

CITY OF HAMILTON

***PUBLIC HEALTH SERVICES
Planning and Business Improvement***

TO: Mayor and Members Board of Health	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: May 24, 2011	
SUBJECT/REPORT NO: 2010 Annual Report to the Community and 2010 Research & Evaluation Report (BOH11017) (City Wide)	
SUBMITTED BY: Elizabeth Richardson, MD, MHSc, FRCPC Medical Officer of Health Public Health Services Department	PREPARED BY: Tara Hall (905) 546-2424 Ext. 2643 Teresa Bendo (905) 546-2424 Ext. 7999
SIGNATURE:	

RECOMMENDATION

- (a) That the 2010 Report to the Community attached to Report BOH11017 as Appendix A be endorsed;
- (b) That the 2010 Research & Evaluation Report attached to Report BOH11017 as Appendix B be endorsed.

EXECUTIVE SUMMARY

The *Public Health Services (PHS) 2010 Report to the Community and Research & Evaluation Report* fulfil the Board of Health's (BOH) commitment to disseminate information about the health of the community, and about the programs and activities undertaken by PHS that support health promotion, health protection and disease prevention.

The objectives for the Public Health Services 2010 Report to the Community and Research & Evaluation report are to:

- Keep the community informed and up-to-date on current public health initiatives, including research activities
- Demonstrate the work of public health practitioners and the impact of programs and services on the community
- Provide access to the role of public health professionals and the services they provide to community agencies and residents of Hamilton
- Highlight the Board of Health goals for 2011

Alternatives for Consideration – see page 4

FINANCIAL / STAFFING / LEGAL IMPLICATIONS (for Recommendation(s) only)

Financial: It is estimated that it will cost \$3,000 to design, print and distribute 400 copies of the *Public Health Services 2009 Report to the Community* and 50 copies of the *2009 Research & Evaluation Report*. These costs are provided for within the 2011 Budget.

There is no cost for translating the reports into French since as the MOHLTC French Language Translation service in Welland will be utilized.

Staffing: No implications.

Legal: No implications.

HISTORICAL BACKGROUND (Chronology of events)

PHS produced annual reports for 2006 and 2007 (BOH07014 and BOH 08025). An annual report to the community was not developed for 2008 due to the redeployment of staff resources to respond to both waves of the H1N1 pandemic. A streamlined annual report was produced for 2009 (BOH09016)

PHS developed its first comprehensive research registry last year (BOH09016).

POLICY IMPLICATIONS

No policy implications have been identified.

RELEVANT CONSULTATION

The Planning and Business Improvement division consulted with the other PHS divisions to develop these reports.

ANALYSIS / RATIONALE FOR RECOMMENDATION

(include Performance Measurement/Benchmarking Data, if applicable)

A majority of Ontario public health units/ departments use similar means to communicate with their communities on an annual basis.

Feedback has been received from our community partners that they welcome ongoing information about public health programs and services. The annual report is a method to provide that ongoing communication.

The research report is disseminated amongst our public health colleagues across the province and to our local community partner. It raises the profile of public health research and evaluation within the City of Hamilton, contributing to greater knowledge, partnership development and ultimately health of our community.

The 2010 report uses stories and statistics to describe the PHS Vision themes of innovation, efficiency and effectiveness. To reduce historic production costs, the size of the report was scaled down from 12 to 8 pages last year and will remain at that smaller size this year. Also, the number of print copies was historically 1,000. Last year this was reduced to 500 and this year further reduced to 400.

As piloted last year, to improve efficiency and effectiveness, the report will again be distributed via electronic means to stakeholders who require multiple copies. A limited number of printed copies of the 2010 Research & Evaluation Report will be distributed to common stakeholders at the same time. Increasingly, more and more Public Health units are using electronic means to distribute their annual reports.

The 2010 Report to the Community will be available in English and French as well as in accessible forms upon request. Both the Report to the Community and the Research & Evaluation Report will be posted on the PHS website.

Research and evaluation are core aspects of the services PHS provides 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 signalled a new mandate for Ontario Public Health, where research and evaluation take an even more prominent role in public health practice. The Research & Evaluation report has been developed to highlight the breadth and depth of our work in this area.

ALTERNATIVES FOR CONSIDERATION

(include Financial, Staffing, Legal and Policy Implications and pros and cons for each alternative)

The BOH does not endorse the reports.

Pro: no expenditures or further staff time spent on dissemination of the reports

Con: Lost opportunity to communicate to the community to demonstrate PHS impact in Hamilton and the province.

CORPORATE STRATEGIC PLAN (Linkage to Desired End Results)

Focus Areas: 1. Skilled, Innovative and Respectful Organization, 2. Financial Sustainability, 3. Intergovernmental Relationships, 4. Growing Our Economy, 5. Social Development, 6. Environmental Stewardship, 7. Healthy Community

Intergovernmental Relationships

- ◆ Maintain effective relationships with other public agencies

Social Development

- ◆ Residents in need have access to adequate support services

Healthy Community

- ◆ An engaged Citizenry
- ◆ Adequate access to food, water, shelter and income, safety, work, recreation and support for all (Human Services)

Profiling the innovative, effective and efficient employees throughout Public Health Services, as well as their initiatives, communicates to the residents of Hamilton and our extended stakeholders that we embrace these values and strive to achieve them.

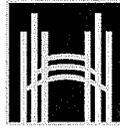
Reducing the number of print pages and hard copies printed, as well as focusing on electronic means of distribution demonstrates efficient use of PHS funds.

By highlighting some of our more innovative, efficient and effective programs and services throughout PHS, we are showing the residents of Hamilton and our extended stakeholders how we strive to ensure a healthy community for all in Hamilton.

APPENDICES / SCHEDULES

Appendix A: A proof of the English copy of the 2009 Report to the Community (French copy to be sent for translation after BOH endorsement).

Appendix B: A proof of the 2009 Research & Evaluation Report.



Hamilton

Public Health Services
ANNUAL REPORT TO THE COMMUNITY



2010



Board of Health/Councillors

Brian McHattie

Jason Farr

Bernie Morelli

Sam Merulla

Chad Collins

Tom Jackson

Scott Duvall

Terry Whitehead

Brad Clark

Maria Pearson

Brenda Johnson

Lloyd Ferguson

Russ Powers

Robert Pasuta

Judi Partridge



:: MESSAGE FROM THE CHAIR OF THE BOARD OF HEALTH

On behalf of the City of Hamilton, it is a tremendous honour to present the remarkable accomplishments and stories of service provision from Hamilton's Public Health Services.

Public Health Services is an essential keystone in the City of Hamilton. Through effective, innovative, and efficient programs, Public Health Services continues to improve the well-being of Hamilton citizens.

Public Health Services is comprised of an outstanding team

:: MESSAGE FROM THE MEDICAL OFFICER OF HEALTH

The past year has seen many accomplishments for Public Health Services. We resumed full service to the community after months of disruption by H1N1 activities while managing to add additional services to better support the health of Hamiltonians.

The Hamilton community now has improved access to services. Public Health Services added rapid HIV testing at four new sites, launched Healthy Smiles Ontario to provide dental services to children 17 and under, and completed a comprehensive review of our Residential Care Facilities by-law. We've implemented an enhanced surveillance system to better recognize disease trends early

of professionals and community partners; and I thank them for their tireless and essential efforts. I want to extend my personal congratulations to our Public Health Services team for all of your hard work in 2010. Residents have every reason to be proud of your achievements.

Hamilton is a community for all people and I am proud that the Public Health Services continues to hold the priorities of our citizens in the utmost regard.

Sincerely,

Robert Bratina
Mayor, City of Hamilton

in their cycle and implemented assessments of small drinking water systems. Public Health Services is working for Hamilton in so many ways.

I would like to thank the Board of Health members for their governance and support throughout 2010. I would also like to thank our dedicated staff, community partners, and volunteers who help us deliver our various programs and services to the community. With our combined efforts, we will help make Hamilton the healthiest community possible.

