

# THE *Healthy* TIMES

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## CITY OF MILWAUKEE HEALTH DEPARTMENT NEWSLETTER

Julie Becker, Editor

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Deadline for Next Issue:

**October 1, 2012**

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2012 INFANT MORTALITY SUMMIT

### CHANGING THE SOCIAL DETERMINANTS OF HEALTH

by Raisa Koltun

The City of Milwaukee Health Department hosted its third Annual Infant Mortality Summit with a theme of “Changing the Determinants of Health” on June 6th, 2012. The Summit convened key community partners around the city to discuss ideas on how to collectively influence the social determinants of health through policy change. With 300 participants, a wide range of policy solutions were discussed, including healthy neighborhoods, employment, income and early childhood education. Participants also had a chance to attend a policy and advocacy discussion to learn more about the basics of the topic.

Participation in the summit was diverse. Some came to hear about social determinants for the first time, while others came to learn about how they could apply their social determinants knowledge to their practice. Participants enjoyed the opportunity to connect with others in the region around this topic and have a discussion about the root causes of infant mortality. Many participants also commented that they would be interested in connecting with others to continue the conversation after the Summit, as well as work on action steps collectively.

**Dr. Anthony Iton**, Vice President of the California Endowment, was the opening keynote speaker. He made the case for why public health professionals should actively pursue policy change to positively impact social determinants of health through their work.



*continued on page 2*

COMMISSIONER'S  
COMMENTS



*Bevan K. Baker, FACHE*

As Commissioner of Health, I have had the pleasure of working with you for the past eight years to make significant strides in addressing Milwaukee's greatest health challenges. I am honored to continue serving the MHD in this capacity for a third term.

I have spent some time reflecting on the progress we have made in the last eight years, and considering the opportunities and challenges that lie ahead. Among our many successes, we have made incredible progress in teen pregnancy prevention. When I took this job eight years ago, the birth rate for teenage girls was 62 per 1000. Today that rate has been cut in half, to 35.7. There has been a 14.3% decrease in infant mortality, thanks in large part to the hard work of the MHD and our community partners. We have addressed numerous communicable disease outbreaks, including rubella, salmonella, H1N1, measles, e. coli, and pertussis. Our mass H1N1 immunization clinics garnered national recognition, and more than 25,000 people were immunized. And the immunization rate among MPS children has increased from 67% in 2004 to 86% in 2011.

Looking forward, the MHD's strategic planning process is nearing completion. Staff has worked diligently to target needed improvements and set strategic goals, laying the groundwork for a plan that focuses on partnerships, quality, communication and employee development. Considering the many economic, social and health challenges Milwaukee faces, never has our role been more crucial, and never has the need been greater for staff to pull together and think innovatively about how we can best meet the health needs of the community and grow as an organization. We will soon be rolling out the new Strategic Plan, but I'd like to share our new vision statement with you now: "The vision of the City of Milwaukee Health Department is that Milwaukee become the healthiest city in the nation through bold leadership, effective partnerships, and innovation in thinking and practice." I am inspired by this idea, and hope you are as well.

I am honored to continue to lead the MHD as Commissioner, and I look forward to working with every one of you to reach the public health victories that I am certain lie in the four years ahead.

Bevan K. Baker, FACHE  
Commissioner of Health



**Dr. Magda Peck**, the Founding Dean of the UWM Zilber School of Public Health, was the closing speaker and inspired the crowd by presenting a framework for action and partnership. There was a high level of enthusiasm in the crowd for the keynote speakers, as well as the conference overall. Both offered a fresh, inspiring perspective on a topic that is often not well understood. Many participants felt that they were leaving the Summit with clear ideas for implementing strategies related to social determinants of health and healthy policy change.

Dr. Iton explained that in order to effectively reduce infant mortality, there needs to be a strong focus on the social determinants of health. With more than 40 percent of infant deaths attributable to social determinants of health, the City of Milwaukee Health Department is committed to working collectively on these issues, including housing the Wisconsin Center for Health Equity.



*Dr. Anthony Iton, Mayor Tom Barrett, Dr. Magda Peck, and Commissioner Bevan K. Baker*

# Just for Fun

## “Dog Days” of Summer

Find the 24 dog breeds listed below.  
Answers are on the back page.

