

INFORMATION REPORT

TO: Mayor and Members Board of Health	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: June 17, 2013	
SUBJECT/REPORT NO: 2012 Annual Report to the Community and 2012 Research & Evaluation Report (BOH13025) (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
SIGNATURE:	

Council Direction:

Not Applicable

Information:

The Public Health Services (PHS) 2012 Annual 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 2012 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 2013.

Increasingly, Public Health Units are using electronic means to distribute their annual reports. With a greater presence and reliance on on-line and web environments, the hard-copy version of the Annual Report to the Community has undergone drastic reductions in the quantity printed. To demonstrate cost consciousness and improve efficiency and effectiveness, the report will be produced and distributed via electronic means to stakeholders and posted on the City of Hamilton website.

The research report is disseminated amongst our public health colleagues across the province and to our local community partners. 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. This will also be posted on-line.

Research and evaluation are core aspects of the services PHS provides to both our local community and to the greater public health field. 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.

The 2012 Annual Report to the Community will be available in English and French and both reports will be available in accessible formats upon request.

Appendices:

Appendix A – 2012 Report to the Community to Report BOH13025

Also available on-line at:

<http://www.hamilton.ca/HealthandSocialServices/PublicHealth/2012AnnualReportToTheCommunity>

Appendix B – 2012 Research & Evaluation Report to Report BOH13025

Also available on-line at:

<http://www.hamilton.ca/HealthandSocialServices/PublicHealth/2012PHSResearchAndEvaluationProject>

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Members of the Board of Health

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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 of professionals and community partners; and I thank them for their tireless and essential efforts. I want to congratulate Public Health Services for all of their hard work in 2013, as they work towards the promotion of innovation, engaging citizens, and providing diverse economic opportunities.

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

Sincerely,
Bob Bratina
Mayor, City of Hamilton

Message from the Medical Officer of Health

The past year has seen many accomplishments for Public Health Services. Planning is well along to consolidate our staff and services in downtown Hamilton. Our first move will happen in 2014 and the move into the new McMaster Health Campus in 2015. The consolidation will further improve on efficient and effective services to clients, increase opportunities for collaboration across PHS programs & services provide accessible services for clients in the downtown core, and improve collaboration with primary care to establish a seamless continuum of services, from prevention to treatment.

I would like to thank the Board of Health members for their leadership and support throughout 2012. 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, FRCPC
Medical Officer of Health, City of Hamilton
Public Health Services

Success Stories

The City of Hamilton Leads By Example: Prohibiting Smoking within Outdoor Parks and Recreation Properties

On May 31, 2012 the City of Hamilton joined a growing number of municipalities across Ontario and Canada by prohibiting smoking within all city-owned parks and recreation properties. The catalyst behind the "new" by-law was a combination of the evidence concerning the harmful effects of second-hand smoke, knowledge of effective youth smoking prevention strategies, the community desire to curb cigarette butt litter, and a high rate of support among residents and visitors that such spaces need to be 100% smoke-free.

One of the most comprehensive of its kind in Canada, the By-law came into effect this past May 31, 2012. Smoking is no longer permitted in or on parks and playgrounds, sports and playing fields, recreation centre property, arenas and stadium property, outdoor pools, leash-free dog parks, beaches, and skateboard parks.

"Making City-owned parks and recreation properties 100% smoke-free is a big step forward for our community," explains Dr. Elizabeth Richardson, Medical Officer of Health for the City of Hamilton. "Healthy public policy, such as this new by-law, contributes to the City of Hamilton's goal of being the best place in Canada to raise a child."

Hamilton Becomes Baby Friendly

In November, the City of Hamilton adopted two policies to support Public Health Services in pursuing the Baby Friendly designation. These policies will ensure that citizens and employees of the City are supported to reach their breastfeeding goals. Additionally, women who are breastfeeding have rights that must be respected.

