

# Public Health Services Research & Evaluation Report



Hamilton

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## **Acknowledgements**

This report was prepared by the Applied Research & Evaluation Team, Planning & Business Improvement Division at the City of Hamilton, Public Health Services. Project leads provided the summaries for the individual research and evaluation projects.

The report is available on the City of Hamilton website.

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## Research Partnerships

The research and evaluation projects highlighted in this report would not be possible without supportive, collaborative relationships with our many partners. We would like to take the opportunity to thank and acknowledge our valuable research and evaluation partners.

Brock University

Canadian Institute of Public Health Inspectors

Center of Excellence for Youth Engagement

Centre for Addictions and Mental Health

Centre for Disease Control

Hamilton-Wentworth District School Board

Institute for Social Research, York University

Institute of Excellence for Youth Engagement

McMaster Institute for Environment and Health

McMaster University

Propel Centre for Population Health Impact, University of Waterloo

University of Guelph

Offord Centre for Children at Risk

Children's Aid Society of Hamilton

Catholic Children's Aid Society of Hamilton

Community Child Abuse Council

Hamilton Community Foundation

McMaster Child Health Research Institute

Ministry of Children & Youth Services

Nursing Secretariat - Ontario Ministry of Health and Long-Term Care

Provincial Centre of Excellence for Child and Youth Mental Health at the  
Children's Hospital of Eastern Ontario

## Preface

I am please to share with you the 2009 Research and Evaluation Report. This report highlights the scope of our research and evaluation work undertaken at Hamilton Public Health Services. Research and evaluation are core aspects of the services we provide to both our local community and to the greater public health field. Through the Public Health Research Education and Development (PHRED) program we have lead and contributed to a number of applied public health projects that impact the practice of public health across Ontario. The release of the 2008 Ontario Public Health Standards signaled a new mandate for public health in Ontario, where research and evaluation take an even more prominent role in public health practice.

Many of our research and evaluation projects are undertaken with collaborative partners. By working with our partners, both within the City of Hamilton and across the province, we are able to achieve a much greater impact in our public health initiatives.

We hope you will find this report interesting and informative. If you would like any additional information about any of the projects summarized within the report, please do not hesitate to contact the designated health unit contact for that study.

Colleen Van Berkel  
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## Get the “PHacts!”: Building Workforce Capacity around the Access & Use of Community Profiles Census Data

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**Investigators:** Riley Crotta, Katrice Edgar and Colleen Van Berkel

**Health Unit Contact Person:** Riley Crotta

**Background:** Addressing the social determinants of health and tailoring services to local need are fundamental to the work of public health. The objectives of this project were to develop, pilot and evaluate a workshop and e-module that builds public health practitioners’ capacity to access and use Census data.

### **Research Questions:**

1. How do participants rate the instructional quality and value of the learning module and does the learning module increase participant knowledge and confidence in their ability to apply knowledge immediately following completion?
2. How do learning module participants rate their preference for workshops or online module professional development delivery modes?
3. Do workshop participants rate the quality, impact and acceptability of an interactive approach to professional development higher than those participants who completed the online/ self-directed module?

**Methods:** Health unit staff were randomized to complete the workshop or e-module. Participant reactions and knowledge were evaluated using a survey.

**Results:** 45 participants piloted the learning modules. Training practices and overall quality of the module were rated as highly effective. Most participants rated their capability and intention to apply learning as high, with a greater percentage of workshop participants indicating high levels of confidence in their ability to apply the knowledge to their job. Preferences for learning module delivery modes were mixed.

**Conclusions:** Initiatives that increase access to data to inform planning are valued by practitioners and are a vehicle for capacity-building. Technology can increase the ‘reach’ of a learning module, but how the information is intended to be used needs to be considered when making decisions about delivery modes.

**Project Timeline:** 2009

**Project Funding Source and Amount:** \$12,000 (PHRED)

### **Conference Presentations:**

Crotta, R., Edgar, K., Van Berkel, C., & Schofield, R. (2009, November). *Get the “PHacts!”: Building public health workforce capacity around the access and use of Census data.* Presented at the 2009 Ontario Public Health Conference, Toronto, Ontario.

## Evaluation of a Social Determinants of Health (SDH) Workshop to Increase Knowledge, Skills, and Comfort with the SDH in Public Health Practice at the Health Unit Level

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**Investigators:** Dr. Jessica Hopkins (Community Medicine Resident, McMaster University), Dr. Elizabeth Richardson and Hamilton Public Health Services Social Determinants of Health Workshop Group

**Health Unit Contact Person:** Suzanne Brown

**Background:** This project describes an innovative method of knowledge transfer and implementation of a SDH framework into public health. The goal is to evaluate the ability of the health unit to take the next step in translating theoretical knowledge of the SDH into daily public health practice and programming.

### Research Questions:

1. To determine the effectiveness of a SDH workshop in increasing knowledge, skills, and attitudes of Hamilton PHS staff with respect to the SDH
2. To compare the knowledge of Hamilton PHS staff prior to, and following, a workshop on translating the SDH from theory into practice
3. To compare Hamilton PHS staff's self-perceived comfort and capabilities with implementing a SDH lens into daily public health practice

**Methods:** A before-after design was used to compare Hamilton PHS staff's knowledge, comfort, and capabilities with the implementation of a SDH framework into public health practice prior to and following a workshop on the SDH. All SDH workshop participants were invited to complete a self-administered questionnaire conducted immediately prior to, and following, the workshop.

**Results:** The four workshops were attended by a total of 132 PHS staff. Of these, 86 (65%) participated in the survey. Evaluation of the workshop showed an increase in subjective knowledge, skills and comfort with incorporating the SDH in public health practice. Objective knowledge measurements supported this finding. Evaluation of the workshop, itself, was very positive with all aspects of the workshop (game, game debrief, scenarios, scenario debrief, facilitation) being felt to be useful and effective.

**Conclusions:** These results describe a novel workshop aimed at increasing the knowledge, skills and comfort of Hamilton PHS staff with the SDH in public health practice. The workshop accomplished its goals of increasing all of these aspects. As well, the evaluation by participants was positive, and most would recommend a co-worker attend.

**Project Timeline:** 2009

**Project Funding Source and Amount:** \$45,000 (PHRED)

## Advancing Inter-professional Education for Future Public Health Practitioners

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**Investigators:** Ruth Schofield<sup>1</sup>, Cyndy Johnston, Colleen VanBerkel, Karen Quigley-Hobbs<sup>2</sup>, Dr. Hsui Li Wang<sup>2</sup> and Dr. Ilana Bayer<sup>1</sup> (<sup>1</sup>McMaster University; <sup>2</sup>Region of Waterloo Public Health)

**Health Unit Contact Person:** Cyndy Johnston

**Background:** To develop and implement an inter-professional education initiative in public health related to the Inter-professional Education (IPE) competencies, defined by the Program for Inter-professional Education & Research (PIPER) at McMaster University, for the purpose of exposure.

**Research Questions:** Does the learning module increase participants' knowledge of public health professionals roles and scope of practice and enhance their ability to collaborate with other public health professionals to establish common goals following completion?

**Methods:** A pre & post evaluation questionnaire was implemented to determine the student's ability to describe their own and other's professional roles and responsibilities in addition to scope(s) of practice and how to involve other professionals in public health issues. Both quantitative and qualitative data were collected. Participants included five nursing and medical students from McMaster University.

**Results:** Quantitative results revealed that all students had previous experience with inter-professional practice. Qualitative results revealed common themes such as learning more about the various discipline's responsibilities, that communication was a key attribute in sharing tasks, expertise, skills and information in problem solving and decision making processes and that respect and trust for others was important.