A B A U H A U H I H C  
C F D E B F A G Z H O  
S H F O I J T T O E C  
K H X I L M I W L I K  
D E E N T P K G E K E  
R O P E S S A N B R R  
E N S R P E A T O O S  
H A S E B D T M R Y P  
P I D T T U O U Z E A  
E N V A M T L G O L N  
H A E W C E E L I D I  
S R X Y I H Z R D O E  
G E A L B G S C D O L  
E M L F G H R H I P G  
J O W O L F H O U N D  
C P U G D L M K C N O  
P R A S A F G H A N D

AFGHAN	GREAT DANE
AKITA	MASTIFF
BEAGLE	MUTT
BORZOI	POMERANIAN
BOXER	POODLE
BULLDOG	PUG
CHIHUAHUA	SETTER
CHOW	SHEEPDOG
COCKER SPANIEL	SHEPHERD
COLLIE	SPITZ
CORGI	WOLFHOUND
DACHSHUND	YORKIE

If there is a person you would like to see featured in the Employee Highlight, please contact:

**Julie Becker**  
jubecke@milwaukee.gov  
or call x3526.

# Employee High

## JAZMINE JURKIEWICZ



A newcomer to the MHD, Jazmine Jurkiewicz joined the department as an Accounting Assistant II last December. Her main job duties include paying the bills that the MHD incurs, as well as handling records management and other tasks as assigned. To help get through her work day, she aims to stay busy – even if that means cleaning or fixing things that no one ever gets to, or offering to take on extra duties.

When she isn't working, Jazmine enjoys spending time with friends and family, reading, playing video games or surfing the internet. She recently took some time to share more about herself.

*What would you do if you didn't have to work?*

If money were not an issue, I would most likely travel all over and try to find things I'm passionate about to invest my time and energy in.

*What are you passionate about?*

Learning. I think it is very important for everyone to know how to think critically, not just memorize facts. I love discovering something new that I can delve into and get involved in. My current obsession is astronomy and I love absorbing information about outer space.

*Do you consider yourself an introvert or an extrovert?*

I'm a social introvert. I love mingling and being in social situations, but ultimately, they drain me. I tend to relax and recharge finally when I have alone time.

*What has been your most memorable vacation?*

Probably a whirlwind tour of Europe a few years ago on our way to the Cannes Film Festival. We visited Nice, Brussels, Amsterdam, Paris, and Cannes. It was a strain to squeeze so much into one 10 day trip, but it was well worth the effort. The pictures I took away from that trip are gorgeous!

*Do you have any pets?*

I currently live with two cats and two dogs. It's always interesting trying to keep the German Shepherd from chasing the cats and trying to keep the Scottie from rolling in something smelly.

*Do you have a favorite quote or saying?*

"Life isn't fair, so get over it." My mom always said that when I was little and I've discovered that it's very true. Moving past injustices of the world is the only way you can get anything done.

*Is there anything that you would absolutely refuse to do under any circumstances?*

Under ANY circumstances is quite a blanket statement... but I would have to say betraying my close family and friends. Whatever comes my way, those are the people that stand beside me and I couldn't imagine doing something to damage my relationship with them voluntarily.

*What do you most look forward to about summers in Milwaukee?*

My favorite part of Milwaukee summers are the fireworks. I love laying in the grass after stuffing myself silly on festival food (which is also a favorite) and just watching the pretty colors shatter in the sky. My favorites are the ones you can feel explode and set off all the car alarms.

## NETWORK CHANGES AND HELPFUL HINTS FOR MIMOSA AND FILE NAMING



By Jeff Hussinger

As you should be aware, the City's automated email archive, called Mimosa, saves copies of every email you send or receive going back to April 2009. What you probably didn't know is that after you've searched for an email message in Mimosa, instead of checking the box and clicking on restore, you can simply double-click on any message in Mimosa and it will give you the option to open it with Outlook.

Once opened as an Outlook message, you can reply, forward, print, save/open attachments, etc.