Baby Friendly is a designation of the World Health Organization. Baby Friendly means that the City of Hamilton will protect, promote, and support breastfeeding as the normal feeding choice for mothers and babies for the first two years and beyond. By supporting families in this way, Public Health Services is working towards making Hamilton the best place to raise a child. All families will be given information about the best choices for feeding their babies and young children. The Baby Friendly Initiative also ensures that families who decide to breastfeed are supported in receiving the help they need to be successful in meeting their breastfeeding goals.

Dental Health Bus

In the fall, the new Dental Health Bus, operated by Public Health Services, began offering its no-cost dental services to clients in the City of Hamilton. The new custom-built bus enhances the programming offered on the old bus since it includes two full dental suites, which doubles the capacity. The new bus is also equipped with a wheelchair lift and a larger dental suite to increase accessibility for clients. Technology on the bus is state-of-the-art with digital x-rays which do not require chemicals for developing and are immediately available for the dentist to read and decide on any treatment needed. The x-rays and other records are electronically linked to the Public Health Services main dental clinic ensuring dental professionals have the client's information no matter which site they visit. The Dental Health Bus is the only mobile clinic in the province using this state of the art connectivity to the main dental clinic records system.

The Dental Health Bus goes directly to some of the highest need neighbourhoods in Hamilton, rotating between six locations across Hamilton. At the sites, staff on the bus not only provide needed dental services but also act as ambassadors for the city by providing access to information about ,and referrals to, other City of Hamilton services. The staff delivering dental services for Hamilton have always been dedicated to a high standard of care and now they have the tools and technical capabilities to support this care in Hamilton's poorest neighbourhoods.

Rural Well Water Report

Not everybody in the City of Hamilton gets their drinking water from the municipal water system. In March, rural residents who get their water from a private well were sent a copy of the Hamilton Rural Well Water Quality Report by Public Health Services. It outlines health related concerns identified in well water throughout Hamilton. In this report you will find information on how to test the quality of your well water to make sure it is safe to drink, health related concerns with well water in Hamilton (including bacteria and other chemicals of concern), how to maintain your well and prevent contamination of your water, and a list of well water information resources

The Report was mailed to all properties with a private water supply and is also available at all water sample bottle pick-up locations throughout the City of Hamilton and online at www.hamilton.ca/safewater.

OSCAR implementation

This year, Public Health Services began using OSCAR in its flu clinics and Mental Health and Street Outreach Program. OSCAR is a case management and

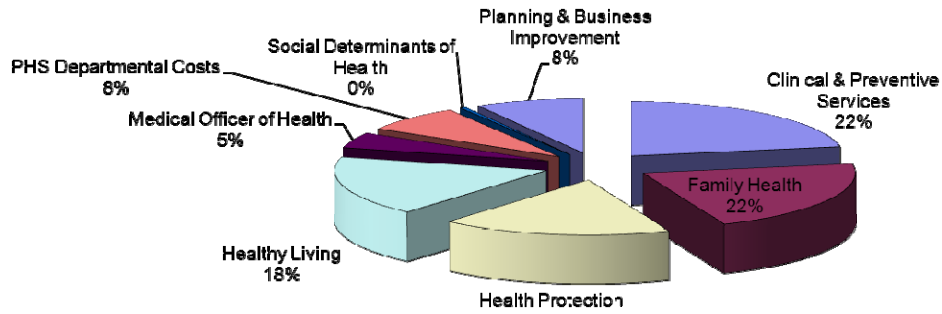
electronic medical record system developed at McMaster University. This new system provides comprehensive and secure client medical records. It's a move from hard copy paper files at each clinic location to electronic records that are stored securely and accessible from any clinic. As the system is implemented in other clinical areas of Public Health Services it will contribute to improving the care for clients. Client records will soon be accessible from any Public Health Clinic location when a client chooses to use clinics in different areas of the City of Hamilton.