**Conclusions:** This pilot project demonstrated the effectiveness of increasing student's knowledge about the roles and scopes of practice of public health professionals and raised awareness of how they might collaborate around decision-making. This project has implications for orientation of new staff and students to public health.

**Project Timeline:** 2009

**Project Funding Source and Amount:** \$5,000 Program for Inter-professional Education & Research

**Conference Presentation:**

Johnston, C., & Schofield, R. (2009, June). *Advancing Inter-professional Education for Future Public Health Practitioners*. Presented at the 2009 Community Health Nurses Association of Canada Conference, Calgary, AB.

## An Evaluation of the Expansion of the Feel the Power Feel Fit Club to Additional Sites in Hamilton

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**Investigators:** Gail Dowling, Christine Senson, Eliana Witchell<sup>1</sup> and Edwoba Konadu<sup>1</sup>  
(<sup>1</sup>Student, University of Guelph)

**Health Unit Contact Person:** Gail Dowling

**Background:** Healthy Living Hamilton is a coalition of local agencies, organizations and community volunteers who are committed to working together for a healthy community as part of the Ontario Heart Health Program. Since 2004, the Feel the Power Feel Fit Club has been funded by Healthy Living Hamilton and supported by many community partners. The Club is a free supportive network for adults who live or work in Hamilton, designed to encourage regular physical activity by providing participants with free information, resources, and opportunities to try new physical activities via Club meetings. An evaluation was conducted in 2009 to determine if the additional sites would be successful and sustainable.

### Research Questions:

1. What is the effectiveness of expanding the Club to community sites, with minimal support from the original community partners, including Hamilton Public Health Services?
2. Is the community expansion model appropriate to meet the goals of the Club?
3. What level of assistance is required to run the Club at each site, with respect to funds and professional support?
4. What are the benefits reported by Club members, with respect to their health behaviours?

**Methods:** Separate focus groups were held with Club coordinators and participants. All focus groups were conducted by trained interviewers. Previously collected quantitative data from each site was analyzed and included in the assessment of the program, as a whole.

**Results:** The results indicated that Feel the Power Feel Fit Club is most successful and sustainable in a recreational setting. The community expansion model supports the goals of the Club. Participants of the Club cited that the program encouraged them to be physically active, provided opportunities to try new activities, and taught them new information about physical activity. They enjoyed the social aspect of the Club which helped build a social network to support regular physical activity.

**Conclusions:** The Club can be sustained in a recreational setting. Participants valued the program for the social network benefits, physical activity opportunities, and resources.

**Project Timeline:** 2008 - 2009

**Project Funding Source and amount:** \$3,000 (Healthy Living Hamilton)

## Evaluation of a Health Messaging CD for Places of Worship

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**Investigators:** Beatrice McDonough, Christine Senson, Edwoba Konadu<sup>1</sup> and Eliana Witchell<sup>1</sup> (1Student, University of Guelph)

**Health Unit Contact Person:** Beatrice McDonough

**Background:** Funded by Healthy Living Hamilton, the Health Messaging CD for Places of Worship was developed in response to a need identified from 13 focus groups in the South Asian community in Hamilton. Places of worship were highlighted as an untapped population channel to reach not only those who attend, but also the staff of various places of worship. The CD contained information, resources, and links on a variety of healthy lifestyle topics and were arranged according to subject area and suggested times for promotion of certain topics, such as cardiovascular health information, during Heart Month in February.

### Research Questions:

1. How do the places of worship use the information in the CD?
2. What is the usefulness of each topic and what formats are preferred?
3. How often are the materials from each topic area used?

**Methods:** A questionnaire was mailed to all 292 places of worship that had received the CD a few months prior. For those not returning the mailed questionnaires, follow-up telephone calls were made to complete the questionnaire over the phone.

**Results:** The response rate was 38% after the non-responders were contacted by phone. Without this follow-up, the response rate was 5%. Forty-two respondents reporting either not receiving the CD or had misplaced it and only 14 of those requested that the CD be sent again. Of those with the CD, 49% reported using the CD or planning to use the CD. The major reason for not using the CD was that the respondents did not find the CD useful. Of those who used the CD, the most frequently used topics were Aging and Seniors, followed by Health Eating, and Families and Children. Information from the CDs was used mainly for bulletin boards, newsletters, and one-on-one and group counseling. The majority of respondents found the CD to be an effective medium for sharing information on healthy living.

**Conclusions:** Overall, the places of worship found the CD to be useful for the sharing of healthy lifestyle information with their members. Some needed additional time to review and use the CD, but were positive that the information would be used in some manner.

**Project Timeline:** 2008 - 2009

**Project Funding Source and Amount:** \$3,400 (Healthy Living Hamilton)

## Youth Net National Meeting: Translating Knowledge to Practice

**Investigators:** Dr. Linda O'Mara<sup>1</sup>, Daina Mueller<sup>2</sup>, Lorraine Grypstra<sup>2</sup>, Cheryl Vrkljan<sup>3</sup>, Dr. Gina Browne<sup>1</sup>, Dr. Noori Akhtar-Danesh<sup>1</sup> and David Hoy<sup>4</sup> (1McMaster University, 2Hamilton Public Health Services, 3Centre for Addiction and Mental Health, 4Hamilton-Wentworth District School Board)

**Health Unit Contact Person:** Lorraine Grypstra

**Background:** Youth Net Hamilton (YNH) is a mental health promotion and early intervention program for youth ages 13 to 18. The program is funded and administrated by Hamilton Public Health Services (PHS). The focus of the 2009 national meeting was to disseminate findings from 2 research projects, one of which was completed by YNH.

**Research Questions:** Does stigma towards mental illness decrease for youth 13 to 18 years old after participating in school-based YNH Focus Groups (YNFGs)?

**Methods:** 294 youth from six schools participated in the study. Randomized by classroom, half of the participants received the YNFGs. Researchers measured changes in stigma, mental health problems, feelings, behaviours, and health and social service utilization both before the YNFGs and one month following the intervention.

**Results:** Although stigma did not decrease overall for study participants, there was less of an increase in the intervention group suggesting that YNFGs could be considered a harm reduction approach. For youth attending low need schools, there was a significant decrease in stigma after participating in YNFGs. The full report is available through the Provincial Centre of Excellence for Child and Youth Mental Health at CHEO.

**Conclusions:** The *Youth Net National Meeting: Translating Knowledge to Practice* was attended by 34 Youth Net delegates from sites across Canada as well as 11 local agency representatives. The event was a success as objectives were met, and participants had the opportunity to discuss the research projects and their implications.

**Project Timeline:** 2009

**Project Funding Source and Amount:** \$7,500 (CIHR) and \$1,707 (PHRED)

### Conference Presentations:

O'Mara, L., Mueller, D. & Grypstra, L. (2009, June). Youth Net Hamilton: What we learned about stigma and youth mental health promotion. *Youth Net National Conference: Translating Knowledge to Practice*, Hamilton, ON.

O'Mara, L., Mueller, D. & Grypstra, L. (2009, November). Youth Net Hamilton: What we learned about stigma and youth mental health promotion. *2009 Ontario Public Health Agency Conference*, Toronto, ON.

## 2009 Hamilton Student Drug Use Survey

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**Investigators:** Angela Paglia-Boak<sup>1</sup>, Robert E. Mann<sup>1</sup>, Edward M. Adlaf<sup>1</sup>, Jürgen Rehm<sup>1</sup> and John Pollard<sup>2</sup> (<sup>1</sup>Centre for Addiction and Mental Health, <sup>2</sup>Institute for Social Research, York University)

**Health Unit Contact Person:** Corry Curtis

**Background:** The purpose of this research is to identify epidemiological trends in student drug use and to identify corresponding trends in mental health, risk-taking behaviours and various protective factors among students in grades 7-12 in the City of Hamilton. The rationale for conducting this research is to detect emerging issues among Hamilton youth as they progress through the developmental stages and allow for the creation of appropriate programming based on extent of usage. This research also provides a basis for policy formation and evaluation based upon recommendations made from various reports such as the Canadian Drug Strategy.