If you have searched in Mimosa but can't find any emails older than six months there is a simple configuration setting you need to change. Searches by default only deliver results from the last six months. This can be changed by clicking on the Mimosa folder > **Options** > **User Preferences** > **Search & Browse** > **Change "Last Six Months" to "None Specified."**

### MAXIMUM PATH LENGTH LIMITATION & FILE NAMING CONVENTION

For those of us old enough to remember DOS as an operating system, we used to have to limit all file names to eight characters or less and never use spaces or any kind of punctuation in a file name or folder name. Starting with Windows 95, Long Filenames allowed us to use spaces and various special characters in our files and folder names and it seemed as if there was no limit to how long a file name could be. However, there was and still remains a limit of 255 characters in the length of the complete name of a file which includes the network drive letter, the directory folders and subfolders, as well as the back slashes and spaces which all count toward the 255-character file length maximum. Here is an example which exceeds the maximum limit using 257 characters:

```
F:\GROUP_OR_USERNAME_ROOT_FOLDER\1ST_LEVEL_DIRECTORY\SUBDIRECTORY\SUB_SUBDIR\ETC\ETC\
```

This is a filename which exceeds the 255-character Maximum File Path Limitation – which hopefully none of you has and never copy an Internet URL and use that as a file name.docx

Finally, never use these characters as part of a file or folder name:  
<> : " / \ | ? \* , .. (more than one period in a row)

For more information on file and path naming conventions go to:  
[http://msdn.microsoft.com/enus/library/windows/desktop/aa365247\(v=vs.85\).aspx](http://msdn.microsoft.com/enus/library/windows/desktop/aa365247(v=vs.85).aspx)

## MEN'S HEALTH CENTERS – A NEW RESOURCE



By Darryl Davidson

Many people are aware that men do not address their health concerns as early or as often as women do. The City of Milwaukee Health Department's Men's Health Centers inspire and

enable men to take steps to improve the quality and length of their lives. The Men's Health Centers offer services five days a week at the Keenan and Northwest Health Centers. The program's Public Health Nurse, Community Health Educator and Community Education Assistant welcome Milwaukee males aged 15 and over, regardless of their health insurance status. There is no charge for services. The team introduces men to prevention and resource information via a wellness check and social service needs assessment. They also work with community partners to promote health advocacy, improve access to care and provide appropriate referrals to the men who visit the Men's Health Center.

Just this year, the team has conducted over 200 health assessments resulting in followup health and social service referrals for men who were unemployed, uninsured or did not know where to go for assistance. Partner agencies assist with health and social service issues such as physical and mental health screenings, employment and housing services, nutrition counseling, fatherhood program enrollment, smoking cessation classes and environment and lifestyle situations that may affect health. The Men's Health Center accepts walk-in clients and appointments. The staff works with male clients from other MHD programs and promotes the program to schools, community centers, faith-based organizations and other health centers.

Individuals or organizations that need information about Men's Health should call (414) 286-6756 or visit <http://city.milwaukee.gov/Mens-Health-Center>. If your program is interested in collaborating on a project to better serve the health and social service needs of men in Milwaukee, please contact **Darryl Davidson**, ext. 8574.

# THE Healthy TIMES

## CHIPS

### CHIP INTERNS

The MHD was joined this summer by a group of seven Community Health Internship Program (CHIP) students who assisted staff with the completion of various projects. CHIP is offered through the Milwaukee Area Health Education Center (AHEC) to help provide students with a real life experience in the community health work world in the Milwaukee area. Placements are with health departments, health care providers and community based organizations located in Racine, Kenosha, Walworth, Milwaukee and Waukesha counties.

Read on to learn more about the interns and their projects.

#### PETER HARPER

UW-Parkside  
Senior / Biology  
Career Interest: Medicine



Peter assisted **Darryl Davidson** with creating and implementing a Men's Health Program Client Satisfaction Survey, in order to help guide the development of client-centered program activities and prioritize service delivery practices.

#### DANIELLE HARRIS

UW-Milwaukee  
Senior / Social Welfare; Women's Studies  
Career: MPH



Danielle worked with **Lisa Phillips** and **Becky Litwaitis** to assist with developing and expanding initiatives of the MHD's Wellness Committee, and to educate clients of the Women, Infants and Children (WIC) Program on how to use their Farmers Market checks.