Sincerely,

Dr. Elizabeth Richardson,
MD, MHSc, FRPC
Medical Officer of Health,
City of Hamilton
Public Health Services

:: THE HAMILTON PRENATAL NUTRITION PROJECT - "MAKING HAMILTON THE BEST PLACE TO RAISE A CHILD"

In 2010, the Hamilton Prenatal Nutrition Project (HPNP) celebrated 15 years of providing support to improve the health and well being of pregnant women, new mothers, and babies facing challenging life circumstances such as being new to Canada or being a teen mother.

The HPNP is sponsored by the Family Health Division, Public Health Services, in partnership with the North Hamilton Community Health Centre and Best Start Network.

There are nine weekly prenatal groups throughout the City. Pregnant women can join a group to learn about having a baby, meet other women and have their questions answered in a pleasant welcoming environment. A Registered Dietitian and a Public Health Nurse provide up-to-date information on health topics. During each two hour session, relevant topics are discussed such as preparation for labour and delivery, healthy

eating for pregnancy, and feeding and caring for baby. Participants prepare and enjoy a nutritious snack with the group. At each session they attend, they receive a small weekly grocery gift card that can be used to buy healthy foods. They also receive a gift card to purchase prenatal vitamins and a Vitamin D supplement for breastfed babies.

The objective of HPNP groups is to help reduce the incidence of babies born with unhealthy birth weights and increase the initiation and duration of breastfeeding. In 2010 HPNP group breastfeeding initiation rates were 84% compared to the most recent 2007 overall Hamilton rate of 79.4%. As one mother says, "I made new friends and learned a lot of information compared to back home. I also had help with breastfeeding."

The Public Health Agency of Canada's Canada Prenatal Nutrition Program contributes funding to HPNP. Other community partners include the Hamilton Best Start Network, Ontario Early Years Centres, local churches, and community centres.

:: HAMILTON LEARNS FROM H1N1

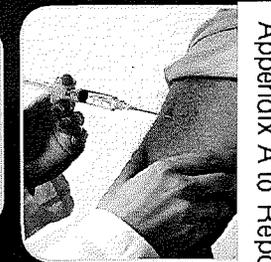
The H1N1 influenza pandemic of 2009 sparked a formal commitment across Hamilton to enhance emergency response across health sector agencies. The Hamilton community learned much from the experience of

H1N1. In reviewing the response, representatives from across the health sector committed to continuing to improve co-ordination, structures, and systems to effectively harness the tremendous knowledge, commitment, and skills of those

continued on page 4



- 317 new prenatal Hamilton Prenatal Nutrition Project participants enrolled in addition to the pre and postnatal participants registered in 2009 resulting in over 500 annual individual participants
- 4891 participant visits to the HPNP groups
- 532 couples attended prenatal classes
- 3166 postpartum telephone contacts and 1843 postpartum home visits to new mothers through the Healthy Babies, Healthy Children Program
- 6597 calls to Health Connections





- 1220 human exposure investigations conducted through Rabies Control
- 72 reports of adverse public drinking water events investigated through the Safe Water Program
- 123 Risk Assessments conducted on regulated Small Drinking Water Systems
- 1836 Health Hazard/ Food Safety complaint investigations conducted
- 100 Institutional outbreaks investigated
- 1917 routine inspections conducted on Personal Service Settings, Daycares and Residential Care Facilities
- 4818 routine food premises inspections
- 2379 food handlers trained and certified through the Food Safety program

continued from page 3

from various health agencies across the city and use that to plan for future emergencies.

From this review, a Health Sector Steering Committee was established in 2010. This committee includes senior staff from Public Health Services, Mohawk College, McMaster University, Family Physicians, St. Joseph's Healthcare, Hamilton Health Sciences, and Community Care Access Centre. This group has already developed and is

:: INVESTIGATION OF UNINSPECTED PERSONAL SERVICES SETTINGS

Hamilton Public Health Services inspects all Personal Services Settings such as tattoo studios, body piercing establishments, hair salons, and aesthetic salons to ensure the services are provided in a manner that protects both the client and the worker from infections. It is essential the facilities have appropriate infection prevention and control practices in place.

In 2010 Hamilton Public Health was notified of a number of tattoo artists and body piercers operating without inspection and without complying with approved infection prevention and control practices. Public Health Services investigated 14 complaints about uninspected tattoo artists and body piercers. Artists were found to be providing services to the public without appropriate

close to signing a Memorandum of Understanding that governs the coordination, interoperability, cooperation, and communication between the agencies to plan, respond to, and recover from health emergencies.

This new agreement will better define the roles of each of these agencies in dealing with a health emergency and help the Hamilton community to improve and enhance future emergency response.

infection prevention and control strategies. Of the 14 individuals investigated, 5 of the artists, with the assistance of public health, are now operating in compliance with infection prevention and control best practices and continuing to offer their services to the public and the remaining providers have stopped operating.

To make the community aware of the dangers of unsafe tattoo practices an educational campaign was developed and launched in December 2010. The campaign was aimed at youth as they are the primary users of uninspected tattoo and piercing services

Anyone can go to www.hamilton.ca/tattoo for information on inspected premises, things to know about before tattooing or piercing, and the possible health risks associated with these activities.

:: HEALTHY SMILES ARE WORTH GRINNING ABOUT

Oral health is important for a child's overall health, appearance, and sense of well-being. Brushing, flossing and visiting a dental professional regularly can help children maintain good oral health by preventing cavities and gum disease.

In October 2010, Public Health Services implemented Healthy Smiles Ontario. Healthy Smiles Ontario is a new, no cost, dental program for children 17 and under who do not have access to any dental coverage and who meet the program's

:: REDUCING BARRIERS TO HELMET USE WITH GOOD SHEPHERD

Wearing a properly-fitted helmet helps protect Hamilton residents from head injuries while riding bicycles. For some members of our community, helmets are not affordable.

In 2010, Hamilton Public Health Services worked with Good Shepherd to provide bicycle helmets to individuals in need involved with their Family Centre. Public Health Services staff in the Injury Prevention Program provided training to Good Shepherd Family Centre staff members to enable them to fit helmets properly and educate families about the importance of all family members wearing a properly fitted helmet.

eligibility requirements. Healthy Smiles Ontario covers regular visits to a licensed dental care provider, such as a dentist or dental hygienist, to establish and maintain good oral health. It covers a full range of dental services including check-ups, cleaning, fillings, x-rays, scaling, and more.

In 2011, Healthy Smiles Ontario is set to expand community screening and preventive treatment services throughout the City of Hamilton in partnership with local Boards of Education, Ontario Early Years Centres, and other community partners.

Public Health Services provided an education session and health issues participating in the Good Shepherd Steps for Health Program. Good Shepherd now has a dedicated staff person to promote bicycle safety.

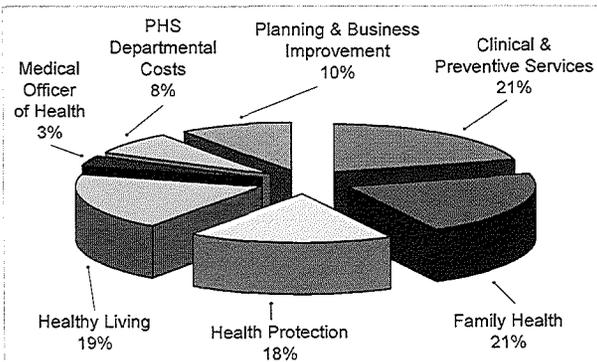
A total of sixty helmets have been distributed and the individuals say they intend to wear them. This collaborative initiative has stimulated more discussions about staying safe while cycling and there are plans to provide more helmets in 2011.