Public Health Services by the numbers

- During the 2011-2012 school year, 20,826 immunizations were administered including: 9,584 for Hepatitis B; 6,154 for Human Papillomavirus (HPV); and 5,088 for Meningococcal Meningitis.
- 1,612 Chlamydia cases were reported and investigated in 2012. A campaign in early 2012 to raise awareness about Chlamydia and promote testing was highly successful. There was a 44% increase in visits to PHS Sexual Health Clinics for testing and a significant spike in visits to program web pages compared to the previous year.
- 5,580 claims were processed for Dental Treatment provided for children 0-18 under the Children in Need of Treatment program (CINOT) and Healthy Smiles Ontario (HSO).
- 10.22% of JK, SK and grade 2 students screened through the dental school program were identified as having urgent dental needs and referred for treatment.
- 1,517 individuals counseled in either group or individual sessions for concerns about alcohol, drugs, or gambling
- 24 presentations in the community regarding issues of alcohol, drugs, and gambling.
- 2,176 reportable Disease investigations other than sexually transmitted infections were conducted.
- 107 institutional outbreaks investigated.
- 2,178 inspections conducted in Personal Service Settings, Daycares and Residential Care Facilities.
- 773 appointments at the smoking cessation clinics and 144 new clients visited the clinics.
- 2,147 inspections, 133 charges laid, and 42 warnings issued under the Smoke Free Ontario Act
- 75 inspections and 334 warnings issued under By-law No. 11-080 Prohibiting Smoking within City Parks and Recreation Properties, which came into effect on May 31, 2012
- 49 Risk Assessments and 47 Compliance Inspections of Small Drinking Water Systems
- 621 Recreational Water Facility Inspections of pools, spas, wading pools, and spray pads

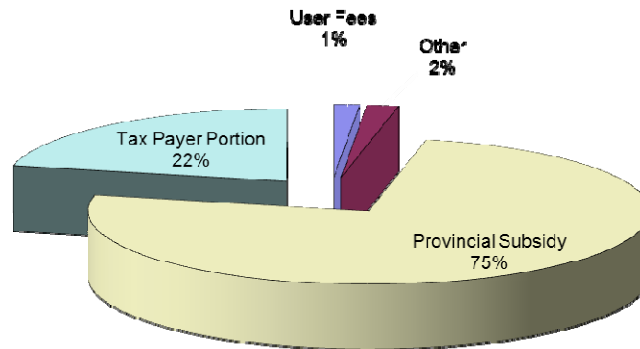
- 402 calls to the Safe Water Information Line
- 69 reports of adverse drinking water test results investigated
- 806 clients admitted this past fiscal year by Child & Adolescent Services
- 492 registered participants in the Hamilton Prenatal Nutrition Project (HPNP) with 5,296 participant visits in 2012
- 579 pregnant women registered for prenatal classes in 2012. The majority of women bring their partner or significant other to classes, so a total of 1,152 individual (pregnant women and partners) received service. Of the 579 women who registered for prenatal classes 146 accessed our online prenatal classes
- 371 car seats checked at clinics and pullover lanes done in partnership with Hamilton police
- 1,160 parents and caregivers provided face to face education about car seats
- 4,662 postpartum telephone contacts and 1,053 postpartum home visits to new mothers through the Healthy Babies, Health Children Program.
- 6,800 calls to the Health Connections phone line for information on preconception, pregnancy, infants, toddlers and preschoolers
- 85 new prenatal clients joined the Nurse-Family Partnership, with 136 clients receiving NFP visits and 1,537 family visits

2012 Budget



Division	Gross Budget	
Clinical & Preventive Services	10,698,632	22%
Family Health	10,329,280	22%
Health Protection	8,405,810	18%
Healthy Living	8,442,920	18%
Medical Officer of Health	2,220,321	5%
PHS Departmental Costs	3,698,099	8%
Social Determinants of Health	189,760	0.4%
Planning & Business Improvement	3,978,400	8%
	<u>47,963,222</u>	100%