#### PATRICK HEFFERNAN

UW-Milwaukee  
Senior / Biology, PreMed  
Career Interest: Medicine



Patrick served under the guidance of **Dr. Steve Gradus** in the Laboratory, where he assisted with strategic planning implementation for the Laboratory System Improvement Program (LSIP), developing a research inventory of key system stakeholders and generating stories for promotion of the laboratory profession.

#### KAYLA JOHNSON

Xavier University, New Orleans, LA  
Senior / Biology, PreMed  
Career Interest: Medicine, MPH



Kayla worked with **Denise Crumble** with the Plain Talk program, on implementation of the Personal Responsibility Education Program (PREP) Talk for Youth, which aims to directly serve youth aged 11-19, focusing on prevention of teen pregnancy and sexually transmitted infections.

#### MARITZA PALLO

UW-Madison  
Junior / Portuguese, Certif. in Global Health  
Career Interest: MPH



Maritza was placed under the guidance of **Gwendolyn Altheimer**, assisting with a Community Healthcare Access Program Client Survey to help determine how to best reach the underinsured and uninsured population in Milwaukee.

#### REBECCA RHODE

St. Louis University  
Junior / Public Health  
Career Interest: Medicine



Rebecca assisted **Dr. Paul Hunter** with a goal of teaching community physicians to diagnose and treat latent tuberculosis infection (LTBI) and diagnose report and consult for treatment recommendations for active tuberculosis cases.

#### ASHLEY VAN GALEN

UW-Eau Claire  
Senior / Chemistry, Biology  
Career Interest: Medicine



Ashley worked on a project, under the mentorship of **Dr. Paul Hunter**, to employ social media in STD partner notification, in an effort to increase the capacity of the MHD's STD Program to test for STDs as well as get partners of patients with STDs tested and treated.

## BOY SCOUT HOLDS FUNDRAISER TO HELP SUPPORT CRIBS FOR KIDS

By Jill Radowicz



In May 2012, I received a letter from a Boy Scout, **Jon Skipper**, who was working on his Eagle Scout service project. Jon, a 14-year-old from Elm Grove, was attending his cousin's baptism when he heard Gail Grenier Sweet, the founder of HOPE Network, talk about the programming at the HOPE Network. The HOPE Network is a small, nonprofit organization serving single moms. HOPE Network has given out more than 2,500 cribs to needy single moms since 1984. In 2009, the HOPE Network be-

came a partner of the City of Milwaukee Health Department Cribs for Kids program and began educating moms about the importance of infant safe sleep as part of their crib give-away.

Jon wanted to raise awareness about infant mortality as well as money to purchase Pack 'n Plays from the Milwaukee Cribs for Kids program to be distributed through the HOPE Network. Jon's mom, Irene Skipper, says that Jon learned about infant mortality while hearing news reports about babies dying while co-sleeping on his way to school in the morning. He did research to expand his knowledge about co-sleeping deaths and began to realize the importance of HOPE Network's Cribs for Kids program.

In June, Jon held a fundraiser. He needed to contact people to find a venue to hold a spaghetti dinner, line up volunteers to work, advertise to friends and family so they would attend the dinner, and buy the food.



Jon put together an informational display and successfully raised enough funds to purchase 31 safe sleep sets. Each safe sleep set includes: 1 Pack 'n Play, 1 fitted sheet and 1 Halo Sleep Sack. The 31 safe sleep sets were delivered to the HOPE Network on June 21st and thanks to Jon, 31 babies will have a safe sleep environment. Jon's efforts also helped educate others about the importance of infant safety. Remember, babies sleep safest alone in their crib, on their backs, on a firm mattress, in a smoke-free home!

If you know of a family in need of a safe sleep set for their infant, have them call the Milwaukee Cribs for Kids program at (414) 286-8620.



# Thank You, Jon!

## LEADERSHIP: A KEY COMPONENT OF PUBLIC HEALTH



By Jessica Gathirimu

Recently I had the opportunity to hear a mix of prominent public health figures give presentations. While they all had different topics to speak about there was one common theme they all touched upon: LEADERSHIP, a vital component to the success of public health. As Dr. Anthony Iton, Senior Vice President, Healthy Communities, The California Endowment, said at our recent Infant Mortality Summit, “Leadership matters, leadership matters, leadership matters.”