- 4845 clinical sessions provided to children and youth at Child and Adolescent Services
- 1601 individuals served through the Substance Use and Gambling programs at Alcohol, Drug, and Gambling Services
- 1542 Chlamydia cases were reported and investigated in 2010. This is a 24% increase in cases from 2009
- 5015 dental treatments provided for children 0-18 under the Children in Need of Treatment (CINOT) program
- 4393 individuals received services from the Mental Health and Street Outreach Service
- 11.5 percent of all JK, SK and Grade 2 students screened through the School Dental program had urgent dental treatment needs
- 2036 HPV vaccines, 9001 Hep B vaccines and 4896 Meningococcal vaccines given in school and community clinics

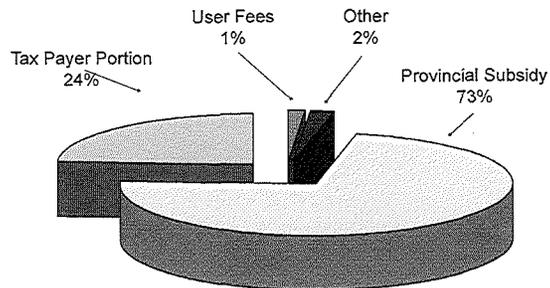


BUDGET



Division	Gross Budget	Percentage
Clinical & Preventive Services	9,495,921	21%
Family Health	9,799,417	21%
Health Protection	8,136,878	18%
Healthy Living	8,837,307	19%
Medical Officer of Health	1,589,495	3%
PHS Departmental Costs	3,505,073	8%
Planning & Business Improvement	4,440,906	10%
Total	45,804,997	100%

REVENUE



challenges aspirations

2011 Aspirations

- Reduce health inequities through Neighbourhood Strategy & reorienting programs to impact Social Determinants of Health, with initial focus on:
 - Maternal-Child Health
 - Environmental issues
 - Harm Reduction
- Grow the Healthy Smiles Program which expands dental programs to children up to age 17
- Implement a Baby Friendly Breastfeeding Community initiative
- Replicate Nurse-Family Partnership program and improve Healthy Babies, Healthy Children program
- Maximize impact on obesity and physical activity through greater focus on population level change and policy approaches
- Ensure critical demand services are provided in a timely manner
- Implement the Air Quality Health Index

2011 Challenges

- Tension in resource allocation between chronic disease prevention and acute disease/health hazard issues
- Incorporating the social determinants of health approach into practice
- Maintain compliance with Ontario Public Health Standards & Protocols
- Continuing evolution of the provincial public health system
- Skill development for staff in core competencies and management development
- Service delivery review & performance measurement
- Upgrade technology to meet needs of clients, professional standards, and mobile workforce
- Staff recruitment, especially for technical positions



PUBLIC
HEALTH
SERVICES

Vision

Public Health Services will be an effective, innovative and efficient organization that is recognized as essential to the health and well-being of people in Hamilton.

Mission

Hamilton Public Health Services works together with the community to assess, promote and protect health, and to prevent disease and injury.

Values

ACCOUNTABILITY
EXCELLENCE
HONESTY
INNOVATION
LEADERSHIP
RESPECT
TEAMWORK

GENERAL CONTACT INFORMATION

Alcohol, Drug and Gambling Services	905-546-3606
Child and Adolescent Services	905-570-8888
Community Mental Health Program	905-528-0683
Dental Clinic	905-546-2424, ext. 3789
Environmental Health Inspection Duty Line	905-546-3570
Health Connections	905-546-3550
Nutrition and Physical Activity Promotion	905-546-3630
Reportable Diseases Line	905-546-2063
Safe Water Program	905-546-2189
STD and Sexual Health Hotline	905-528-5894
Tobacco Hotline	905-540-5566
Tuberculosis (TB) Information and Reporting	905-546-2424, ext. 6636
Vaccine Information Line	905-540-5250
West Nile Virus Information	905-546-3575
Workplace Health	905-546-2424, ext. 3065

For clinic locations and information, and for all other inquiries please visit our website: www.hamilton.ca/publichealth

Or e-mail us at
publichealth@hamilton.ca

City of Hamilton Information Line:
(905) 546-CITY

Mailing Address:
**Office of the Medical Officer of Health
1 Hughson Street North, 4th Floor
Hamilton, Ontario L8R 3L5**



**Ontario Council
on Community
Health Accreditation**

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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.
The report is available in French. Ce rapport est disponible en français.

For more information or for a copy of the report in French please contact:

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Preface

I am pleased to share with you the 2010 Public Health Services Research and Evaluation Project Report. This report highlights the scope of our research and evaluation initiatives 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 find this report interesting and informative. If you would like 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
Manager, Applied Research & Evaluation
Planning & Business Improvement
Public Health Services, City of Hamilton

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.

Catholic Children's Aid Society of Hamilton
Children's Aid Society of Hamilton
Community Child Abuse Council of Hamilton
CONTACT Hamilton
Dimence, the Netherlands
Hamilton Best Start
Hamilton Chamber of Commerce Human Resources Committee
Hamilton Community Foundation
Hamilton Health Sciences
Hamilton Training Advisory Board
Hamilton-Wentworth District School Board
Hamilton-Wentworth Catholic District School Board
Institute for Social Research, York University
Institute of Excellence for Youth Engagement
McMaster University Child Health Research Institute
McMaster University Health and Social Services Utilization Research Unit
McMaster University Institute for Environment and Health
McMaster University School of Nursing
Ministry of Children & Youth Services
National Water Research Institute - Environment Canada
Nursing Secretariat - Ontario Ministry of Health and Long-Term Care
Nursing Research Fund - Ontario Ministry of Health and Long-Term Care
Offord Centre
Ontario Agency for Health Promotion and Protection
Prevention Research Center for Family and Child Health, University of Colorado
Provincial Centre of Excellence for Child and Youth Mental Health at CHEO
Public Health Agency of Canada
Public Health Research Education and Development Program
Simon Fraser University, British Columbia
St. Joseph's HealthCare
Trivaris Ltd.
University of Toronto
University of Waterloo Propel Centre for Population Health Impact

FOUNDATIONS

Project Title: Management Needs Assessment

Investigators: Franci Carr, Debbie Sheehan, Michelle Baird, Marie Verbickas, Luanne Jamieson, Kelty Hillier, and Colleen Van Berkel

Health Unit Contact Person: Franci Carr

Background: A recent Organizational Structure Review noted the need for the initiation of a management development program within Public Health Services (PHS). This needs assessment is the first step toward the development of this program as it assesses the current strengths as well as the training and support needs of existing PHS managers.

Research Question: What are the current competency development needs of middle managers in Hamilton PHS?

Methods: A survey has been developed based on the best available evidence from the literature on management and public health competencies. The survey will be launched in April 2011 and the results will help inform the development of the PHS management training program.

Results: On-going

Conclusions: On-going

Project Timeline: 2010 – 2011

Project Funding Source and Amount: PHS staff time

FOUNDATIONS

Project Title: Evaluation of a Workshop to Increase Knowledge, Skills, and Comfort with the Social Determinants of Health in Public Health Practice at the Health Unit Level

Investigators: Suzanne Brown and Claire Lechner

Health Unit Contact Person: Suzanne Brown

Background: Hamilton PHS presented seven workshops in 2009-10 designed to orient staff involved in chronic disease prevention (CDP) programming on the Social Determinants of Health (SDOH). The purpose of these workshops was to: **1)** present the SDOH as a framework for addressing CDP; **2)** introduce the SDOH position statement; **3)** provide information about the SDOH practice as prescribed in the OPHS standards; and, **4)** explore what staff needed to incorporate the SDOH into their work.

Research Questions: How best to: **1)** inform the design and delivery of future SDOH workshops; **2)** capture the impact of the workshop on participants' knowledge about SDOH and its application to their work; **3)** inform PHS about participants' needs for support to incorporate the SDOH into their work; and, **4)** inform the design and delivery of resources to support participants incorporating SDOH into their work.

Methods: The workshops included information about the SDOH and an interactive board game on the SDOH. They were evaluated using pre- and post-workshop questionnaires, focus groups, and a key informant interview. All those who participated in the evaluation self-selected.