**Research Questions:**

1. What is the extent of use and attitudes and beliefs about alcohol and other drug use of Hamilton students in grades 7 to 12?
2. What is the extent and nature of alcohol-related and drug-related problems?

**Methods:** Detailed survey methodology is explained in two reports:

1. 2009 Ontario Student Drug Use and Health Survey developed by the Centre for Addiction and Mental Health and
2. The Design and Implementation of the Ontario Student Drug Use and Health Survey (2009) developed by York University's Institute for Social Research.

The survey was implemented in Hamilton over an 8 month period. A total of 12 schools were sampled in Hamilton with a total sample size of 493 students. This sample consisted of 302 students in grades 7-8 and 191 students in grades 9-12.

**Results:** Results of the survey indicate that substance use and other youth risk behaviours are prevalent for youth 11-19 years of age in the City of Hamilton. Initial findings show that alcohol, marijuana, tobacco and opioid pain relievers are the most commonly used drugs. These results and additional findings will be used to update current public health resources and will be released through various public health channels to target parents, teens and professionals in 2010.

**Conclusions:** The results of the 2009 Hamilton Student Drug Use Survey demonstrate an ongoing need for comprehensive substance abuse prevention programming that targets children and youth before the age of onset of use.

**Project Timeline:** 2008 - 2009

**Project Funding Source and Amount:** \$4,999 (PHRED) and \$10,874 (Internal)

## Alcohol, Drug and Gambling Services: Review of Organizational Position and Service Delivery Models

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**Investigators:** Dr. Susan Keller-Olaman and Luanne Jamieson

**Health Unit Contact Person:** Luanne Jamieson

**Background:** Hamilton is one of very few locations in Ontario where addiction services operate within Public Health. The purpose of this review was to provide ADGS and Hamilton Public Health Services (PHS) with information on the advantages and disadvantages of the present organizational position and service delivery, with consideration of alternative models of service delivery.

### Review Objectives

1. To provide an overview of current ADGS operations.
2. To provide an overview of addiction-related data from Hamilton.
3. To present ADGS data such as wait times, client profile and client feedback.
4. To understand how the current ADGS service delivery structure is considered by stakeholders in Hamilton.
5. To report challenges and improvements with the current service delivery structure as identified by stakeholders based in Hamilton.
6. To report perceived benefits, challenges and improvements with current service delivery structure and service delivery integration, as reported by addiction and/or mental health service leaders based outside Hamilton.

**Methods:** A mixed methods approach was utilized to collect and analyze data. Eighty-eight individual interviews with ADGS clients, staff, advisory, former leaders, in addition to addiction and/or mental health service providers in Hamilton, and key informants outside Hamilton were assessed using content analysis to identify key themes.

**Results:** Clients who accessed and completed ADGS programs were overall very satisfied with the services. From the individual interviews, ADGS staff believed that they were conducting work of high standard, but acknowledged gaps in services. Interview responses from the Hamilton-based addiction and/or mental health agency representatives and key informants outside Hamilton were mixed. The majority of interviewees believed that ADGS clients would be better served by an alternative service delivery model with ADGS divesting from PHS and the City. Others felt that the exclusionary issues and access issues could be corrected without divesting.

**Conclusions:** Recommendations were suggested to be implemented within Hamilton PHS over three years using a three-phase approach of action.

**Project Timeline:** 2008 - 2009

**Project Funding Source and Amount:** Internal funding

## School Health Action Planning & Evaluation Systems (S.H.A.P.E.S.)

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**Investigators:** Dr. Steve Manske (The Propel Centre for Population Health Impact, University of Waterloo)

**Health Unit Contact Person:** Kevin McDonald

**Background:** The SHAPES survey is an assessment of Hamilton students in grades 9 through 12 conducted by the Propel Centre for Population Health Impact at the University of Waterloo in collaboration with the Hamilton Public Health Services (PHS). The survey asks students about their mental fitness, physical activity, eating behaviours, and tobacco use. A total of nine school-specific and one city-wide S.H.A.P.E.S. feedback reports will be produced to help schools, together with students, parents and other community partners, to: increase awareness of trends in mental fitness/resilience, physical activity and healthy eating at their school, plan actions related to these issues and co-ordinate these efforts with other groups. Participating schools are encouraged, to partner with other schools, local health and voluntary organizations, municipalities, businesses, etc., to take action on the results reported. Ideas on what to do with the information contained in the reports are included in each of the reports.

**Methods:** SHAPES-Hamilton 2009/10 is a survey of up to 10 secondary schools selected from school boards served by Hamilton PHS. All consenting students in grades 9 through 12 at participating secondary schools will be surveyed. Within each school, classes will be randomly assigned to complete one of two survey modules focused on tobacco use, physical activity, healthy eating and mental fitness. Schools will receive a feedback report describing the results of students in the school, and linking survey results to implications for activities.

**Results:** Execution of the survey instruments with participating schools is ongoing. As a result of the fall 2009 H1N1 emergency, administration of the S.H.A.P.E.S. 2009 survey instruments in participating high schools was postponed until winter 2010. To date, seven of nine participating schools have been administered.

**Conclusions:** Data collection, analysis and reporting is ongoing. As a result of the fall 2009 H1N1 emergency, administration of the S.H.A.P.E.S. 2009 survey instruments in participating high schools was postponed until winter 2010. Full school-specific and city-wide reporting is expected to occur by May 2010.

**Project Timeline:** 2009 - 2010

**Project Funding Source and Amount:** \$30,231 (PHRED)

## Public Health / Primary Care Collaboration on Diabetes Prevention through “Prescribed” Physical Activity for Low Income and / or Culturally Diverse Women in Hamilton

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**Investigators:** Ann Stanziani, Angela Frisina, Tricia Hack and Elizabeth Molinaro

**Health Unit Contact Person:** Ann Stanziani

**Background:** This research project examined how public health and primary care practitioners from a variety of settings and disciplines in Hamilton could collaborate better to address diabetes prevention within target populations (low income and/or culturally diverse women) via the lifestyle intervention of physical activity.

### Research Questions:

1. How can Hamilton Public Health Services collaborate more effectively with health care providers from a variety of disciplines, to encourage physical activity to specific populations at risk of developing type 2 diabetes (DM2)?
2. How can Hamilton Public Health Services facilitate access to barrier-reduced physical activity programs for clients/patients for the purpose of DM2 prevention?

**Methods:** A twelve member multidisciplinary advisory committee was formed to provide consultation regarding the recruitment of participants, focus group questions, feedback on the identified themes and advice on dissemination. The research project team submitted and obtained ethics approval from the McMaster University Research Ethics Board. Ten, 90 minute focus groups were conducted with 71 participants from Hamilton Public Health Services, Family Health Teams, Community Health Centres and Outpatient Diabetes Programs.

**Results:** A total of five key themes arose from the data analysis.

1. The Need for More Education and Awareness of the Client/Community around Diabetes Prevention
2. The Need for More Client/Community-Centred Goal Setting
3. The Need for More Supportive Environments
4. The Need for More Communication
5. The Need to Address Systemic Issues

**Conclusions:** In this research project, public health and primary care practitioners validated the importance of DM2 prevention and shared a desire to collaborate more efficiently to improve the health of individuals and community, especially underserved populations such as low income and/or culturally diverse women. Further dialogue is required to develop strategies together that address mutual mandates.