Many often wonder, is leadership defined by title or is it a way of being, defined by our character? Everyone has the potential to be a leader. Dr. Magda Peck, Founding Dean, Joseph J. Zilber School of Public Health, goes further to say, “If you are working for the public’s health you don’t get to opt out of leadership.”

So how do you become a leader? Dr. Michael Frasier, CEO, AMCHP, described a leader as “someone who inspires and brings people together.” You have the opportunity every day to inspire those you work with and those you serve in the community. Webster defines leadership as “having the capacity to provide direction or guidance.” Each day in public health we are charged with guiding our community and providing direction about how to live healthier, longer lives, regardless of our titles.

Ron Bialek, President, Public Health Foundation, states, “There are leaders throughout an organization,” and that “Leaders can be created or people can become leaders themselves.” Be inspired to lead in the important role you have, be a leader among your colleagues, and be a leader in the community. By becoming a “bold leader” yourself, Milwaukee Health Department becomes a better place to work and, more importantly, allows us to work better together to improve the health of the City of Milwaukee.

## CLIENTS CELEBRATE THEIR SUCCESS AT THE CONCLUSION OF THE MILWAUKEE HEALTHY HOMES PROGRAM (MHHP)



By Richard Gaeta

On April 13th, 46 people, the majority of family participants, met at the Hillside Family Resource Center to celebrate their success at the conclusion of the Milwaukee Healthy Homes Program (MHHP). The three-year HUD funded grant was part of an \$875,000 award to make Milwaukee’s homes healthier places for its children to live. The grant enrolled families with children with a diagnosis of asthma.

The MHHP met its enrollment goal of 156 clients from April 2009 to March 2012, with 108 clients completing the study. The partnerships that made this possible were: the Dominican Center for Women (DCW), Fight Asthma Milwaukee (FAM) Allies and the American Lung Association (ALA), the Housing Authority of the City of Milwaukee (HACM), the Wisconsin Partnership for a Healthier Environment and the Community Relations Social Development Commission’s (SDC) Weatherization program. Representatives from these organizations were present for the celebration.

Thanks to **Nancy Hills**, event participants received a beautifully designed Program brochure with a colorful graphic of a home being repaired, program agenda and sponsors prominently displayed with their logos.

While the grant did not fully fund office support, **Rose Binder, Jodi Wingers** and **Ron LaPorte** provided tremendous support in communications, data entry and management, payment requests, supply requests, quality control and event planning.

The HUD grant consisted of four scheduled home visits to the family over the course of six months that included education and training on pest decontamination, identification of asthma triggers and safety. The instruction was given by DCW Community Health Worker Herb Byers. Every study participant received a minimum of \$500 in supplies for pest control, humidity control, ventilation, storage, bed casings, dust control and safety devices. Beds were given to families where children co-slept with adults or slept on carpet floors. Byers surveyed the families at each visit to measure progress and determine if additional visits and supplies were needed to assure family success.

TRACK (Test for Respiratory and Asthma Control in Kids) scores were used to measure asthma control in the study. In addition to medications, the MHHP survey included questions about missed school days and emergency room visits. Mid-term data analysis showed 83% of clients had improvements in TRACK scores. The biggest success was a decline in reported missed school days as a result of asthma. According

*continued next page*

to surveys, 132 school days were reportedly missed in the first month of the study. By the six-month visit, only 66 days were missed in the previous month because of asthma. At the same time, there were 42 emergency room visits at the first month visit and 24 emergency room visits reported at the six-month visit.

Group classes were used to reinforce messages that were being delivered in the home. The faith-based DCW hosted the group meetings where Erin Lee, of FAM Allies, provided education and training on medication use and safe cleaning products. At the celebration, the audience participated in a game devised by Lee to reinforce messages on asthma control, where small prizes were awarded for correct answers.

Throughout the grant DCW provided meeting space for weekly smoking cessation classes. With more than 75 percent of families of asthmatic children being exposed to household cigarette smoke and the causal link to asthma, MHHP made it a priority to enroll families in the ALA 'Freedom from Smoking' program.