Results: Workshop participants represented all PHS divisions and the demographic profile PHS. There were a few guest participants from other city departments. The data indicated that the workshop was well-designed and facilitated, did not contribute significantly to attendees' knowledge about the SDOH, but did contribute to their confidence in incorporating the SDOH into their work. The SDOH workshop was seen as an important tool for supporting individuals and developing shared experiences. Participants expressed interest in moving beyond awareness to action; they wanted to take the discussion about the SDOH to their divisions, teams, and projects to plan and implement interventions to improve the SDOH of their clients. They expressed a desire for a more integrated PHS approach to the SDOH that: includes a description of the current state of the SDOH practices and outcomes; a vision for the SDOH work processes and outcomes; includes a PHS strategy that helps divisions, teams, and individuals incorporate the SDOH into their daily practice; and provides opportunities to receive regular and frequent updates about the SDOH, using a variety of channels.

Conclusions: The report made the following recommendations: offer the SDOH workshop to all City employees, elected officials, volunteers, and partners; develop an infrastructure to support adoption of SDOH processes and attainment of SDOH goals that includes a Coordinator, tools, processes, resources; and provide opportunities for regular and frequent updates about the SDOH using a variety of channels.

Project Timeline: 2010

Project Funding Source and Amount: PHRED \$74,930.00

FOUNDATIONS

Project Title: Research Question Workshop

Investigators: Angie Bennett, Luanne Jamieson, Kelty Hillier, Riley Crotta, Eunice Chong, Katrice Edgar, Cyndy Johnson, and Colleen Van Berkel

Health Unit Contact Person: Colleen Van Berkel

Background: Program evaluation and research methodology are processes used at PHS. They are utilized in order to gain a comprehensive understanding of the effects and effectiveness of programs, and inform future program planning and decision making. The Applied Research & Evaluation (AR&E) team offers an interactive Research Question Workshop to enhance skills in defining research and evaluation projects based on clearly articulated research questions. A brief overview of the research, ethical and program evaluation process is provided, followed by an interactive activity to help participants work through a practical example specific to their team. Lastly, evidence informed Public Health resources are provided to all workshop participants.

Objectives:

The Research Question workshop is designed to:

- Enhance PHS ability to engage AR&E in well defined research and evaluation projects based on clearly articulated research questions
- Increase workforce capacity and knowledge with regards to:
 - What constitutes research and program evaluation
 - Determining scope and availability of resources to support research and program evaluation projects
 - Public Health tools and resources to support research & program evaluation
 - The connection and application of research and program evaluation to program planning, priority setting and decision making
 - How research and program evaluation are integral to all aspects of the Ontario Public Health Standards
- Increase PHS staff awareness and knowledge of the process used by AR&E when conducting a research or program evaluation project
- Enhance the familiarity of program staff with the AR&E team

Project Timeline: Workshop presentations are planned for 2011. Interested teams should contact Colleen Van Berkel.

Project Funding Source and Amount: PHS staff time

CHRONIC DISEASE & INJURIES

Project Title: Workplace Health Situational Assessment

Investigators: Angie Bennett, Eunice Chong, Kelty Hillier, Lisa Beaudoin, and Stephanie Sciberras

Health Unit Contact Person: Lisa Beaudoin

Background: This project was undertaken to inform the development of supportive environments and implement related policies for workplace health in accordance with the 2008 OPHS Population Health Assessment & Surveillance Protocol requirements.

Research Questions: **1)** What are Hamilton workplaces currently doing in terms of workplace health? **2)** What is the most effective role for public health in creating supportive environments and related policies in workplaces? **3)** What supports would Hamilton workplaces need to create supportive environments in relation to chronic disease risk factors to enhance workplace health in their workplaces?

Methods: Internal and external stakeholder feedback was gathered using: **1)** semi-structured interviews with staff currently or previously involved in the Healthy Workplace Team; and **2)** survey data from participants at a workplace health event. Additional information came from a literature review and from Hamilton-specific population health data.

Results: Most Hamilton workplaces focus on program-level interventions and identify health and safety as their main workplace health priority. Workplaces identified lack of leadership from senior management as the main barrier to implementing workplace health initiatives, followed by poor employee engagement and lack of on-site trained staff. Workplaces need assistance to create supportive cultures, resource support and incentives. The project identified that the role of public health should be in supporting and collaborating with workplaces, providing resources and networking opportunities, and advocating for policy change at both the local and provincial levels. Mental health was also identified as an area that requires more attention in workplaces.

Conclusions: The workplace health promotion team should: **1)** Explore ways to enhance interest from senior management and employees' engagement on workplace health and wellness initiatives; **2)** Continue and emphasize the roles of public health in advocacy and resource support in comprehensive workplace health promotion; **3)** Include workplace mental health and work stress as one of the components in a comprehensive workplace health promotion strategy; and, **4)** Understand the differences in needs from businesses of different sizes and sectors to more effectively promote and support workplace health and wellness initiatives.

Project Timeline: May 2010 – February 2011

Project Funding Source and Amount: PHS staff time

Conference Poster/Presentation/Journal Article: Planning & Business Improvement will be presenting to the Healthy Living Division, Chronic Disease Prevention teams on March 30, 2011 to share the process experience and disseminate the recommendations for use in future programming.

CHRONIC DISEASE & INJURIES

Project Title: School Health Action, Planning & Evaluation System (S.H.A.P.E.S)

Investigators: Dr. Steve Manske

Health Unit Contact Person: Kevin McDonald

Background: The SHAPES survey is an assessment of Hamilton, Ontario 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 PHS. The survey asks students about their mental fitness, physical activity, eating behaviours, and tobacco use. A total of eight school-specific and one city-wide S.H.A.P.E.S. reports were prepared and produced by The Propel Centre. The feedback report is intended to help schools, together with students, parents and other community partners to: **1)** increase awareness of trends in mental fitness/resilience, physical activity and healthy eating at their school; **2)** plan actions related to these issues; and, **3)** co-ordinate these efforts with other groups.

Research Question: What is the current state of mental fitness, physical activity, eating behaviours, and tobacco use among grade 9 through 12 students at participating Hamilton secondary schools?

Methods: All consenting students in grades 9 through 12 at participating secondary schools completed the survey. Within each school, classes were randomly assigned to complete one of two survey modules focused on tobacco use, physical activity, healthy eating, or mental fitness. PHS provided results to each of the participating schools eight weeks post-survey.

Results: All surveys were completed by spring 2010. The Propel Centre compiled the survey data, conducted the analysis, and developed and produced school-specific and city-wide reports. The nine reports were delivered to PHS in the summer of 2010 and from there they were disseminated to other stakeholders. PHS developed and delivered eight school-specific presentations where members of the school administration, students, parents, and stakeholders were invited to learn more about the S.H.A.P.E.S. study and the specific outcomes and recommendations for action in their school.

Conclusions: Stakeholders found the reports informative and useful.

Project Timeline: Fall 2009 – Winter 2010

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

CHRONIC DISEASE & INJURIES

Project Title: Public Health-Primary Care Collaboration for Diabetes Prevention through 'Prescribed' Physical Activity for Low-Income and/or Culturally Diverse Women in Hamilton

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

Health Unit Contact Person: Ann Stanziani

Background: Research project concluded in 2009. Activities in 2010 included delivery of a knowledge translation event (May) and finalization and printing of the final reports.

Research Questions: **1)** How can health care providers from a variety of settings and disciplines, collaborate more effectively with Hamilton PHS to encourage physical activity (through "prescription" or other means) to low income and/or culturally diverse women at risk for developing diabetes? **2)** How can PHS facilitate access to barrier-reduced physical activity for clients/patients of health care providers for the purpose of diabetes prevention?

Methods: Qualitative study employing focus groups and thematic content analysis.

Results: In total, 71 participants from PHS and primary care participated in 10 focus groups. Attendees of the knowledge translation event on May 27, 2010 consisted of 78 service and health care providers.

Conclusions: Five major themes emerged around the following needs: **1)** More education and awareness of the client/community around diabetes prevention; **2)** More client/community-centered goal setting; **3)** More supportive environments; **4)** More (and more effective) communication; and, **5)** Addressing systemic barriers.