**Project Timeline:** 2009 - 2010

**Project Funding Source and Amount:** \$37,000 (PHRED)

## An Exploration of The Experiences Related to Mental Well-Being of Women of Low Socioeconomic Status Who Have Participated in the Woman Alive! Physical Activity Program

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**Investigators:** Angela Frisina, Ann Stanziani, Joanne Crawford and Priya Verma

**Health Unit Contact Person:** Angela Frisina

**Background:** The purpose of this project is to further explore, through individual and group interviews, the experiences related to mental health and well-being of women of low socioeconomic status who have participated in the Woman Alive! (WA) physical activity program.

**Research Question:** What are the experiences of women who have attended a WA! physical activity program series as it relates to their mental health and well-being?

**Methods:** Participant descriptions of their experiences were collected by individual interviews and focus groups. Six focus groups of 60-90 minutes and three (60 minute) individual interviews were conducted by the research assistant. Cultural interpreters were used when required. A total of forty-one participants from diverse communities participated in the study. Each interview was tape recorded and transcribed verbatim. Data was analysed using thematic content analysis.

**Results:** Overall, participants described numerous physical and mental health benefits that resulted from their participation in the WA! Program. Although interest in physical activity (PA) formed early in life, participants felt that interest/participation was not nurtured in adulthood unless a supportive environment was present to address barriers. Numerous barriers were described by those who participated, including cost of programming, child care, transportation, and a feeling of not belonging/not fitting in with more mainstream programming. Participants said that they engaged in PA because of the supportive group environment offered through WA and described a sense of increased motivation due to the structured group exercise program. Skill and knowledge development obtained from the program, helped to sustain a healthier lifestyle, and inspire participants to share what they had learned with family members.

**Conclusions:** This project validated many years of anecdotal evidence provided by those women who previously attended the WA! Program. Further research on a larger scale would be beneficial to explore in more depth what role group fitness may play in the mental well-being of vulnerable women in our community. The results of this small scale study provide support to other community organizations working in the field of mental health.

**Project Timeline:** 2009 - 2010

**Project Funding Source and Amount:** \$28,000 (PHRED)

## The Experience of Immigrant Women who have Accessed Breast Health and Screening through Hamilton Women's Health Educator Program

**Investigators:** Joanne Crawford, Angela Frisina, Faye Parascandalo, Trish Hack, Abir Alsaid<sup>1</sup> Thuy Dam<sup>1</sup>, Fatima Homid<sup>1</sup>, Michelle Ji<sup>1</sup> and Snober Naz<sup>1</sup> (<sup>1</sup>St. Joseph's Immigrant Women's Centre)

**Health Unit Contact Person:** Angela Frisina

**Background:** The Women's Health Educators (WHE) Program utilizes a peer educator approach, with the primary goal being to facilitate increased access to cancer screening, in four immigrant communities in Hamilton: Arabic, Chinese, South Asian and Vietnamese communities. WHEs are women from the same cultural background as the community they serve and promote access by providing women's health sessions, interpretation, cultural support and accompaniment to screening.

**Research Questions:** The purpose of this project was to examine immigrant women's experiences accessing breast health and breast screening through the City of Hamilton's WHE Program.

**Methods:** We utilized participatory action research and qualitative exploration to uncover immigrant women's perceptions of the experience accessing a culturally tailored program utilizing peer educators. Immigrant women from the four identified communities, who have accessed the WHE Program for a breast health session and/or breast screening at the OBSP, were recruited. Data were collected from focus groups and in-depth interviews, facilitated by immigrant women from each of the four communities of interest.

**Results:** Eight-three immigrant women participated in the study; 36% Arabic, 15% Chinese, 25% South Asian, and 18% Vietnamese. Ages ranged from 40 to 74 years; 35% were 40-50 years of age and the remaining 65% were 50 years of age and older. Preliminary findings indicated that previously held assumptions of breast cancer such as fear and death were challenged by the knowledge gained and subsequently portrayed as hope, realization and personal responsibility for one's own health.

**Conclusions:** Women shared perspectives about the WHE Program related to the provision of supportive care, presence, and safety. New directions for the enhancement of the WHE Program reinforced that culturally tailored programs require input from the women who access them to meet changing needs related to the sub-groups of the population of interest.

**Project Timeline:** 2008 - 2010

**Project Funding Source and Amount:** \$197,000 over 2 years (Canadian Breast Cancer Foundation)

## Maximizing Nutrition & Physical Activity Strategies

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**Investigators:** Suzanne Brown and Eunice Chong

**Health Unit Contact Person:** Suzanne Brown

**Background:** The purpose of this program review is to identify and recommend a framework on which to deliver integrated and comprehensive chronic disease prevention strategies.

**Research Questions:**

1. What evidence exists on chronic disease prevention (CDP) interventions?
2. What are the current health promotion strategies used by CDP programs in Hamilton Public Health Services (PHS) and other relevant City of Hamilton departments?
3. What are the social determinants of health addressed by CDP programs in Hamilton PHS and other relevant City of Hamilton departments?
4. What are the best practices followed by CDP programs in Hamilton PHS and other relevant City of Hamilton departments?

**Methods:** A literature review and environmental scan was conducted on CDP that relates to nutrition and physical activity. A focus group was conducted with the Central West Health Unit CDP Managers to learn about the approaches used in CDP programs in their health units.

**Results:**

1. The CDP literature emphasizes a shift in focus from individual-level to population-based approaches and consideration of the social determinants of health.
2. The primary health promotion strategy utilized by CDP initiatives in the Healthy Living Division is developing personal skills. Other strategies tend to be of a secondary focus in programming.
3. The main social determinants of health currently addressed by CDP programs in the Healthy Living Division are social environments and personal health practices.
4. The primary health promotion strategy utilized by CDP-related programs in the other Hamilton PHS Divisions and other City of Hamilton Departments is developing personal skills. The main social determinant of health addressed by CDP programs in the other Hamilton PHS Divisions is personal health practices.
5. In general, CDP initiatives in the Healthy Living Division were evidence-based.
6. CDP programs underway in other Central West Public Health Units take approaches similar to those of the CDP initiatives in the Healthy Living Division.

**Conclusions:** The findings from this project will provide directions to the development of joint CDP operational planning in 2010.

**Project Timeline:** 2008 - 2010

**Project Funding Source and Amount:** Internal funding

## Evaluation of the Quick Access Service at Child and Adolescent Services

**Investigators:** Debbie Sheehan, Louise Oke, Dina Bednar, Dr. Drew Dane, Gord Greenway, Margarita Rabinovich, Karen Timmerman and Van Vu

**PHS Contact/Lead:** Louise Oke

**Background:** In 2007 Child and Adolescent Services began offering a single session, walk-in intervention that clients could access as soon as they were referred as a way to offer clients service when they ask for it and to help families get started with changes and accessing available resources while they wait for service. The purpose of this project is to evaluate the Quick Access Service (QAS) to see whether it is helpful to client families and is therefore a valuable addition to our range of clinical services. Because there is a growing focus in children's mental health on accountability through services doing their own outcome evaluation, a secondary purpose of the project is to build capacity within our program for doing research and evaluation.

**Methods:** Using a combination of interview and questionnaire data at four points in time we are looking at outcomes of, and satisfaction with, the QAS from clients and all other family members who attend the QAS.