*MHHP participants*

The classes provided group counseling, peer support and nicotine replacement products to each participant. Attendance was maximized with MHD outreach

staff; **Stephanie Ortiz**, **Norma Avila**, **Naomi Jenkins** or **Alva Goldberg** provided daycare while parents attended class. Twenty-six clients graduated from the eight-week course. The smoking cessation facilitator, Barb Lynch, spoke at the event about how these classes were among the best in participation and success. Three clients that quit smoking and were in attendance spoke about how their lives had changed since quitting smoking.

Removing housing defects that contributed to poor health outcomes was a foundation of the program. At each of the scheduled home visits, an inspection was done by one of the MHD Milwaukee Healthy Homes Inspectors, **Kristine Alaniz**, **Neil Rice** or **Lindor Schmidt**. The inspectors identified structural deficits to prevent moisture and pest infiltration, taking samples from floors and bedding to determine the presence of dust mites, cockroaches and mice allergen. By using our own laboratory we were able to minimize loss or reproduction of allergen samples through shipping or chain of custody. The **MHD Laboratory** is one of a just a few laboratories in the country with the capacity to measure allergens. Under the laboratory leadership of **Sanjib Bhattacharyya**, the analysis was done by chemists **Elizabeth Zembrowski** and **Diab Qadah**. Both were greeters at the event.

In order to gauge their own success in reducing allergens, clients were given the results of the sampling for each visit in a colored bar graph. By the end of the study each family could see where its strengths and deficits were in its integrated pest management plan. The

sampling results coupled with an environmental checklist and photos provided insights to the MHD team on pest management strategies including the scope of work written by the inspector. Typical projects included carpet removal, installation/repair of flooring, installation of exhaust fans, clutter and debris removal, plumbing and kitchen base cabinet repair, sealing interior and exterior cracks and holes, and gutter/downspout repair.

The inspector bid out the work and the owner chose the contractor. In most cases expenses were under \$1,500. In total, \$179,000 of grant funds was spent making home repairs. Five homes required new roofs and extensive rehabilitation, including mold remediation. The Project Manager and the Healthy Homes Inspector identified additional resources needed for construction that were not originally anticipated in the grant. Through our partnerships with SDC weatherization and DCW we were able to service these families. Rental property owners or agencies paid \$71,000 or 39% of what HUD provided in housing funds to support home repairs.

Lead Risk Assessor **Kandy Perez** was the Project Manager for six months in the first year of the grant, followed by **Rich Gaeta**. Special thanks go to Kandy for all of the hard work required to get this grant off the ground.

The final analysis of health and environmental outcomes for MHHP is being conducted by the Medical College of Wisconsin under the leadership of Principal Investigator, John Meurer, MD, with Ray Hoffmann and Ke Yan providing statistical analysis. The information provided by this study will add to the body of science about home environmental interventions and will inform future Healthy Homes grant efforts.

MHD LABORATORY AWARDED FOR BEACH WATER TESTING POSTER

by Sanjib Bhattacharyya



Deputy Laboratory Director **Dr. Sanjib Bhattacharyya** recently received a “Best Poster” award in the Local Public Health category, at the Association of Public Health Laboratories (APHL) Annual Meeting in Seattle. The award was presented on May 22, 2012, for a poster on cutting-edge research on “Real-time” beach testing technology and applications. As a result of studies conducted during the summers of 2010 and 2011, the MHD Laboratory was able to validate this “Real-time” Quantitative Polymerase Chain Reaction (qPCR) Assay, and is now utilizing the method in order to detect *E. coli*, a water quality indicator, in water samples collected from Bradford,

McKinley and South Shore beaches within 4 to 6 hours of sampling. The qPCR assay is run in conjunction with conventional testing methods. Very few public health laboratories nationwide have validated and implemented this new technology.

Poster co-authors – the Lab and DCEH team that worked to implement this new same-day beach testing technology – include **Manjeet Khubbar, Valdis Kalve, Terri Linder, Anupa Gandhi** and **Dr. Steve Gradus**. **Laura Vanderbilt** designed and produced the poster.