2012 Revenues



Moving Forward

2013 Aspirations

- Protect, promote and support breastfeeding for healthy mothers and babies by achieving Baby Friendly Community Accreditation Status by 2014
- Develop plans for successful relocation of staff and services in downtown Hamilton through consolidation of Public Health Services
- Continue to implement electronic systems for client scheduling and registration, documentation, and clinic management
- Achieve greater compliance with the Ontario Public Health Standards including compliance with the accountability agreement and performance targets established by the province
- Improve access to children and family services in collaboration with community partners through the development and implementation of a single access point initiative
- Develop a mental health and addiction services coordination strategy between City and community partners to rationalize existing services and improve access to care
- Develop the health aspects of an Emergency Preparedness plan for the 2015 Pan Am Games
- Participate in the Hamilton Central Health Link initiative which is bringing together community partners across Hamilton to develop innovative and client-centred methods for delivering health promotion, prevention and care services to frequent users of emergency departments
- 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
- 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

2013 Challenges

- Expanding local priorities and service demands both within and outside of the Ontario Public Health Standards (OPHS) put pressure on resources
 - Designing services to meet needs of priority populations
 - Developing a coordinated community approach to deal with bed bugs without sustainable funding sources
 - Developing health risk communication and management strategies related to air quality and climate change
 - Increasing need for mental health and addiction services
 - Change in policy direction for Healthy Babies Healthy Children program

- Achieving the requirements of the evolving provincial performance management system
 - Developing appropriate performance indicators especially for Family Health and Chronic Disease programs
 - Challenges in meeting surveillance standards across all programs
 - Additional demands for reporting
- New technology required to manage confidential client information and support decision-making based on evidence and enhanced analysis of program data
- Maintaining service levels due to staffing challenges and cost of business exceeds ability to pay

Mission – Vision – Values

OUR Vision

To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.

OUR Mission

WE provide quality public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Values

Accountability - WE are responsible for our actions, ensuring the efficient, cost-effective and sustainable use of public resources.

Cost Consciousness – WE must ensure that we are receiving value for taxpayer dollars spent.

Equity - WE provide equitable access to municipal services and treat all people fairly.

Excellence - WE provide municipal services through a commitment to meeting and exceeding identified standards.

Honesty - WE are truthful and act with integrity.

Innovation - WE are a forward thinking organization that supports continuous improvement and encourages creativity.

Leadership - WE motivate and inspire by demonstrating qualities that foster effective decision making and promote success at all levels.

Respect - WE treat ourselves and others as we would like to be treated.

Teamwork - WE work together toward common goals, through cooperation and partnership.

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 the 2012 Public Health Services Research and Evaluation Project Report. This report highlights the research and evaluation activities undertaken by Public Health Services. These activities demonstrate Public Health Services commitment to our Cities' values of accountability, cost consciousness and the promotion of excellence in public health practice.

Our research and evaluation activities are undertaken with our valued collaborative partners, noted in this report. By working with these partners, we continue to learn from them, and ensure that our programs and services demonstrate best practice.

I hope you find this report interesting and informative. If you would like additional information about any of the projects summarized within the report, please contact the designated Public Health Services contact for that study for further information.

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.

Conseil scolaire de district catholique Centre-Sud

Conseil scolaire Viamonde

Hamilton-Wentworth Catholic District School Board

Hamilton-Wentworth District School Board

McMaster University

Ministry of Health Promotion and Sport

Ontario Tobacco Research Unit

University of Toronto, Dalla Lana School of Public Health

University of Waterloo

Youth Engagement Initiative

Resource Links

Ontario Ministry of Health and Long-term Care. (2008). Ontario Public Health Standards 2008. Available at:

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/ophs_2008.pdf

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FOUNDATIONS

Project Title: Evaluation of Public Health Services' Media Communications

Investigators: Carolyn Hureau, Julia Thorpe, Riley Crotta, Colleen Van Berkel, Tara Hall, Dr. Chris Mackie, Cyndy Johnston, Elfadil Elsharief, Katrina Moore

Health Unit Contact Person: Carolyn Hureau, Program Evaluation Coordinator

OPHS Standard Related to this Project: Foundational Standard

Background: This evaluation was completed to identify opportunities and strategies for improving Public Health Services' (PHS) interaction with the media and processes for developing and disseminating key messages.