Public Health and Primary Care practitioners validated the importance of diabetes prevention and shared a desire to collaborate more efficiently to improve the health of individuals and the community, especially underserved populations such as low income and/or culturally diverse women. Further dialogue is required to collaboratively develop strategies that address mutual mandates.

Project Timeline: Research project completed in 2009. Knowledge Transfer event: May 27, 2010. Completion and printing of final reports: December 19, 2010.

Project Funding Source and Amount: \$7148.04

Conference Poster/Presentation/Journal Article:

- 1.Canadian Public Health Association Centennial Conference: Shaping the Future Together. Toronto, Ontario. Oral presentation by Ann Stanziani, June 14, 2010.
- 2.Promoting Healthy Living among Low Income and/or Diverse Ethno-cultural Women. Oral presentation by Ann Stanziani, May 27, 2010. Hamilton, Ontario.

CHRONIC DISEASE & INJURIES

Project Title: An Exploration of the Experiences Related to Mental Health and Well-Being of Women of Low Socioeconomic Status Who Participated in the Woman Alive! Physical Activity Program

Investigators: Angela Frisina, Ann Stanziani, Joanne Crawford, Faye Parascandalo, Tricia Hack, and Priya Verma

Health Unit Contact Person: Ann Stanziani

Background: Research project concluded in 2009. Activities in 2010 included delivery of a knowledge translation event (May) and finalization and printing of the final reports.

Research Questions: **1)** How do women who have participated in a Woman Alive! physical activity program series describe mental health and well-being, prior to their participation in the Woman Alive! series? **2)** What are the experiences of women who have attended a Woman Alive physical activity program series as it relates to their mental health and well-being?

Methods: Qualitative study employing focus groups and thematic content analysis.

Results: A total of 41 participants from Woman Alive! took part in 6 focus groups and 3 individual interviews. Attendees of the knowledge translation event on May 27, 2010 consisted of 78 service and health care providers.

Conclusions: Five themes were identified: **1)** Learned experience creates assumptions and expectations; **2)** Adjustment to life transitions; **3)** Making self a priority; **4)** Sense of belonging; and, **5)** Self-Efficacy.

Participants engaged in physical activity due to the supportive group environment and experienced numerous physical, emotional and mental benefits including: increased social interactions, mutual support; ability to engage in life more fully; more hope for the future; healthier lifestyles, ability to share helpful information with others; increased self-efficacy, confidence and motivation; empowerment; realization of life goals.

Project Timeline: Research project completed between April 1, 2009 and December 31, 2009. Knowledge Transfer event: May 27, 2010. Completion and printing of final reports: December 19, 2010.

Project Funding Source and Amount: \$10,849

Conference Poster/Presentation/Journal Article:

1. Canadian Public Health Association Centennial Conference: Shaping the Future Together. Toronto, Ontario. Poster presentation June 15 2010 by Angela Frisina.
2. 4th National Community Health Nurses Conference: Knowledge to Action – Engage Enable Inspire. Toronto, Ontario. Poster presentation June 2010, by Angela Frisina.
3. Registered Nurses Association of Ontario (RNAO) Conference. Knowledge, the Power of Nursing: Celebrating Best Practice Guidelines and Clinical Leadership. Toronto, Ontario. Electronic poster presentation October 2010, by Angela Frisina.
4. Promoting Healthy Living Among Low Income and/or Diverse Ethno-cultural Women. Oral presentations by Angela Frisina and Priya Verma, May 27, 2010. Hamilton, Ontario.

CHRONIC DISEASE & INJURIES

Project Title: Youth Net Hamilton Data Analysis

Investigators: McMaster University, Health and Social Services Utilization Research Unit

Health Unit Contact Person: Lorraine Grypstra

Background: Based on the Youth Net/Réseau Ado program started by the Children's Hospital of Eastern Ontario in Ottawa in 1994, Youth Net Hamilton is a mental health promotion and early intervention program for youth ages 13 to 18. The program is funded and administrated by Hamilton PHS and supported by the Youth Net Hamilton Steering Committee.

Youth Net Hamilton promotes youth mental health through focus groups and its Youth Action Team. The program strives to increase communication and awareness around youth and mental health issues, decrease the stigma surrounding mental health, and help youth connect with each other and their community.

The focus groups are led by trained facilitators ages 19 to 30. During the focus groups, youth complete a survey about themselves and then talk about mental health, mental illness, personal sources of stress, and how they deal with stress. Individuals struggling with mental health problems are connected with appropriate supports.

Project Objectives: The main objective of this project is to identify how to best serve and support the mental health needs of youth. Other objectives are to inform program planning and to engage youth and community partners.

Methods: The Health and Social Services Utilization Research Unit at McMaster University used the Youth Net Hamilton focus group survey data to do descriptive and inferential analyses including identifying correlations and trends. Data was analyzed in two separate batches: **1)** previously unanalyzed data from focus groups in April 2005 to June 2010; and **2)** previously analyzed data from April 2000 to March 2005.

Results: The analysis is complete and a report is in progress.

Conclusions: On-going – Results will be used for program planning and reports to community partners.

Project Timeline: March 2010 – December 2010

Project Funding Source and Amount: \$8000 (PHRED)

FAMILY HEALTH

Project Title: Feasibility & Acceptability of the Nurse-Family Partnership Home Visitation Program in Ontario

Investigators: Susan Jack, Debbie Sheehan, Harriet MacMillan, Michael Boyle, Dianne Busser, Jean Clinton, Andrea Gonzales, Christine Kurtz Landy, Chris Mackie, Alison Niccols, Ruth Schofield, and Olive Wahoush

Health Unit Contact Person: Debbie Sheehan

Background: The Nurse-Family Partnership (NFP), developed by Dr. David Olds and colleagues, is a prenatal and infancy home visiting program provided by nurses to young, low-income, and first-time mothers. It has proven effective in improving pregnancy outcomes, as well as maternal and child health and social outcomes. It is the program with the best evidence for preventing child maltreatment, one of the major risk factors for mental health problems in children and youth. Hamilton is the first Canadian pilot site.

Research Questions: 1) Are the NFP program elements acceptable to public health nurses, eligible women and their family members, and community stakeholders? 2) What factors will influence the implementation of the NFP program in an Ontario context?

Methods: The first 108 consenting eligible women were recruited. All the data collection forms used in the US trials were piloted. Interviews were conducted with clients, partners, and community stakeholders. Focus groups were conducted with the NFP nurses, PHNs delivering the Healthy Babies, Healthy Children Program, and Family Health Division Program Managers.

Results: The NFP is perceived to be an important evidence-based public health intervention. Community professionals and PHNs identified that the NFP is filling an important gap in health care services to these high-risk young, low-income pregnant women and mothers in Hamilton. The NFP program elements, including visit frequency and the curriculum components, are acceptable to a broad range of stakeholders including clients, their partners, PHNs and community professionals.

Conclusions: Given the complexity of client health and social needs, it is imperative that this program continue to be delivered by nurses who are viewed as the most credible providers of this level of support and information.

Project Timeline: June 2008 – December 31, 2011

Project Funding Source and Amount: \$396,230; Catholic Children's Aid Society; Children's Aid Society; Community Child Abuse Council of Canada; Hamilton Community Foundation; McMaster Child Health Research Institute; Nursing Secretariat, Ontario MHLTC; Nursing Research Fund, Ontario MHLTC; Provincial Centre of Excellence for Child and Youth Mental Health at CHEO; PHRED Program. The Ministry of Children and Youth Services provides funding for service delivery.

2010 Conference Poster/Presentation/Journal Article

1. The Nurse-Family Partnership Home Visitation Program: Fostering Long-Term Success for Vulnerable First-Time Mothers, Their Babies and Society. Presented at Infant Mental Health Promotion Rounds December 7, 2010 Toronto, Ontario.
2. Burke JM. Grassroots Nursing for Parents. RN Journal. 2010;(July/August):12-19

FAMILY HEALTH

Project Title: Factors Influencing Breastfeeding Initiation and Duration in Hamilton

Investigators: Jennifer Beck, Dana Haas, Lesley Jefferies, Chris Mackie, and Debbie Sheehan (Principal Investigator)

Health Unit Contact Person: Debbie Sheehan

Background: Breastfeeding initiation rates have risen dramatically in Canada from 73% in 1996 to 90.3% in 2006. Exclusive breastfeeding rates at six months, however, remain very low at 14.4%. Unfortunately there is limited provincial breastfeeding data and a lack of real time local surveillance data. This is impeding the ability of PHS to assess local trends and plan appropriate services to support women succeed with breastfeeding.