It can be viewed by visiting special reports section of the Lab’s website at [www.milwaukee.gov/Health-Lab-Special-Reports](http://www.milwaukee.gov/Health-Lab-Special-Reports), and selecting “Same-day Beach Closure Decisions Using qPCR” under the “MHD Laboratory Poster Presentations” heading.

Same-day Beach Closure Decisions Using Real-time Quantitative PCR Assay: Detection of *E. coli* in Milwaukee Area Beaches

Sanjib Bhattacharyya, Manjeet Khubbar, Valdis Kalve, Terri Linder, Anupa Gandhi, Steve Gradus  
City of Milwaukee Health Department Laboratory, Disease Control and Environmental Health, Milwaukee, Wisconsin

### Abstract

**Objective:** To compare the real-time quantitative PCR (qPCR) assay with conventional methods for same-day detection of microbial pollution indicators during beach monitoring in Milwaukee.

**Study Design:** Beach water samples are routinely examined at the City of Milwaukee Health Department Laboratory (MHD) for the presence and quantitation of *E. coli* using the EPA approved IDEXX method. We have validated and applied the qPCR assay for detection of *E. coli* in beach water within 4-6 hours of sampling. During the summer of 2010-2011, the performance of a qPCR assay was compared to three (Immunoclear, IDEXX, EPA 1603) and defined water: Coliform 180 methods by analyzing water samples collected from three frequently used Milwaukee area beaches.

**Results:** A significant correlation was found between the qPCR test results and conventional methods (CT/MPN) during the study. Out of 88 samples tested in 2010 and 133 in 2011 (total 159), 75% were in agreement in 2010 and 87% in 2011. Only one sampling was missed in 2011 (per EPA threshold standard, >1,000 MPN/100 ml results in beach closure decision compared to three in 2010) (Figure 1, Table 3).

**Conclusions:** *E. coli* qPCR assay allows same-day beach closure decisions with follow-up confirmation in 24 hours by Coliform. Further optimization and evaluation of qPCR assay performance is needed to minimize the extent of disagreements between molecular and conventional techniques and to develop more defined water quality standards based on the qPCR assay performance and epidemiological data.

### Introduction

Swimming associated illnesses mainly occur as a result of exposure to enteric bacteria, viruses, and protozoa. Fecal indicator bacteria such as *Enterococcus* spp. or *Escherichia coli* are a primary fecal indicator bacteria that are commonly found in sewage and other sources of fecal contamination. Much like epidemiologic studies conducted by IDEXX and other researchers have established a direct relationship between the density of these indicator bacteria in fresh water beaches and the occurrence of swimming-associated gastroenteritis.<sup>1-3</sup>

Monitoring of recreational beaches for these fecal indicator bacteria is currently performed using culture based methods Coliform and Enterococci and utilize defined substrate technology (FDA approved method 1603 for Enterococci and 1603 for *E. coli*) utilize the membrane filtration technique and involve quantification by Most Probable Number (MPN) using serial dilution. These traditional culture based methods are a slow, expensive and allow detection in 18-24 hours. Because microbial water quality sampling typically guidelines based on indicator organisms that require 18 to 24 hours to develop we likely to result in both unnecessary beach closures and the exposure of swimmers to poor quality water. A recent study estimated that up to 40% of beach closures are in error.<sup>4</sup>

Here we present the data from the summer of 2010 and 2011 studies monitoring of one beach water quality using Coliform 180 and molecular methods (Table 2). The studies involved using equipment with traditional water quality monitoring methods through simultaneous processing of water samples using both conventional and molecular methods (Figure 2).

### Materials and Methods

**Water sampling**

- Approximately 200 ml collected in two sterile containers and transported to the lab and left overnight in 4°C.

**Sample Processing**

- Water collected from same site the same day was pooled and mixed before analysis
- **Coliform: Standards and Quality Control**
  - Escherichia coli cell suspension. Prepared for soaking, calibration, samples and comparing DNA standard curve
  - Sample processing controls (IPC) consisting of lactose as facts cells. Prepared for plating on indicator and test samples prior to extracting DNA
- *E. coli* and *E. faecalis* stock cell suspensions containing approximately 10<sup>8</sup> cells per ml were made by diluting fresh cultures in PBS and storing them at -80°C.

