international.
- Teams participated in **315 outreach activities** (17% national, 19% international) targeted at various audiences, including the general public, patients, healthcare policy makers, and government
- Team research is expected to result in a **variety of health and social impacts for Albertans**, for example, a decrease in mortality rates associated with a particular disease. To ensure that these impacts are realized, Teams worked with **11 different groups of end-users** of health research, including health care practitioners and patients, on **422 activities**, such as patient focus groups and injury prevention programs.
- **27 health and social impacts** were actually achieved, for example, improved quality of life.
- Research results led to a total of **33 commercialization activities** that included 10 partnerships, 9 reports of invention or invention disclosures, and 2 spin-off companies.

Spinal cord and brain injuries can result in significant disability for individuals. Patients with restricted mobility have a high risk of developing pressure ulcers, which can lead to death. One of the goals of the *Smart Neural Prostheses (SNP) Team* is to engineer a neural prosthetic system to prevent the formation of pressure ulcers. The SNP Team has engaged clinical staff at acute, chronic care and rehabilitation facilities to participate in the development of their Smart-e-pants technology; they’ve provided invaluable feedback from the perspective of future end-users of this prosthetic. This work has had led to the incorporation of a new company to commercialize the Smart-e-pants technology. Additional activities of the SNP team include the development of a hybrid SNP-orthotic system to restore standing and walking in paralyzed patients.