Research Question(s): The purpose of this evaluation was to describe the current state of PHS' media communications and to identify opportunities for enhancement.

Methods: 1) review of published academic and grey literature; 2) analysis of existing population data sets; 3) content analysis of PHS media releases and newspaper coverage; and 4) key informant interviews.

Results: Interviewees' suggestions for improvement had considerable overlap with findings from the literature review, and highlighted the theme of needing to adopt a proactive approach to media communications.

Conclusions: The following recommendations were developed for PHS' Management Team to consider incorporating into the strategic plan: **1)** Continue to build and foster relationships with the media, physicians/health practitioners, and other external stakeholders; **2)** Explore social media tools as a means of communicating with target audiences; **3)** Increase communication of health promotion messages to the media; **4)** Provide media training and professional development opportunities for PHS staff; **5)** Develop an ongoing tracking system to monitor media coverage and reach; and, **6)** Adopt a proactive approach to media communications by a) performing an audience analysis, b) drafting key messages for common issues in advance, and c) developing a detailed media communications plan

How this Project Impacted a PH Program & Informed Planning Decisions: The report reinforced the need for appropriate planning and resources to be dedicated to social media activities for them to be successful. As PHS moves forward with the planning and implementation for social media in 2013, the information provided in the report will help as a foundation to build upon. Further, the report independently verified a need for media relations training for PHS staff. Training for managers and for some frontline staff has been planned for 2013.

Project Timeline: November 2010 – April 2012

Project Funding Source and Amount: PHS Staff Time

CHRONIC DISEASE

Project Title: Formative Evaluation of the Ministry of Health Promotion and Sport (MHPS) Youth Engagement Initiative

Investigators: Marritt Kirst and Tracey Borland, Dalla Lana School of Public Health

Health Unit Contact Person: Heather McCully, Project Manager Youth Engagement

OPHS Standard Related to this Project: Chronic Disease Prevention (#3, 6, 7, & 11)

Background: For the MHPS Youth Engagement (YE) Initiative evaluation, the Ontario Tobacco Research Unit (OTRU) conducted multiple case studies with public health units (PHUs) across the province to explore how the Initiative is rolling-out and how well it is achieving related goals. Hamilton Public Health Services was one of seven sites invited to participate. Sites with varying types of YE work, and varying levels of advancement in planning and implementing YE work/activities were selected.

Research Question(s): How is the Ministry of Health Promotion & Sport's Youth Engagement initiative rolling-out across the province and is it achieving related goals?

Methods: An advisory group of researchers, stakeholders, PHU staff, and youth was struck to inform design, data collection, analyses and dissemination process. A cluster evaluation design was used in which each PHU in the province was considered a site that may be implementing a cluster of various YE activities under the Initiative.

Results: Stakeholders had different perceptions on what the goals of the initiative were, and the definition of 'at risk' for tobacco use. Strengths to the initiative include legacies of youth engagement in the organization, existing community partners, more resources devoted to YE, and greater organizational and management/ buy-in. Challenges include limited organizational/management buy-in, and related legacy of YE at the PHU, recruiting and engaging youth in rural regions and competing for youth and resources to support the YE initiative within urban and rural communities.

Conclusions: Many core youth leaders engaged are passionate about health promotion on tobacco control and are highly motivated to engage with their community. Early impacts of the Initiative include: media attention, establishment of community partnerships and contributions to the sustainability of programs, and increased awareness among the public of the PHU and YE Initiative.

How this Project Impacted a PH Program & Informed Planning Decisions: Findings were reviewed and assessed against Public Health Services' current programs for the purpose of validating and informing annual program plans.

Project Timeline: October 2011 – Spring 2012

Project Funding Source and Amount: OTRU & Dalla Lana School of Public Health

Conference Poster/Presentation/Journal Article: 1) The Ontario Tobacco Research Unit. (2012). Formative Evaluation of the Public Health Unit Youth Engagement Initiative. *Evaluation News*, 4(2). **2)** Kirst, M., Borland, T., Haji, F. & Schwartz, R. (2012). *Formative*

evaluation of the Public Health Unit Youth Engagement Initiative–Brief report. Toronto, ON: Ontario Tobacco Research Unit.