### Research Questions:

1. What are client's perceptions of the QAS program?
2. What are the characteristics of clients who attend QAS compared to those who do not attend?
3. Does the QAS, single session family intervention result in increased self-ratings of: hopefulness, self-efficacy, parenting self-efficacy, coping, understanding of the problem and awareness of personal and family strengths and resources?
4. What are the specific characteristics of clients who do not require further service following the QAS appointment?
5. Does the QAS, single session family intervention result in a change in parents' ratings of: the identified child's symptom severity, caregiver depression, impact of the problem on child and family members, and family functioning one month after the session?
6. Do high pre-intervention levels of parental self-efficacy moderate the impact of the QAS?

**Project Timeline:** 2008 - 2010

**Project Funding Source and Amount:** \$40,000 - Centre for Excellence in Children's Mental Health at the Children's Hospital of Eastern Ontario

## The Nurse-Family Partnership Feasibility & Acceptability Study

**Investigators:** Dr. Susan Jack<sup>1</sup>, Dr. Harriet MacMillan<sup>1</sup>, Debbie Sheehan<sup>1</sup>, Dr. Michael Boyle<sup>1</sup>, Dianne Busser, Dr. Jean Clinton<sup>1</sup>, Dr. Christine Kurtz-Landy<sup>2</sup>, Dr. Christopher Mackie, Dr. Alison Niccols<sup>1</sup>, Ruth Schofield<sup>1</sup> and Dr. Olive Wahoush<sup>1</sup> (McMaster University<sup>1</sup>, York University<sup>2</sup>)

**Health Unit Contact:** Debbie Sheehan

**Background:** The Nurse-Family Partnership (NFP) is an effective, evidence-based approach to improving the health and life-course of low-income, first-time mothers and their children through the long-established service strategy of home visiting.

**Research Questions:** This proposal will test the feasibility and acceptability of implementing the NFP program with public health nurses (PHNs) in Hamilton and local first-time mothers. In addition, we will test procedures for recruitment, strategies for retention of the sample, the feasibility and methods for collecting data.

**Methods:** Focus groups and individual interviews have been conducted with mothers (n=18), family members including fathers (n=12), community partners (n=19), and public health nurses/managers (n=18). Additional interviews to be conducted.

**Results to date:** 108 mothers were recruited into the study. Response to the Hamilton NFP program has been very positive. Key findings indicate the NFP is acceptable as:

- mothers see the PHN as a source of “expert” advice and perceive that their participation is supporting their capacities to become better mothers,
- community partners see the NFP as unique and meeting the needs of the population
- family members/fathers feel welcome to participate and support the home visits
- the PHNs value delivering a standardized, evidence-based intervention.

**Project Timeline:** 2008 - 2011

**Project Funding Source and Amount:** \$284,149 in total from multiple funders: Children’s Aid Society of Hamilton, Catholic Children’s Aid Society of Hamilton, Community Child Abuse Council, Hamilton Community Foundation, City of Hamilton PHRED, McMaster Child Health Research Institute, Ministry of Children & Youth Services, Nursing Secretariat - Ontario Ministry of Health and Long-Term Care and the Provincial Centre of Excellence for Child and Youth Mental Health at CHEO

### Conference Presentations:

Sheehan D. (2009, June). The Evidence for Intensive Nurse Home Visitation: The Nurse-Family Partnership Program. Canadian Public Health Association Annual Conference, Winnipeg, Man.

Sheehan D, Jack S. (2009, July). Canadian Pilot of the Nurse-Family Partnership Program. National Collaborating Centers for Public Health Summer Institute. Mont Ste. Anne, Quebec.

## Evaluation of PHN Secondment Role with Hamilton Family Health Team

**Investigators:** Loretta M. Hillier<sup>1</sup>, Tracy Hussey<sup>2</sup>, Dr. Carrie McAiney<sup>2</sup>, Jaclyn Busser and Dr. Jean Clinton<sup>3</sup> (<sup>1</sup>Health Care Research & Evaluation, <sup>2</sup>Hamilton Family Health Team, <sup>3</sup>Child Psychiatry, Lead for the 18-month local initiative)

**Health Unit Contact Person:** Glenda McArthur

**Background:** The Hamilton Family Health Team (HFHT), as part of its Children's Health Project, has developed a plan for assisting practices to learn how to conduct the expanded 18-month well baby visit (WBV) and to assist them to integrate this expanded WBV into their regular practice. In an effort to provide a coordinated approach to training physicians, nurses, and nurse practitioners to conduct the expanded WBV and to foster continuous relationship building and collaboration between the HFHT and Hamilton Public Health Services, this project involves the secondment of a public health nurse (PHN) to act as a mentor/ coach and to develop educational modules and materials to support team training on the expanded visit.

### Research Questions:

1. Describe practice related to the 18 month WBV prior to the start of this initiative
2. Describe the Family Health Team demonstration sites, population served, activities and services provided by PHN
3. Determine whether anticipated short-term outcomes/objectives were achieved
4. Describe the process of developing and implementing this initiative

**Methods:** Mixed method approach (qualitative and quantitative) to assess process and outcomes

- Initiative, referral, service and education tracking (prospective data collection)
- Site Checklist (Environmental Scan) to assess current processes in place for 18 month WBV
- Retrospective Chart Review to describe changes in practice as a result of this initiative such as referral and care practices (chart audit tool developed)
- Parent Satisfaction Survey
- Health Professional Survey
- Interviews with Key Stakeholders (FHT team members and PHN)

**Project Timeline:** 2009 - 2010

**Project Funding Source and Amount:** \$20,967 (PHRED)

## Breastfeeding Peer Support Group – 10-week Pilot

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**Investigators:** Eunice Chong, Lesley Jefferies and Sue Keller-Olaman

**Health Unit Contact Person:** Eunice Chong

**Background:** The purpose of this project was to implement and pilot a 10-week breastfeeding support group for minority ethnic women in Hamilton. This project was intended to provide information on the feasibility of establishing a community-based peer-led breastfeeding support group for minority ethnic women.

### Research Questions:

1. What are the perceived benefits of those participating in the breastfeeding support group pilot?
2. Does group participation influence breastfeeding indicators? (e.g., opinions about breastfeeding knowledge, skills and attitudes, exclusivity, duration)
3. Can a peer support group be implemented successfully and is it transferable?

**Methods:** The support group was conducted at the Wesley Ontario Early Years Centre, since there are a high proportion of visible minority parents who reside within walking distance of this centre and often visit there. The pilot was facilitated by a public health nurse/lactation consultant (PHN/LC). Mothers participating in the support group were required to fill out surveys regarding their opinions of their experience of the support group on week 1, week 5, and week 10. In addition, the PHN/LC also shared her experience in implementing and facilitating the support group over the 10-week period.

**Results:** In general, mothers enjoyed attending the support group and found it helpful for networking with other mothers, discussing breastfeeding and other baby-related issues with each other, and for obtaining answers to any questions from the PHN/LC. Since mothers reported an overall good level of satisfaction with their breastfeeding experience prior to joining the support group, there was no dramatic improvement in breastfeeding experience from the support group. It is clear that mothers preferred a PHN/LC-led support group over a peer-led support group, as they indicated the importance of having their questions answered by a health care professional. Observations from the PHN/LC also confirmed that it was very difficult to generate discussions with this group over the 10-week period. In addition, the PHN/LC was hoping that more mothers of various ethnic backgrounds would participate in the pilot.

**Conclusions:** The key recommendation is that a peer-led breastfeeding group for breastfeeding mothers of ethnic minorities is not recommended in Hamilton at this time.

