

## A new era for dental hygiene research in Canada

A number of forces are combining to bring a new level of credibility to dental hygiene research in Canada and a growing recognition of its importance. This is translating into unprecedented research opportunities for dental hygienists, and is making the job of the Canadian Foundation for Dental Hygiene Research and Education (or the Foundation) more exciting and more valuable than ever.

Canada's only foundation dedicated exclusively to dental hygiene research and education is still quite young. The Canadian Dental Hygienists Association (CDHA) formed the Foundation in 2004, with a mission to "enable dental hygiene research and education in order to enhance the oral health and well-being of Canadians." The Foundation has since raised and awarded more than \$63,508 in grants to dental hygienists for research projects to help advance clinical practice, dental hygiene education, and oral health outcomes.

Researchers in the field believe the circumstances are right for a new era of dental hygiene research in Canada due to a combination of changes both within the profession, and in the wider sphere of health care research and delivery. "Absolutely, the timing for research couldn't be

better," says Salme Lavigne, Chair of the Foundation, and Director of the School of Dental Hygiene at the University of Manitoba in Winnipeg. "It's a really exciting time right now for the profession, and at the same time, it's critical that we do everything possible to encourage the movement of the CDHA research agenda."

One of the factors elevating the need for research is the evolution of dental hygiene as a profession in Canada, and the move towards more independent practice in many provinces, according to Prof. Lavigne. "It's vital at this point that we take some accountability and begin to add to the dental hygiene body of knowledge."

"The time for research funding is certainly now," agrees Dr. Joanne Clovis, Associate Professor at the School of Dental Hygiene at Dalhousie University in Halifax, and one of Canada's most active dental hygiene researchers. "Over the past decade, legislative and educative initiatives to advance the profession have taken priority. Many of those initiatives are more stable now, which allow us to put more emphasis on research and research funding."

Dr. Clovis is the first dental hygienist in the role of principal investigator for a project funded by a grant from the



### **SANDRA COBBAN: A passion for moving research into the hands of dental hygienists**

Sandy Cobban readily admits she is "passionately committed to advancing the dental hygiene profession through research." So much so, her own research projects are focused on research utilization by dental hygienists—to understand how to increase use of the latest evidence in dental hygiene practice.

"If we want to have high quality care based on the best research evidence, we really need to understand how dental hygienists get their knowledge for practice," says Ms. Cobban. "Studies suggest that dental hygienists are not using a lot of the available research evidence but we don't really understand why."

The Foundation has helped Ms. Cobban pursue her quest to understand why. The Foundation funded two of her projects; a 2005 study to determine if "critical thinking dispositions" affect dental hygienists' use of research in practice, and her current project, funded in 2007, focused on developing an instrument to measure facilitators and barriers to the use of research by dental hygienists.

Ms. Cobban is currently an Associate Professor with the Dental Hygiene Program, Faculty of Medicine and Dentistry, at the University of Alberta in Edmonton. At the same time, she is pursuing a PhD in knowledge utilization through the university's Faculty of Nursing.

In her first Foundation-funded project, she wanted to see if dental hygienists were more likely to use research in their practice if they showed a greater disposition to critical thinking. Previous research found this type of link for nurses.

"Critical thinking is very important in dental hygiene education programs now. I wanted to study whether it correlates with higher research utilization in our profession and my study did find a statistically significant correlation."

In her current study, Ms. Cobban is starting with focus groups to determine if instruments for measuring research utilization by nurses and others can and should be refined to measure barriers and facilitators for dental hygienists.

The end result she hopes is to "reduce the time gap between when research knowledge is known and when dental hygienists are applying it on a daily basis in frontline practice."

The Foundation's funding has been vital to her work, Ms. Cobban points out that many granting agencies will not fund researchers who are earning other income. She says, "I am a single mother working full-time. Without the Foundation, I wouldn't be able to do this type of research. I am so grateful that, as dental hygienists, we have this opportunity in Canada."



### **SUSANNE SUNELL: Building national competencies for dental hygiene entry-to-practice**

The project began when Dental Hygiene Educators Canada (DHEC) called upon Dr. Susanne Sunell to help develop a proposal to review and revise the competencies which DHEC had developed for diploma and baccalaureate dental hygiene programs.