Project Title: Principal Package Review and Evaluation

Investigators: Kelty Hillier, Katrina Moore, Marie Verbickas, Sue Sherwood, Rosemarie McKee, Mandy Dhaliwal

Health Unit Contact Person: Marie Verbickas, Rosemarie McKee, Mandy Dhaliwal

OPHS Standard Related to this Project: Chronic Disease Prevention (#3)

Background: The Healthy Living Division School Program wanted to evaluate the effectiveness of materials being created for the Principal Package and Teacher's Guide. These packages are provided to both elementary and secondary schools and consist of multiple documents. Assembling these materials has become quite cumbersome and much of the same information can be found on the Healthy Schools website (www.hamilton.ca/healthyschools).

Research Question(s): 1) To evaluate the value of content within the principal package 2) To determine the usability for staff and administration.

Methods: This evaluation is the initial phase of a three phase project involving development of a sampling strategy for a sample of English- and French-language elementary and secondary schools in Hamilton; and administration of a short survey to Principals and Teachers in the sample schools.

Results: A total of 54 schools participated:

- English Boards - 21 Public elementary, and 9 Catholic elementary; 13 Public secondary, 7 Catholic secondary;
- French Boards - 2 French elementary, 1 Public secondary and 1 Catholic secondary.

Overall, the survey showed that Principals and Teachers valued the Principal Package and Teacher's Guide and were familiar with them. However, most teachers indicated that they used the Teacher's Guide infrequently. In terms of format, most want a hard copy either alone or with an online version.

Conclusions: School staff and administration found the documents in the 'Principal Package' to be very useful and easy to understand and would like to access these documents both online and in hard copy format. As a result, Public Health Services will change its delivery of the 'Principal Package' materials to web based access only; anticipating cost savings and improved usability.

How this Project Impacted a PH Program & Informed Planning Decisions: This project helped PHS align with School Board direction to move towards a more electronic environment. By posting all the information online, PHS can ensure that information is updated in real time and there are no issues with outdated contacts, locations, or phone numbers. This will ultimately save staff time and resources, and at the same time reduce printing budgets which will result in cost savings.

Project Timeline: January 2011 – May 2012

Project Funding Source and Amount: PHS Staff Time

FAMILY HEALTH

Project Title: Factors Influencing Infant Feeding Practices in Hamilton

Investigators: Lesley Jefferies (Co-PI), Lorraine Hagar (Co-PI), Dr. Chris Mackie (Local PI), Jennifer Beck, Dana Haas

Health Unit Contact Person: Lesley Jefferies

OPHS Standard Related to this Project: Foundational and Family Health Standards

Background: The current lack of real time local and provincial breastfeeding data is impeding the ability of Public Health Services to assess local trends and plan appropriate services to support women toward breastfeeding success. Further, Baby Friendly Initiative (BFI) designation is mandated by Ontario Ministry of Health and Long-term Care (OMHLTC), and a primary requirement is to complete a local breastfeeding data analysis.

Research Question(s): **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: **Cohort 1:** A sample of the first 406 eligible and consenting women referred to the Healthy Babies Healthy Children postpartum program was recruited via telephone. Telephone surveys were conducted at 2-weeks, 6-months, and 1-year postpartum. **Cohort 2:** Identical recruitment methods - increasing the sample to 1000.

Results: **Cohort 1 results:** The breastfeeding (BF) initiation rate in the overall study population was 88.9%. The exclusive BF rates at discharge and two weeks postpartum were 68.0% and 63.1%, respectively. Within the six month survey population, the exclusive BF and 'any BF' rates were 22.4% and 66.3%, respectively. The rate of 'any BF' was 52.7% in the one year survey population, which became an estimated 11.8% when adjusted for the total study population. Perceived inadequate milk supply was the main issue associated with discontinuation of breastfeeding.