**Project Timeline:** 2009

**Project Funding Source and Amount:** Internal funding

## Health Status of Expectant Women in the City Of Hamilton: A Situational Assessment

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**Investigators:** Luanne Jamieson and Angie Bennett

**Health Unit Contact Person:** Luanne Jamieson

**Background:** Past empirical literature has provided evidence of adverse effects on maternal-infant health associated with expectant women's cigarette smoking, alcohol consumption, folic acid deficiency, lack of physical activity and proper nutrition. The current assessment provides an opportunity to define public health needs in addition to informing program development. The goal of this situational assessment is to determine the current health status of expectant women in the City of Hamilton.

### **Research Questions:**

1. What is the current knowledge of expectant women 16 years of age and older in Hamilton regarding the effects of alcohol consumption, cigarette smoking, folic acid intake, nutrition, and physical activity on maternal-infant health?
2. What are the current behaviours of expectant women 16 years of age and older in Hamilton regarding alcohol consumption, cigarette smoking, folic acid intake, nutrition, and physical activity?

**Methods:** Pregnant women presenting at local hospital maternal registration clinics in Hamilton will be sampled to determine current knowledge and behaviours in this population.

**Results:** Results from this assessment will verify priority issues that can be addressed through health promotion activities provided by Hamilton Public Health Services.

**Project Timeline:** 2009 - Ongoing

**Project Funding Source and Amount:** Internal funding

## Child and Adolescent Services: Review of Service Delivery

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**Investigators:** Luanne Jamieson, Gordon Greenway and Angie Bennett

**Health Unit Contact Person:** Luanne Jamieson

**Background:** Child and Adolescent (C&A) Services provides mental health assistance to high risk children (ages 2-18) and their families who reside within the City of Hamilton. As an outpatient children's mental health centre, C&A is funded entirely by the Ministry of Children and Youth Services. Currently, C&A is part of Hamilton Public Health Services (Family Health Division) and remains accountable to the Ministry of Children and Youth Services, in addition to the City of Hamilton's governance structure. Due to a number of years of financial cutbacks, this program evaluation is being completed to address reduced resources and capacity related to service delivery.

**Research Questions:**

1. What are the core services for C&A Services to retain?
2. What are the recommended changes to current C&A Services?
3. What are the services offered by similar organizations in other communities?

**Methods:** A mixed-methods approach will be used to analyze data from key informant interviews with, staff and community agencies, client surveys, in addition to C&A administrative data.

**Project Timeline:** 2009 - Ongoing

**Project Funding Source and Amount:** Internal funding

## Needs Assessment of HIV/STI Prevention Strategies for Men Who Have Sex with Men in Hamilton

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**Investigators:** Eunice Chong, Linda Blake-Evans, Nicole Ritz and Nancy LeMay

**Health Unit Contact Person:** Eunice Chong

**Background:** Men who have sex with men (MSM) continue to be the group most affected by HIV infections. Moreover, STI rates among MSM are on the rise. This increase is of particular concern since there is evidence that STIs among MSM can increase the likelihood of HIV transmission. Minimal data exists for the Hamilton region that relates to the MSM community. It is not known what options for HIV/STI prevention interventions are best supported by the Hamilton MSM community.

### Research Questions:

1. What are the evidence-based HIV/STI prevention strategies for MSM?
2. What are the sexual behaviour habits among MSM in Hamilton?
3. Where do MSM in Hamilton get information about sexual health?
4. What types of sexual education interventions do MSM prefer (e.g. topics, methods)?
5. What are the current HIV/STI prevention strategies adopted by the MSM community and organizations in Hamilton?
6. How to increase HIV testing rates among MSM in Hamilton?

**Methods:** Several approaches were used to gather data: Literature review to identify evidence-based HIV/STI prevention interventions for MSM; Men's Sexual Health Survey was developed and administered to MSM to gather info on sexual behaviour and HIV/STI prevention service needs, and key informant interviews on needs and barriers of HIV/STI prevention interventions in Hamilton and surrounding area.

**Results:** Strong evidence was found to support behavioural HIV prevention interventions for MSM in reducing risky sexual behaviour. Results from the Men's Sexual Health Survey showed that many respondents continue to practice unsafe sex. "Unaware of services" was cited as a reason for not attending HIV/STI prevention services, and this was confirmed by key informants as one of the barriers of MSM to access services. Lastly, key informants and best practices emphasized the importance of HIV/STI prevention education for youth and young MSM.

**Conclusions:** The findings from this needs assessment will be used to guide new or existing HIV/STI prevention programs to increase awareness of safe sex and reduce HIV/STI transmission among MSM in Hamilton.

**Project Timeline:** 2009 - 2010

**Project Funding Source and Amount:** Internal funding

## Sexual Health Clinic: Usefulness of Sexual Health Education Materials

**Investigators:** Eunice Chong and Fiona Newton-Brown

**Health Unit Contact Person:** Eunice Chong

**Background:** Health education materials, such as pamphlets and fact sheets, are available at the sexual health clinics for clients to read. Concerns have been raised regarding the usefulness of these education materials. Since the content of the materials contains sensitive information, it is questionable as to whether clinic clients will take these pamphlets and fact sheets and read them outside of the clinic. In addition, we would like to find out if clients prefer other methods to receive this information, such as websites or educational videos playing in the clinics.

### Research Questions:

1. Do clinic clients find the sexual health education materials useful?
2. What are the barriers for clients in using the educational materials?
3. What methods do clients prefer to receive sexual health information?

**Methods:** A survey was developed and administered to revisiting clients by the receptionists at the sexual health clinics in four locations.

**Results:** Results showed a positive response on the educational materials offered at the sexual health clinics, with clinic clients stating that the materials are easy to understand, beneficial in terms of the topics discussed, effective in increasing sexual health knowledge, and useful in promoting sexual health behaviour change. *“Did not see the pamphlets and fact sheets in the clinics”* is cited as the biggest barrier to not reading the materials before. The Sexual Health Program website is also another source that clients stated as a preferred method to obtain sexual health information.

**Conclusions:** Results from this project demonstrated that educational materials are useful and worthy to keep. To increase effectiveness, education materials should be placed in a more visible location in the clinics, and be distributed to the clients by clinic professionals. Providing information on the sexual health clinic website and promoting the website to the clients, particularly to the teenage population, is also another method to increase awareness of sexual health information.

**Project Timeline:** 2008 - 2009

**Project Funding Source and Amount:** Internal funding

## Hamilton Child Blood Lead Prevalence Study

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**Investigators:** Dr. Elizabeth Richardson, Wendy Pigott, Carole Craig, Nancy Greaves, Matt Lawson and Dr. Lesbia Smith

**Health Unit Contact Person:** Matthew Lawson

**Background:** This prevalence study is intended to fill a long-standing gap of quantitative information on children's exposure to lead from environmental sources in the City of Hamilton and will help to provide a basis for support of either existing or newly proposed guidelines and public health programming by using data from the most susceptible group in the population, children 6 years of age and under.

**Research Questions:** The Hamilton Board of Health directed staff to "determine if Hamilton has a lead problem". To help answer this question, two research objectives were identified: 1) provide an estimate of the prevalence of blood lead levels  $\geq 0.48 \mu\text{mol/L}$  as well as clinically actionable blood lead levels ( $> 0.19 \mu\text{mol/L}$ ) among children 6 years of age or under residing within a targeted geographic area in the City of Hamilton judged to be at increased theoretical risk of environmental lead exposure; and 2) explore the influence of risk factors and environmental lead levels on children's blood lead levels within the sample.