The DHEC Board and Dr. Sunell began to explore the idea of bringing together all the national dental hygiene organizations to develop one national standard for dental hygiene entry-to-practice in Canada. "We thought it would be fruitful to get all the organizations together and develop a common document that everyone could agree upon. It would be more meaningful for the profession and it would have more impact."

The Foundation helped make possible this valuable collaboration through a 2007 grant. The funding was awarded to the University of Manitoba's Joanna Asadoorian, who had an advisory role, with Dr. Sunell directing the research.

Dr. Sunell, who began her career as a registered dental hygienist in clinical practice, has a consulting company, Omni Educational Group, and is a part-time faculty member at the University of British Columbia's Faculty of Dentistry in Vancouver.

The project brought together CDHA, DHEC, Commission on Dental Accreditation of Canada (CDAC), Federation of Dental Hygiene Regulatory Authorities (FDHRA) and the National Dental Hygiene Certification Board (NDHCB). It was the first such collaboration in the Canadian dental hygiene profession. The result was a new draft framework for dental hygiene competencies which is to be further validated through broader consultations.

"We are hoping to move forward with one common national standard for entry-to-practice to raise the standard and equalize dental hygiene education across Canada," says Dr. Sunell. "This will support the inter-provincial mobility of dental hygienists and the ongoing development of the profession."

In 2005 as well the Foundation had funded research by Dr. Sunell. Working with a colleague from Sweden, she studied factors affecting research utilization by dental hygienists. One finding was that dental hygienists with more years of education made greater use of research in practice.

The Foundation provides considerable value to the profession, says this researcher. With its unique mandate to fund dental hygiene research, the Foundation is meeting a vital need. "It's essential for dental hygienists to be involved in research because we need to frame questions for our own practice. It is only by being involved that we will develop the strong research questions that will yield the data we need to support us in educational, clinical, or community practice."

Canadian Institutes of Health Research (CIHR). Her grant is one of four which CIHR awarded to research projects addressing oral health disparities in Canada. Many see her leadership role in this project as a sign of dental hygiene's evolving credibility, and Dr. Clovis is hopeful it will pave the way for future funding for dental hygiene researchers. CIHR has indeed demonstrated its commitment to dental hygiene research in a concrete way, through an innovative partnership with the Foundation.

### **MASTER'S AWARD PRESENTS BREAKTHROUGH OPPORTUNITY FOR DENTAL HYGIENE RESEARCH**

In early August 2008, the Foundation announced a new Master's Award in partnership with CIHR, marking the first time that the national health research granting body has funded a grant specifically for dental hygiene research. The award is a breakthrough opportunity that will significantly influence the dental hygiene research community in Canada posits Susan Ziebarth, Executive Director of the Foundation.

"It's a very exciting opportunity because CIHR is focusing on dental hygiene as a recognized profession, a credible profession in terms of research and building a knowledge base," says Dr. Ziebarth. "This is an important step and one from which we can grow."

"This is a major step forward," says Prof. Lavigne. "It's going to be very prestigious and truly has given us a great deal of credibility with the government and with the research world."

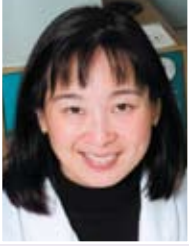
The Award provides funding of up to \$17,500 a year to support research project development by registered dental hygienists enrolled full-time in a Master's program, subject to certain other conditions. The deadline for applications is 2 February 2009.

### **EVIDENCE-BASED HEALTH CARE AND THE LINKS BETWEEN ORAL HEALTH AND OVERALL HEALTH**

The explosion of the evidence-based movement in all aspects of health care is another development fuelling the need for dental hygiene research. The push to deliver cost-effective health care treatments and services that have a positive impact has never been greater. More research will produce the evidence to drive better clinical practice, giving dental hygienists new tools and knowledge to improve the oral health of their clients.

"With all the emphasis on evidence-based practice, it is vital that we advance the body of dental hygiene knowledge," says Dr. Ziebarth. "The more evidence we can build, clearly the more effective and more recognized the practice and the treatments will be."