Research Objectives: **1)** To identify determinants that influence infant feeding choices; **2)** To examine the relationship between maternal prenatal intention to initiate and continue breastfeeding and the actual initiation and duration of breastfeeding; and, **3)** To identify practices associated with the introduction of complementary foods.

Methods: Eligibility criteria for the study includes: women who have custody of their baby, are the primary caregiver, reside in the city of Hamilton, and speak/understand English. The infants must be discharged home with their mother, be singleton, and full-term. A consecutive sample of the first 406 consenting women referred to the Healthy Babies Healthy Children postpartum program was recruited. Telephone surveys will be conducted at 2 weeks, 6 months, and 1 year postpartum.

Results: Only 67% of the women had made their infant feeding decision prior to pregnancy and 10% had decided to formula feed. At hospital discharge, 88% of the respondents were breastfeeding but 23% of them were supplementing with formula. Forty percent of the women breastfeeding at discharge reported that their babies received formula in hospital. At two weeks postpartum, 2.2% of the breastfeeding women had stopped and supplementation rates had increased to 25.4%. Only 56% of the women received help with breastfeeding. Public Health Nurses were the most common source of support (27.8%) followed by Midwives (17.9%) and the Public Health breastfeeding clinic (17.2%). Less than 5% of participants identified Family Physicians and Health Connections as a source of help.

Conclusions: Overall breastfeeding rates are high, but the high rates of formula supplementation which continue post hospital discharge are very concerning. Breastfeeding women do not receive much help with breastfeeding in the first two weeks at home, a crucial period for establishing effective lactation.

Project Timeline: Two week data has been completed and initial analysis done. Six-month surveys are underway. The one year postpartum data collection will be completed by December 2011.

Project Funding Source and Amount: \$27,000 – PHRED

FAMILY HEALTH

Project Title: Perinatal Mood Disorder Resource Package: Impact on Primary Care Providers' Attitudes and Practices

Investigators: Wendy Sword (Principal Investigator), Melissa Simoes, Dianne Busser, Laurie Doma, and Holly Bowler

Health Unit Contact Person: Dianne Busser

Background: A previous Hamilton PHS study (2006) revealed that screening for Postpartum Mood Disorders (PPMD) with the Edinburgh Postnatal Depression Scale (EPDS) was accepted by women and increased their knowledge about PPMD. A subsequent Hamilton PHS study (2007) identified the need to implement strategies to improve awareness of PPMD and care coordination among primary care providers.

Research Objective(s): The current study assesses the impact of a PPMD resource package on primary care providers' attitudes and practices related to PPMD. This study aims to bridge primary care and mental health services and enhance the likelihood that women will receive appropriate assessment and treatment for PPMD.

Methods: The study used a pre/post survey design developed to collect information about the skills, general approach, and attitudes of primary care providers regarding prenatal and postnatal depression. The post-test survey was mailed approximately three months after distribution of the PPMD resource package. All participants were self-selected by completing and returning the surveys. Participants consisted of Family Physicians, Pediatricians, and Obstetricians and Gynecologists currently practicing in the Hamilton area. Following data collection, researchers were approached, through the Perinatal Mental Health Coalition, with a request to replicate the study with Midwives. This study is currently underway.

Results: The pre/post survey data has been collected and data analysis is on-going for the Physician study. The Midwife study is currently underway; the pre-test data has been collected and the PPMD Resource Package has been distributed.

Conclusions: On-going

Project Timeline:

- January 6, 2010 to February 28, 2011 - initial study with Physicians
- January 1, 2011 to September 30, 2011 - secondary study with Midwives.

Project Funding Source and Amount: PHRED (\$15,000) and Hamilton Best Start (\$10,000)

Conference Poster/Presentation/Journal Article:

1. Presentation at the 5th National Community Health Nurses Conference, May 16-18, 2011 Halifax, Nova Scotia.

FAMILY HEALTH

Project Title: Child and Adolescent Services Situational Assessment

Investigators: Gord Greenway, Angie Bennett, and Luanne Jamieson

Health Unit Contact Person: Gord Greenway

Background: As an outpatient children's mental health centre, Child and Adolescent Services (CAS) is funded entirely by the Ministry of Children and Youth Services (MCYS). Currently, CAS is part of the City of Hamilton's PHS (Family Health Division), and remains accountable to the MCYS, as well as the City of Hamilton's governance structure.

Referrals to CAS are handled through CONTACT Hamilton, a MCYS agency designed to be the single point of access for children's services in Hamilton. A multi-disciplinary staff of professionals provides assessment and treatment for adolescents. Due to a number of years of financial cutbacks, this review was conducted to address the reduction in resources and capacity related to service delivery.

Research Questions: 1) What are the core services for CAS to retain? 2) What are the recommended changes to current CAS services? 3) What are the services offered by similar CAS organizations in other communities?

Methods: This project involved a literature review, administrative data analysis, client surveys, and key informant interviews. All participants self-selected.

Results: Overall, clients and external partners were very satisfied with the quality of the work and the dedication of the staff at C&A Services. Staff were also satisfied with their work and the work environment. They cited the support and leadership of their manager as an integral component of their success. Both internal and external stakeholders identified areas where CAS can improve (below).

Conclusions: It was determined that CAS should:

- 1) Clearly define their target population; communicate a detailed description of all programs and services to community partners; and explore ways to shorten wait lists and establish an evidence-based priority setting mechanism.
- 2) Examine if any service duplication exists within the children services system and share information with other children's service providers about unique services provided by other communities.
- 3) Ensure continuation of an effective and positive work environment by developing written policies that support open communication between CAS and other agencies while respecting legislation around privacy and confidentiality; explore opportunities for CAS staff to increase collaboration with other PHS programs and services; address concerns regarding lack of resources; ensure that staff are using their skills in the most effective means possible; and continue to support and prioritize learning and development.

Project Timeline: June 2009 – September 2010

Project Funding Source and Amount: PHS staff time

FAMILY HEALTH

Project Title: Evaluation of the Quick Access Service at Child & Adolescent Services

Investigators: Dina Bednar, Drew Dane, Mark Fernandes, Gord Greenway, Louise Oke, Margarita Rabinovich, and Debbie Sheehan

Health Unit Contact Person: Louise Oke

Background: The Quick Access Service (QAS) single session family intervention commenced in 2007 and consists of a service that is delivered by all clinicians at Child and Adolescent Services (CAS). The decision to evaluate this intervention was made because QAS is relatively new and involves all CAS program staff.

Research Questions: 1) What are client perceptions of QAS? 2) Does QAS result in increased parent and youth self ratings of: hopefulness, coping self-efficacy, understanding of the problem, and awareness of personal and family strengths and resources? 3) Does QAS result in a change in parent ratings of: parental self-efficacy, child's symptom severity, caregiver depression scores, and impact of the problem on child and family functioning one month after the session? 4) Do pre-post session changes in ratings of: hope, coping self-efficacy and readiness to change predict change in parental self-efficacy, child's symptom severity, caregiver depression, impact of the problem on child and family functioning one month after the session? 5) Are immediate (post session) or one month outcome variables related to the quality of the session as rated by parents, youth aged 10 and up, and therapists?

Methods: This study utilized standardized measures including the Brief Child and Family Phone Interview (BCFPI), clinic designed pre-session questionnaires and post session evaluation forms, and a follow-up phone interview that collected both quantitative and qualitative data.

Results: Results showed a high level of satisfaction with QAS. Positive change ratings were found among children, youth and caregivers immediately after the session and for caregivers, one month after the session. Findings also revealed that the key components identified and intended in the design of QAS are being delivered.