**Methods:** The study consisted of the following components:

- a survey of children's blood lead levels (Fall, 2008);
- interviews with parents/guardians of children tested for blood lead levels to determine family and household characteristics (Fall, 2008);
- environmental testing for lead levels in tap water and dust from a sub-sample of the households of children who had their blood lead levels tested (Fall, 2008);
- lead levels in soil around the dwellings where a sub-sample of the children lived (Summer, 2009);
- air lead sampling data for the study area (provided by the Ministry of Environment – 2008 data); and
- data for water samples taken from fire hydrants (as part of surveillance for regulatory compliance with water standards) and to respond to requests from the public (provided by City of Hamilton Public Works – 2008 data).

**Results:** Data from the study is still currently being analyzed, and is expected to be made available in Spring, 2010.

**Project Timeline:** 2008 - 2010

**Project Funding Source and Amount:** \$105,000 (PHRED)

## Air Quality Program

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**Investigators:** Marie McKeary<sup>1</sup>, Carita Ng<sup>1</sup> and Bruce Newbold<sup>1</sup> (<sup>1</sup>McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Rob Hall

**Background:** Hamilton Public Health Services (PHS) current Strategic Business Plan designates Environmental Health Services Division as the 'champion' for Air Quality improvement in Hamilton. McMaster Institute for Environment and Health (MIEH) will offer appropriate and needed research support and collaborate with the Project Manager and Division Director in the achievement of the goal.

**Research Questions:** What are the main sources of air pollution? What are the health effects of air pollutants? What is the 'state of the art' of air pollution modeling?

### Methods:

- Review of Strategic Business Plan "A" and development of template for Literature and Policy review activities to be conducted by MIEH in support of the Air Quality team based on interviews with Air Quality Management and team members.
- Advise Air Quality Project Manager on pertinent Webinar, conferences, media articles, research partnership opportunities regarding the Air Quality initiatives in local and surrounding areas.
- Review of Toronto Public Health report on the launch of the Air Quality Health Index (AQHI). MIEH to deliver summary of findings and recommendations report in support of possible AQHI launch in Hamilton by Hamilton PHS.

**Results:** Hamilton PHS staff were presented with two review documents:

1. Sources and Health Effects of Air Pollution. An analysis of TSP, PAH, VOCs, NO<sub>x</sub>, Sox, CO and ground level ozone
2. Modeling Air Pollution Dispersion & Concentration and the Use of Air Pollution Models in Epidemiological Studies

Hamilton PHS, in collaboration, with MIEH continue to work toward the accomplishment of this important and strategic goal – Air Quality Improvement.

**Project Timeline:** 2009 - Ongoing

**Project Funding Source and Amount:** PHRED/HPHS

## **Predictive Modeling of Recreational Bathing Water in Hamilton Harbour**

**Investigators:** Sally Radisic, Eric Mathews and McMaster Institute for Environment and Health (MIEH)

**PHS Contact/Lead:** Eric Mathews

**Background:** The predictive modeling project will collect data to identify potential environmental variables that might affect E.Coli levels in the water at Hamilton beaches.

### **Research Questions:**

1. Are there environmental variable(s) that are directly related to high levels of E.Coli in Hamilton recreational waters?
2. Are there environmental variable(s) that can be used in the field as an indicator of high E.Coli levels?
3. Will the implementation of a predictive model improve efficiency with respect to notification of key stakeholders (i.e. beach users/visitors)?

**Methods:** Public Health Inspector trainees will record the following environmental variables Monday to Thursday from Victoria Day to Labour Day:

- Air temperature
- 48hr rainfall
- Wave height
- Wind speed and direction
- Lake level
- Water temperature
- Turbidity

**Results:** The findings of the predictive modeling project will set the framework for future projects that can be initiated by staff to improve the Hamilton Beach Management Program. The project will assist in surveillance and inspection of Hamilton beaches, management and response of adverse events at Hamilton beaches and reporting if Hamilton bathing water conditions are safe or not safe for users.

**Project Timeline:** 2009 - 2010

**Project Funding Source and Amount:** \$17,320 (PHRED)

## Research Support Regarding Evidence for the Creation of a “Cooling Tower and Evaporative Condenser Registry By-law” to be Presented to Board of Health

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**Investigators:** Marie McKeary<sup>1</sup> and Bruce Newbold<sup>1</sup> (1McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Eric Mathews

**Background:** Two clusters of community acquired Legionella infections between 2006 and 2008 prompted Hamilton Public Health Services (PHS) to recommend enacting a Cooling Tower Registry by-law in order to facilitate more prompt and accurate future investigations by Hamilton PHS. This project aimed to gather international/national evidence regarding development, legislation and enactment/enforcement of Cooling Tower Registries (CTR).

**Methods:** McMaster Institute for Environment and Health (MIEH) conducted an international literature review and prepared a summary report which outlined the development of registries and the necessary documentation. MIEH also acted as consultants advising on the preparation of the Board of Health report.

**Results:** The Hamilton PHS Program report and MIEH literature review were presented to Board of Health and approval was granted for the preparation of a draft municipal by-law.

**Conclusions:** The Board of Health approved Public Health Services to draft a municipal by-law for cooling towers and evaporative condensers, for further review and consideration by the Board of Health.

**Project Timeline:** 2009

**Project Funding Source and Amount:** PHRED/HPHS

## Preparation of Draft “Cooling Tower and Evaporative Condenser Registry By-law – Legionella”

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**Investigators:** Marie McKeary<sup>1</sup> and Bruce Newbold<sup>1</sup> (1McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Eric Mathews

**Background:** McMaster Institute for Environment and Health (MIEH) offered consultation and research support regarding development and preparation of a draft by-law report to be presented to Board of Health in April 2010. Based on the results of the international literature review will collaborate with HPHS both in the development of a draft by-law and advise on the consultation process including evaluation of stakeholder feedback.

**Methods:** MIEH appointed member of Project Team (included Surveillance, Environmental Health Services and Legal Services); Assisted in development of Project Workplan; Developed Tool for consultation to industry stakeholders, including draft letter to stakeholders, plan of execution, contact to stakeholders; Member of Draft by-law writing team; Reviewed Legal Services response.

- MIEH currently performing research analysis of stakeholder ‘feedback’ and preparation of summary report.
- MIEH currently member of development team (including Environmental Health Services, Surveillance, and Legal Services).
- MIEH currently advising on creation of Annual Registration Form
- MIEH currently conducting Literature Review regarding exclusionary clauses to be included in final draft of by-law.
- MIEH currently involved in preparation of Board of Health report to be presented to members in April 2010.

**Results:** Draft by-law developed. Industry Stakeholder Consultation completed. Stakeholder data analysis ongoing.

**Conclusions:** Preliminary results reveal industry support for the by-law and necessary documentation and development of registry template is currently in development.

**Project Timeline:** 2009 - 2010

**Project Funding Source and Amount:** PHRED/HPHS

## City of Hamilton Vector Borne Disease 2009 Annual Report and Evaluation of West Nile Virus Program Activities in preparation for Annual Ministry of Health and Long Term Care Report

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**Investigators:** Marie McKeary<sup>1</sup> and Bruce Newbold<sup>1</sup> (1McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Susan Harding-Cruz

**Background:** Since 2005 McMaster Institute for Environment and Health (MIEH) has collaborated with the West Nile Virus (WNV) Program in the planning and evaluation of the education and outreach component of the program. Since 2008, the WNV/VBD Program is required to submit an annual report to the Ministry of Health and Long-Term Care (MOHLTC) regarding WNV/Lyme disease surveillance/control and public education/awareness activities, as well as an evaluation of their efficacy. MIEH acts as advisor, as well as, compiling, evaluating and composing a report on the public education/awareness component of the program. In 2009-2010 MIEH wrote this section of the annual report subsequently submitted January 2010 to the MOHLTC.

**Methods:** MIEH conducted a review of the literature regarding climate change and WNV, compiled and analyzed the WNV website data, and compiled and analyzed the public education and outreach events/activities.