Conclusions: Breastfeeding initiation and duration rates were lowest in young, low-income, low-education mothers, and for mothers whose babies received formula in hospital. The number of women exclusively breastfeeding for the first six months of life was low, despite the current recommendations. Study design issues and loss to follow-up were concerns in Cohort 1 and resulted in changes to Cohort 2.

How this Project Impacted a PH Program & Informed Planning Decisions: This projects ultimate goal is to consider trends and tailor breastfeeding programs to meet community needs and gaps, as well as to meet requirements for a BFI designation.

Project Timeline: Final analysis and a final report have been completed for Cohort 1. 2-week and 6-month surveys are currently underway for Cohort 2. Survey interviews for the current cohort will carry on for the remainder of 2013.

Project Funding Source and Amount: Family Health Division/ Child Health - \$39,500 (Research Assistant Wages)

INFECTIOUS DISEASE

Project Title: Vaccine Preventable Disease (VPD) School Program Situational Assessment

Investigators: Kelty Hillier, Carolyn Hureau, Colleen Van Berkel, Kim Dias

Health Unit Contact Person: Kelty Hillier

OPHS Standard Related to this Project: Vaccine preventable disease (#1 & 7)

Background: The VPD School Program has experienced declining vaccine coverage rates over the last decade, but has not been able to explain this decrease. To improve coverage rates, the program would like to determine why rates have declined and how to improve them. This project was divided into two phases. Phase 1 was completed in 2011 and Phase 2 finished in the spring of 2012.

Research Question(s): 1) What inadequacies in communication, information dissemination and student recruitment exist in the current program delivery model? 2) What are the perceptions of the program by: school boards & staff, students, parents and the VPD staff who administer the program and are there ways to better collaborate? 3) How can coverage rates of Hepatitis B, Meningococcal & HPV be increased in the school-based immunization program?

Methods: Phase 1: A comprehensive literature review with recommendations and the development of a survey tool. Phase 2: Data collection and analysis, implementation of recommendations and revisions to the VPD School Program.

Results: A comprehensive literature review identified several challenges to VPD programs in general, and to school-based vaccine programs specifically. The literature review informed the development of the survey tool for Phase 2 and provided several recommendations to improve the existing program. Survey findings from Phase 2 confirm and support information from the literature review. Parents provided valuable information not identified in the literature related to program delivery changes.

Conclusions: Program materials have been revised and created for the 2012-13 school year based on the results of literature review and survey findings. Work continues on the implementation of social marketing/media activities and the engagement of adolescents.

How this Project Impacted a PH Program & Informed Planning Decisions: This project has provided information on how our resources and strategies with stakeholders may increase coverage rates.

Project Timeline: *Phase 1:* January-December 2011 *Phase 2:* January-June 2012.

Project Funding Source and Amount: Internal funding

Conference Poster/Presentation/Journal Article: Hillier, K. & Dias, K. (2012). *Increasing vaccine coverage rates for an Ontario school-based immunization program: A Public Health evaluation project.* Presented at the Canadian Immunization Conference, Vancouver, B.C.

ENVIRONMENTAL HEALTH

Project Title: Hamilton Rural Well Water Quality Evaluation

Investigators: Carlos Catarino, Eric Mathews

Health Unit Contact Person: Eric Mathews

OPHS Standard Related to this Project: Safe Water Standard (#6)

Background: Well water quality data was scattered or located amongst several locations; the Ministry of the Environment (drinking water inspections and provincial groundwater monitoring program); Drinking Water System owners and operators; private unregulated well owners; Public Health Services; and engineering reports. Well water quality information was not available in one comprehensive location.

Research Question(s): **1)** What is the overall quality of groundwater, both bacteriological and chemical, in Hamilton's rural areas? **2)** Has the bacteriological quality of groundwater in rural Hamilton changed significantly in the past 8 years?

Methods: Water test result data from a variety of sources was reviewed and the results were combined to provide a snapshot of general ground water quality with respect to chemicals in drinking water and an overview of longer term bacterial quality based on aggregate Water Testing Information System Electronic Notification (WITISEN) sampling data from private wells from 2004-2011.