Conclusions: Overall, results suggest that the service is well designed and delivered and that clients are benefiting from it. The findings indicate, however, that lengthy waits for service may detract from the gains made after the QAS. Therefore, a wider range of interventions and services should be implemented in order to maintain positive changes while clients are waiting for service.

Project Timeline: October 2008 – January 2011

Project Funding Source and Amount: Provincial Centre for Excellence in Children's Mental Health at CHEO: capacity building planning grant in 2008-2009 for \$10,000 and implementation grant in 2009-2010 for \$30,000.

Conference Poster/Presentation/Journal Article: Selected results presented at the *Catching the Winds of Change Conference* on single session therapy in Toronto on March 3, 2011 by Dina Bednar, Louise Oke, and Geri Van Engen.

INFECTIOUS DISEASES

Project Title: Street Health Clinic Program Review

Investigators: Eunice Chong, Angie Bennett, Riley Crotta, Luanne Jamieson, Elena Goldblatt, Colleen Van Berkel, Julie Emili, Suzanne Newmark, and Linda Blake-Evans

Health Unit Contact Person: Linda Blake-Evans

Background: Hamilton PHS operates a needle exchange program (NEP) and provides free condoms, referrals, and counseling through its mobile Van and Street Health Clinic programs. PHS also provides public and primary care health services to street-involved people at the Street Health Clinic. This review was undertaken to assess the service delivery model of the Street Health Clinic, with the focus on the role of public health staff in the clinic, and to determine the need to establish NEP sites beyond downtown Hamilton.

Research Questions:

- 1) What is the most effective service delivery model for the Street Health Centre in Hamilton?
- 2) What evidence exists (formal and grey literature) for best practices relevant to street/urban health services?
- 3) How does the service delivery model of the Street Health Clinic compare to other street health/urban health services in Canada?
- 4) How is the current Street Health service considered by stakeholders in Hamilton?
- 5) Is there a need to operate Street Health at other shelters?
- 6) Is there a need to establish more fixed NEP sites beyond downtown core?
- 7) What are the experiences from other Ontario NEPs that distribute safe crack use kits (SCUK)?

Methods: The review incorporates information from a variety of sources, including a literature summary, client surveys, chart audit data, feedback from Street Health Clinic staff and management, clinic partners and needle exchange program (NEP) partners, information from similar street health programs in Canada, and a record of the Van stops.

Results: The outcome of the review identified several program components that are working well with the Street Health Service as well as several areas for improvements. There was a general consensus that the outreach-themed, multimodal service delivery, staffed by non-judgmental/respectful nurses, was the best way to serve the street-involved population.

Conclusions: **Short term recommendations:** 1) to develop a well articulated program logic model; 2) to continue evening hours; 3) to continue to provide first aid and wound care; 4) to ensure staff follow current medical directives; and, 5) to increase knowledge of the Van and its services to reach more/varied people. **Long term recommendations:** 6) to explore opportunities for internal and external collaboration, including bringing in other PHS programs; 7) to explore possibility of 24 hour NEP sites in Hamilton; 8) to explore how best to share SCUK within the NEP; and, 9) to continue to support program evaluation.

Project Timeline: February 2010 – November 2010

Project Funding Source and Amount: PHS staff time

ENVIRONMENTAL HEALTH

Project Title: Evaluation of Key Stakeholders' Confidence in the Ability and Acceptability of Hamilton Public Health Services to Communicate Risk Based on the Air Quality Health Index

Investigators: Sally Radisic

Health Unit Contact Person: Matthew Lawson

Background: Environment Canada has developed an Air Quality Health Index (AQHI) to communicate risk to the public about current air quality conditions and advise if and how activity levels and outdoor time should be modified. The AQHI addresses both the general public and those deemed to be 'at risk' for more severe consequences of poor air quality. The 'at risk' group includes very young and very old people, as well as those with existing respiratory conditions (e.g. asthma, emphysema). Data indicates that 46% of the Hamilton population is in the 'at risk' category (versus 40% nationally). PHS is the principal risk communicator for the AQHI system for both the general and the 'at risk' public in Hamilton, but it is not known if this role is acceptable to both the public and 'at risk' populations.

Research Questions:

- 1) How do key stakeholders assess the ability and acceptability of PHS in serving as the primary source of AQHI risk communication for both the general population and 'at risk' people?
- 2) Through what medium do key stakeholders want to be addressed?

Methods: A presentation on AQHI was given to four separate groups of key stakeholders representing the interests of the 'at risk' population. Following the presentation, each attendant was asked to complete a survey assessing the ability and acceptability of PHS to act as the primary source of AQHI risk communication for both the general population and 'at risk' people.

Results: In total, 83% of respondents believed that PHS was the best agency to provide information about the AQHI and 96% believe that PHS should share AQHI messaging with both the general and 'at risk' populations. All respondents believed that the public should be knowledgeable and informed about AQHI and potential health consequences and a total of 49% of respondents want to be informed about the AQHI at all risk levels. In general, the respondents wanted to access AQHI risk information when a threat to human health was present through: radio (72%), website (64%), newspaper (58%), T.V. (58%), and other (11%). Those representing senior citizens, however, preferred to access: newspaper (50%), radio (38%), T.V. (25%), and website (13%).

Conclusions: The results of this evaluation indicate that respondents trust and are confident in the ability of PHS to effectively and accurately report AQHI risks in a timely manner to both general and 'at risk' audiences. PHS is recognized as an expert, reliable, and altruistic source of information.

Project Timeline: January 2010 – April 2010

Project Funding Source and Amount: PHS staff time

ENVIRONMENTAL HEALTH

Project Title: Evaluation of Hamilton's Green Card System

Investigators: Bruce Newbold and Marie McKeary (MIEH: McMaster Institute for Environment and Health)

Health Unit Contact Person: Richard MacDonald

Background: Hamilton PHS launched the Green Card system 9 years ago to help residents quickly determine the safety of food premises.

Research Objective: The city wants to know whether residents use, see and understand the Green Card system.

Methods: MIEH assisted PHS staff with the development and implementation of a paper and web-based survey, which was placed in the field in late February and early March 2011. The survey was administered at Hamilton shopping centres. Respondents were also given the option of completing an on-line version of the survey. MIEH will continue to support the analysis of the results from this survey.

Results: On-going – A scan of the literature and of other Health Units indicated that no other unit has attempted a similar long-term follow up on the use of food safety signage.

Conclusions: On-going

Project Timeline: Survey will be completed by the end of March 2011. Data will be analyzed with support from MIEH over the Spring of 2011.

Project Funding Source and Amount: PHS staff time

ENVIRONMENTAL HEALTH

Project Title: *Cimex lectularius* (Bed Bugs): A Re-emerging Public Health Issue

Investigators: Bruce Newbold and Marie McKeary (MIEH)

Health Unit Contact Person: Matt Lawson

Background: Bed bugs, and especially bed bug infestations, have increasingly become a public health focus, consequently creating increased demands on limited resources. Although there is some debate within the medical literature regarding the impact of the re-emergence of bed bugs, many public health units, both provincially and nationally, are becoming involved with the issue.

Research Objective: The program manager requested the assistance of MIEH in developing a strategic plan to address the issues arising from the re-emergence of bed bugs from both a public concern and allocation of resources viewpoint.

Methods: MIEH developed a multi-faceted research and evaluation proposal delivered to the Program Manager, including sources, impact, research, and development of best practices, education, evaluation, and policy. The data will allow PHS not only to be pro-active in terms of an increasing social/health issue, but will also build on a foundation of scientific research with the goal of informed evidence-based decision-making.