**Results:** WNV continues to be of concern to the general public, especially in terms of personal protection and prevention. Current education/outreach activities continue to meet the needs of both the Program and the general public, although the Program experienced a substantial MOHLTC budget reduction in 2009. The general public is also interested in the surveillance activities of the WNV program.

**Conclusions:** The Education and Evaluation section of Annual VBD report has been written and submitted, to the Medical Officer of Health and ultimately to the MOHLTC.

**Project Timeline:** 2009 - 2010

**Project Funding Source and Amount:** PHRED/HPHS

## West Nile Virus Messaging within Diverse Communities

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**Investigators:** Marie McKeary<sup>1</sup>, Bruce Newbold<sup>1</sup> and Susan Harding-Cruz (<sup>1</sup>McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Susan Harding-Cruz

**Background:** In 2007, the West Nile Virus (WNV) Program chose to make accessibility of WNV information, particularly for diverse groups, one of their goals. To accomplish this goal, WNV program staff, in collaboration with McMaster Institute for Environment and Health (MIEH), conducted presentations and follow-up questionnaires with those in attendance. The project successfully contacted a number of diverse groups representing over 20 different language groups. It was a precedent-setting project that examined the efficacy of WNV messaging within diverse communities. In 2009, the WNV Program Manager and MIEH staff wrote an article outlining the methodology and results of the project in the hope of transferring knowledge to other public health programs and units.

**Methods:** Knowledge Transfer, an article was written, submitted and published in an electronic newsletter.

**Conclusions:** The article was submitted and subsequently, published in the public health electronic journal entitled, *“Equal Access...is Everybody’s Business”* (June, 2009). The journal is shared with both internal stakeholders within the HPHS corporation and external stakeholders within the Hamilton community. The article was also posted on the MIEH website at McMaster University and shared with the academic community.

**Project Timeline:** 2009

**Project Funding Source and Amount:** PHRED/HPHS

**Publication:**

Harding-Cruz, S., McKeary, M. & Newbold, B. (2009). West Nile Virus messaging within Diverse Communities. *Equal Access...is Everybody’s Business*, Q2. *electronic newsletter*.

## Beach Water Quality Modeling and Surveillance

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**Investigators:** Bruce Newbold (McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Bob Hart

**Background:** Closure of public beaches in Hamilton (both Hamilton Harbour and Lake Ontario) due to high E-coli counts are common over the summer months. The project aims to better understand the conditions under which local swimming beaches are closed during the summer due to high E-coli counts.

**Research Questions:** Can modeling provide an alternate means to predict beach closure due to high E-coli counts based on environmental conditions?

**Methods:** Hamilton Public Health Services (PHS) staff collected water samples, along with other environmental information, at local beaches throughout the summer of 2009. McMaster Institute for Environment and Health (MIEH) is responsible for data analysis and model construction.

**Results:** Preliminary results were presented to Hamilton PHS based on 2009 data. Results show:

- For all beaches, log (turbidity), day, wind degree and water temp are statistically significant.
- Day (time of summer) is not significant at the lake-side beaches, but it is for Pier 4 and Bayfront beaches. This is likely due to the 'flushing' of E-coli from the lake-side beaches with greater circulation or wave activity as compared to the Harbour beaches.
- Wave height and log (turbidity) are more important for lake beaches.
- Harbour beaches are much more likely to have high E-coli counts.

**Conclusions:** Results are robust with expectations, with further data collection and verification of results needed. Future work should look at model validation and replication.

**Project Timeline:** 2009 - 2011

**Project Funding Source and Amount:** PHRED/HPHS

## Evaluation of 'Food Safety Zone' Web-Based Food Disclosure System

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**Investigators:** Marie McKeary<sup>1</sup> and Bruce Newbold<sup>1</sup> (1McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Bob Hart

**Background:** Hamilton Public Health Services (PHS) launched a web based food disclosure site in May 2009 to inform the public regarding the results of the Food Compliance Program for local restaurants. McMaster Institute for Environment and Health (MIEH) was responsible for tracking public activity on the new website, as well as tracking the media launch of the site to evaluate the efficacy of the medium for public interest and education. Results will ultimately allow the Program to focus on policy development/enhancement and program evaluation based on scientific evidence.

**Methods:** Data captured from the new 'Food Safety Zone' website was analyzed and compared to similar information from other corporate and food safety websites.

**Results:** N/A

**Conclusions:** N/A

**Project Timeline:** 2009 - Ongoing

**Project Funding Source and Amount:** PHRED/HPHS

## Evaluation and Revision of Food Handling Mandatory Certification Program

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**Investigators:** Marie McKeary<sup>1</sup> and Bruce Newbold<sup>1</sup> (1McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Bob Hart

**Background:** Hamilton Public Health Services (PHS) instituted a Mandatory Food Handling Certification Program via a by-law in 2007. The Program Manager designated two Public Health Inspectors (PHI's) to deliver Food Safety Courses/presentations, as well as develop website material/curriculum in preparation for writing the Food Handler Certification Exam. McMaster Institute for Environment and Health (MIEH), in collaboration, with Hamilton PHS revised the current Food Handler Certification Exam and developed evaluation tools to determine the efficacy and usefulness of the Food Handler preparation materials, (both the course and the website materials/curriculum).

**Methods:** Revised Food Handler exam in collaboration with Program Manager and designated PHI. MIEH developed evaluation tools. MIEH is currently performing coding and data analysis of the evaluation tool data.

**Results:** All designated PHI's have been trained in use the evaluation tool. The analysis of data is ongoing. The new and revised Food Handler Certification exam is currently in use.

**Conclusions:** N/A

**Project Timeline:** 2009 - Ongoing

**Project Funding Source and Amount:** PHRED/HPHS

## Evaluation Tool and Thematic Analysis of Data for Pandemic Plan Response (Internal): Pandemic Plan & H1N1

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**Investigators:** Marie McKeary<sup>1</sup> and Bruce Newbold<sup>1</sup> (<sup>1</sup>McMaster Institute for Environment and Health)

**Health Unit Contact Person:** Connie Verhaeghe

**Background:** *Pandemic Response:* Assisted with review and debrief process regarding internal structural response to H1N1 wave 1. The development of an Evaluation Debrief Tool. Thematic analysis of collected data compiled from review and debrief exercise for pandemic response. Consultation with Emergency Response Planner regarding presentation of data results.

*H1N1:* During H1N1 response by Hamilton Public Health Services, McMaster Institute for Environment and Health (MIEH) was able to offer their research skills in terms of current scientific findings regarding policy and pandemic studies in order to assist Hamilton PHS to keep their response program up to date with current research findings. Research support regarding changes in vaccine policy, hand washing techniques, hand washing alternatives, international/national pandemic responses, case analysis, and review of literature regarding recommended vaccine dosages.

**Methods:** *Pandemic Response:* Developed tool and conducted thematic analysis regarding internal structural response of wave 1 of the H1N1 allowing for revisions to the pandemic response structure and policy development/enhancement.

*H1N1:* Media searches, literature review, literature and research analysis, knowledge transfer.

**Results:** *Pandemic Response Structure:* Results utilized to review and reformulate internal response structure.

*H1N1:* Support to Emergency Management program (including staff assigned to public phone lines, Vaccine Preventable Disease Program, Medical Officer of Health office) on subjects listed in Background section (see above).

**Conclusions:** MIEH assistance supported the shaping of Hamilton PHS policy and information sharing with general public regarding H1N1, as well as, review of internal response structure.

**Project Timeline:** 2009

**Project Funding Source and Amount:** PHRED/HPHS