Results: Analysis of WITISEN data indicated that, on average, 27% of the 31,000+ private water samples taken by homeowners in Hamilton from 2004-2011 were potentially unsafe for drinking due to the presence of bacteria. This percentage is not significantly different than aggregate WITISEN results for the entire province over the same time period. Annual Hamilton results have not changed significantly over this period with an annual range of 22-30%.

Conclusions: Rural Hamilton groundwater bacteriological water quality appears to be stable with percentages of wells contaminated with E. coli and total coliform bacteria remaining constant from 2004-2011. Continued efforts need to be made to encourage testing and maintenance of private wells by rural residents.

How this Project Impacted a PH Program & Informed Planning Decisions: The project provided an overview of important data regarding bacteriological and chemical water quality of well water in Hamilton, along with information and recommendations regarding water quality testing and well maintenance. This is the first Hamilton Rural Well Water Quality Report issued by PHS and it brings together all well water quality data into one document/source for well water consumers. The report was mailed to all rural Hamilton residents and is available at all Municipal Service Centers and water sample bottle pick up locations, and at www.hamilton.ca/safewater. This project assists PHS staff with risk assessments of Small Drinking Water Systems, Planning Applications, and Provincial Ground Water Monitoring Program lab test results.

Project Timeline: September 2011- March 2012

Project Funding Source and Amount: PHS staff time

Project Title: Vector Borne Disease Evaluation

Investigators: Carolyn Hureau, Katrina Moore & Susan Harding-Cruz

Health Unit Contact Person: Susan Harding-Cruz

OPHS Standard Related to this Project: Health hazard prevention management (#8)

Background: In 2011, the City of Hamilton conducted an audit of Public Health Services' (PHS) West Nile Virus (WNV) program. One recommendation was that an evaluation of the WNV program be conducted. Accordingly, a two-part evaluation was carried out to determine the best service delivery model for Hamilton's WNV program.

Research Question(s): 1) What changes have been made to the Hamilton PHS' WNV program between 2004 and 2011? 2) What service delivery models are other health units using for their WNV programs?

Methods: **Part 1:** A comparative benchmarking analysis was conducted to identify changes that were made to Hamilton PHS' WNV program between 2004 and 2011. Data pertaining to mosquito surveillance, mosquito control, source reduction, partnerships, and public education and media relations for each of the seasons (2004 and 2011) were compared. **Part 2:** An environmental scan was conducted to gather information about the service delivery models that other health units use for their WNV programs. Nine similar health units completed an online survey that asked about operational activities, risk assessment procedures, staffing arrangements, and budget management.

Results: The results from Part 1 and Part 2 of this evaluation were synthesized to provide a more complete picture of how Hamilton's practices and procedures compare to those of other health units. Overall, Hamilton's service delivery model was similar to other health units. Three differences were identified. First, Hamilton had more fixed adult mosquito traps (42) compared to other health units (average = 24). Second, in Hamilton initial larval dipping in catch basins to initiate treatment was performed by staff and students; whereas, almost half of the other health units hired a contractor. Third, Hamilton had a high number of budgeted FTEs (9.9) compared to other health units (average = 4.4).

Conclusions: It is important to note that changes were made to Hamilton's VBD program during the 2012 season (while this evaluation was being conducted). Specifically, the number of traps was reduced from 42 to 30, the number of budgeted staff was reduced by 1.4 (FTEs), and the operating budget was reduced by \$20,000. Given that these changes addressed the differences highlighted by this evaluation, it was recommended that Hamilton's WNV program continue to operate as it did during the 2012 season.

How this Project Impacted a PH Program & Informed Planning Decisions: Findings will inform program planning for Hamilton PHS' 2013 WNV season. Given provincial guidelines outlining best practices for WNV prevention and programming have yet to be developed, it was suggested that findings from this evaluation be shared with other health units.

Project Timeline: February 2012 – November 2012

Project Funding Source and Amount: PHS Staff time