Results: Research & Evaluation Proposal – **complete.**

Research: MIEH is conducting a national and international literature review in terms of surveillance, medical and health consequences, global response, deterrence, prevention and eradication, integrated pest management, medical practitioner knowledge, best practices, impact of chemical treatments, occupational health and safety concerns, and social stigma/marginalization of individuals and communities – **on-going.** MIEH is compiling a Local Resource Data Base for use by PHS Inspectors responding to bed bug complaints/concerns – **on-going.** MIEH is currently conducting a multi-tier review of legislation both inside and outside of Canada with regards to bed bugs – **on-going.**

Evaluation: MIEH has collated and filtered the Health Protection Division Complaints Data Base and is currently conducting both a quantitative and thematic analysis of the raw data – **on-going.**

Education: MIEH, in collaboration with PHS, created a community presentation in 2008 and will continue to update the information and messaging enclosed in the package. MIEH also developed an evaluation tool for use with the educational presentations. Data will be analyzed to assess public knowledge/risk assessment and the efficacy of the presentation – **on-going.** MIEH delivered a presentation “Bed Bugs ‘*Cimex lectularius*’ Through the Social Lens” to the newly formed Hamilton Community Bed Bugs Action Task Force which includes PHS as a member - **complete.**

Conclusions: On-going

Project Timeline: On-going

Project Funding Source and Amount: PHS staff time

ENVIRONMENTAL HEALTH

Project Title: Beach Water Quality Modeling and Surveillance

Investigators: Bruce Newbold, Eric Mathews, Sally Radisic, and Bob Hart (MIEH)

Health Unit Contact Person: Eric Mathews

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

Research Questions: **1)** Can an environmental factor or indicator accurately predict the level of *E. coli* bacteria in the water at recreational swimming areas in Lake Ontario and in the Hamilton Harbour? **2)** Can a predictive model be developed for Lake Ontario and Hamilton Harbour recreational swimming areas?

Methods: Hamilton PHS staff collected water samples along with other environmental information at local beaches throughout the summers of 2009 and 2010. MIEH is responsible for data analysis and model construction. Future years will look at model validation and replication.

Results: Based on sampling in 2009 and 2010, a series of descriptive statistics were developed, including minimum and maximum *E. coli* counts, average *E. coli*, and number (percent) of days when *E. coli* counts exceeded standards for each of the five beaches. On average, Bayfront Beach had the greatest proportion of exceedances (73.7% in 2009 and 80.7% in 2010), while beaches along Lake Ontario had lower *E. coli* counts and fewer cases of exceedance. Preliminary model results have been presented to PHS based on 2009 data that show:

- Log(turbidity), day, wind degree and water temperature are statistically significant for all beaches
- Day (time of summer) is not significant at the lakeside beaches, but it is for Pier 4 and Bayfront beaches. This is likely due to the 'flushing' of *E. coli* from the lakeside beaches with greater circulation or wave activity as compared to 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
- Verification of 2009 results with 2010 data were inconclusive

Conclusions: On-going – Verification of the 2009 model based on 2010 data was inconclusive. PHS will continue to monitor Hamilton Harbour beaches during the summer of 2011.

Project Timeline: On-going

Project Funding Source and Amount: PHS staff time

Conference Poster/Presentation/Journal Article: Eric Mathews presented results at the 2011 Hamilton Harbour Remedial Action Plan workshop, March 9, 2011.

ENVIRONMENTAL HEALTH

Project Title: Cooling Tower and Evaporative Condenser Registry By-law: Legionella Public/Stakeholder Consultation

Investigators: Bruce Newbold and Marie McKeary (MIEH)

Health Unit Contact Person: Eric Mathews

Background: PHS believed it was necessary to develop a Cooling Tower Registry By-law in order to: **1)** improve the scope and accuracy of the PHS cooling tower inventory; **2)** expedite Legionella outbreak investigations; and, **3)** diminish the potential of Legionella illnesses that could be related to exposure to cooling tower emissions. The By-law will require all owners of cooling towers to register their equipment with PHS and to have a risk management plan as well as a log book of repairs and maintenance. PHS requested the assistance of MIEH for the public/stakeholder consultation.

Research Objective: To develop an evidence-based Cooling Tower Registry By-law for adoption by the Hamilton Board of Health with the goal of decreasing the severity of Legionella outbreaks caused by cooling tower emissions.

Methods: A MIEH staff representative was appointed as a member of the Project Team (which included members from Surveillance, Environmental Health and Legal Services) and assisted in the development of a project work plan - **complete**.

MIEH conducted a literature review regarding exclusionary clauses that was incorporated into the proposed By-law – **complete**.

MIEH conducted an analysis of industry survey tool data. Report completed and results included with April 2010 report – **complete**.

Following a Board of Health report that recommended further consultation with industry and business representatives, MIEH prepared evaluation tools, letters of invitation, conducted analyses, and prepared reports on the Chamber of Commerce and Pinchin Environmental sessions – **complete**.

MIEH authored a summary report of the public consultation process for inclusion in the January 2011 Board of Health report – **complete**.

MIEH monitored and reviewed the development of new Legionella 'Standards' within the industry, with the goal of improving best practices. This information was used by PHS in the development of the proposed By-law – **complete**.

MIEH developed the Revised Management Procedure (RMP) survey tool to collect data, analyze results and complete a report of the industry review of the RMP template to accompany the proposed By-law – **complete**.

Results: MIEH/PHS collaborated on the preparation of the Board of Health report presented in February 2011 and the subsequent implementation of the proposed Municipal Cooling Tower and Evaporative Condenser Registry By-law. This was passed by the Board of Health at the February 2011 meeting.

Project Timeline: 2010 – February 2011

Project Funding Source and Amount: PHS staff time

ENVIRONMENTAL HEALTH

Project Title: Assessment of a Rapid Microcystin Measurement Tool - Hamilton Harbour 2010

Investigators: Sue Watson, Bruce Newbold, Eric Mathews, Sally Radisic, Rong Yang, and Karen Ngo

Health Unit Contact Person: Eric Mathews

Background: Hamilton PHS requires a reliable and rapid on-site method for testing cyanobacteria (blue-green algae) so that potentially toxic algal blooms along beaches and other areas of public exposure can be quickly assessed and effectively managed. PHS, MIEH, and Environment Canada partnered to test and validate Abraxis® MC-LR test strips in samples collected from July to November 2010 from key monitoring sites in Hamilton Harbour and Lake Ontario. The Abraxis® MC-LR strips are designed to test algal blooms for toxicity on-site in under an hour and may offer an effective first level response to bloom outbreaks which can be followed up as needed (i.e. where toxins are detected) with microscopic and laboratory tests.

Research Question: Can Abraxis® MC-LR test strips provide a reliable and rapid field-based response to the toxicity of blooms?

Methods: MIEH summer student (Karen Ngo) worked closely with Dr. Sue Watson at the National Water Research Institute (Environment Canada) to test and evaluate the Abraxis® kits relative to conventional lab testing. In addition, MIEH conducted a literature review regarding cyanobacteria and its potential human health effects (**complete**) and has assisted in writing the final report (**on-going**).

Results: Out of 37 test strip results (all conducted in triplicate) only 5 tests were conducted on water samples that had a microcystin concentration above 10 ug/L. It would have been preferable to have an even number of samples with microcystin concentrations above and below 10 ug/L. The test strip results, however, were accurate 5 out of 5 times when the microcystin concentrations were above 10 ug/L and the test strip results were accurate 32 out of 32 times when determining if the microcystin concentrations were below 10 ug/L.

Conclusions: The test strips offer the opportunity for rapid field assessment by Public Health Inspectors to determine the potential total microcystin concentrations in recreational waters when a potential cyanobacterial algae bloom is observed. While the test strips did not provide sufficient resolutions at lower toxin concentrations, resolution was sufficient at higher levels (> 10ug/L) associated with recreational water guidelines (> 20ug/L Health Canada). Implementing a microcystin concentration threshold of 10ug/L which is lower than the Health Canada Recreational Water Guideline of 20 ug/L should permit the use of Abraxis test strips to assess whether or not the toxin concentrations are above or below 10 ug/L and make public health risk assessments, decisions, and interventions accordingly.

Project Timeline: To be completed by March 2011.

Project Funding Source and Amount: PHRED (\$8470.35) and RBC Blue Waters Fund (\$10,000)