Another important development is the growing understanding of the link between oral health and overall health. "Good oral health leads to good health outcomes," says Prof. Lavigne. "It's something we have always inherently known but now there's a growing body of research that further supports these connections. Dental hygiene researchers have a wonderful opportunity to conduct inter-



### **PAULINE IMAI: Helping people care for their oral health, and inspiring students**

Pauline Imai appears to have endless energy for dental hygiene research. She has several projects either on the go or in development, and ideas for many more. Her particular research passions are Phase III clinical trials and education, and one of her missions is to inspire dental hygiene students to get involved in research.

Ms. Imai is a Clinical Assistant Professor in the Dental Hygiene Degree Program of the University of British Columbia's Faculty of Dentistry in Vancouver. After becoming a registered dental hygienist, she went on to earn a Bachelor's (Dental Hygiene) and a Master's Science degree (Dental Hygiene, Clinical Research) as well as a certificate in Teaching & Learning in Higher Education,

all at UBC.

The Foundation provided funding in 2006 for her Master's research, a study on flossing with chlorhexidine (CHX). It's just the kind of clinical trial project that she enjoys the most.

"I find it very gratifying to do human trials because I can actually see the positive impact of research on people," says Ms. Imai. "In particular I want to empower clients to help themselves achieve oral health, by studying methods that they can use at home."

The research compared a group of subjects with gingivitis who used dental floss presoaked in CHX oral rinse, to a control group using dental floss in placebo solution. One of the objectives was to find an alternative application method for CHX because as a rinse, it causes unattractive tooth staining, leading to a drop in client compliance. Using CHX with dental floss carries it to the interproximal area, where most periodontal disease begins, while reducing this staining.

Both groups showed a reduction in gingival index over the twelve weeks, but the CHX floss group had statistically significant reductions in bleeding on probing for subjects with moderate gingivitis. There was no statistically significant difference between the groups for stain or plaque indices.

The Foundation also provided funding this year for another clinical trial in which Ms. Imai will compare plaque and bleeding among a group using a new interdental brush, to another group using the gold standard, dental floss.

Ms. Imai is also working on research studies related to dental hygiene education and the impact of UBC's entry-to-practice baccalaureate dental hygiene program on a community of low income families.

And she's continually encouraging the love of research in her students. "I say to them, if you have a question and it's not answered in the literature, why not find the answer yourself through research? Use your curiosity as a springboard to inform the entire profession."

vention studies and help build additional evidence about these important relationships."

Dr. Clovis agrees dental hygienists need to become more involved in this area of research. The oral health systemic link is driving the need for prevention of oral disease and oral health promotion, areas in which dental hygienists have unique expertise and experience; an untapped opportunity that dental hygienists should seize.

"There is a real lack of dentists and dental hygienists who are dental public health specialists," she says. "We need to have people with oral health backgrounds qualified at a Master's level with some specialization in dental public health. Dental hygienists are perfect in that role."

### **OPPORTUNITY AND NEED COME TOGETHER**

The Foundation recognizes that both the opportunities and the need for dental hygiene research have never been greater. As a result, the Foundation is working to encourage more dental hygienists to get involved in research.

Researchers in the field believe strongly that dental hygienists should be leading dental hygiene research because they know the real life issues that affect care on the frontlines. "The questions for research should come from practice," says Dr. Clovis. "When we are actually with clients, how do we communicate with people, what kinds of clinical services do we provide? Those are key questions that should be addressed in research, and the answers can

become the foundation of practice. This research needs to be done for dental hygiene by dental hygienists."

With the opening of new horizons for dental hygiene research, the Foundation is also urging members of the profession to provide support in other ways—through financial donations and by fundraising on behalf of the Foundation. More funding will help the Foundation build the financial strength to seek other partnerships, similar to the one just developed with CIHR.

Whether as researchers or through donations and volunteer work, dental hygienists have a key role to play in helping advance the profession and its body of knowledge by supporting research.

"All of us in the profession are called upon to support research that improves our clinical practice, as well as research in health promotion and community-based health," says Prof. Lavigne. "There is such a huge burden of dental disease in the country and so many vulnerable population groups. We need to figure out how to reach those population groups and how to improve oral health outcomes. Research is critical to achieving these goals."

### **ACKNOWLEDGEMENT**

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