**Various Methods Used at MHDL**

- **Culture method: 1603** Results of *E. coli* and enterococci on selective media after membrane filtration
- **Coliform 180** Enterococci membrane filtration
- **Molecular method: qPCR** Quantitative Polymerase Chain Reaction (qPCR) for *E. coli* detection
- **Current EPA recommended method: gold standard**

### Results

**qPCR Data Analysis and Calculations**

**Standard Curve values in Coliform 180:** The generated Ct values were subjected to regression analysis against log<sub>10</sub> transformed of Equivalents (CFU per reaction)

**Standard Curve values in Enterococci 1603:**

**Colimiting:** Used comparative cycle threshold (Ct) method to determine the relative quantity of target *E. coli* genes in an unknown beach water sample compared to the quantity of target *E. coli* genes in a known quantity in a calibration sample

**Validation:** 1:1, 2:1, 5:1, 10:1 difference between sample sizes and calibration Ct value for the Sample Processing Control (IPC) determined using different methods.

Sample	Coliform 180					
1	100	100	100	100	100	100
2	100	100	100	100	100	100
3	100	100	100	100	100	100
4	100	100	100	100	100	100
5	100	100	100	100	100	100
6	100	100	100	100	100	100
7	100	100	100	100	100	100
8	100	100	100	100	100	100
9	100	100	100	100	100	100
10	100	100	100	100	100	100

**Table 1: Management agreement between qPCR and Coliform results between 2010 and 2011**

Year	Agreement	Disagreement	Total
2010	100	0	100
2011	100	0	100
Total	200	0	200

**Table 2: qPCR and Coliform comparison study results summary for year 2010 and 2011**

Year	Number of samples tested	Number of samples with agreement	Number of samples with disagreement	Number of samples with no results
2010	88	66 (75%)	22 (25%)	0
2011	133	117 (88%)	16 (12%)	0
Total	221	183 (83%)	38 (17%)	0

**Figure 1: qPCR results as compared to Colimiting results for 2010**

**Figure 2: qPCR results as compared to Colimiting results for 2011**

### Limitations

- Reliability of non-viable bacteria varies in different environments
- Environment factors (e.g. wind direction, rainfall, and sewage overflow)
- Proper collection of water sample representative sampling procedure by using water sampler that allows it to run on same beach
- Beach to beach variation (e.g. more inhibition seen in samples collected from South Shore Beach)
- Coliform PCR variation (e.g. chemical, various media and from other species)
- Cost of reagents and labor for multiple methods
- No in-house stored off values for *E. coli* equivalents (per 100 ml)

**Conclusions**

- Same day beach closure decision
- qPCR results can be interpreted as primary results for impulsive beaches > 200 CFU/100 ml, 1000+ CFU/100 ml
- Follow up confirmation in 24 hours by Coliform for enumeration of *E. coli* in beach water
- Further optimization and evaluation of qPCR assay performance is needed to minimize the extent of disagreements between molecular and conventional techniques
- Need to develop more defined water quality standards based on the qPCR assay performance and epidemiological data.

**Current MHD Beach Closure Decisions Based on Colimiting (Best day)**

**Proposed MHD Beach Closure Decisions Based on Preliminary qPCR Findings (Same day)**

**Table 3: qPCR results as compared to Colimiting results for 2010**

Year	Agreement	Disagreement	Total
2010	100	0	100
2011	100	0	100
Total	200	0	200

**Table 4: qPCR results as compared to Colimiting results for 2011**

Year	Agreement	Disagreement	Total
2011	100	0	100
Total	100	0	100

**Figure 1: 2010 beach testing qPCR data as compared to culture-based method**

**Figure 2: Milwaukee beach study data include Colimiting results for 2010 and 2011**

**Figure 3: Comparison of qPCR and Colimiting results for 2010 and 2011**

**Figure 4: qPCR results as compared to Colimiting results for 2010**

**Figure 5: 2011 Beach testing qPCR data as compared to culture-based method**

# THE *Healthy* TIMES KUDOS



*From Paul Biedrzycki:*

Kudos to the **MHD TBCC staff** including **Irmine Reitl**, **Pat Walker-Anderson** and **Dr. Paul Hunter**, as well as **Terri Linder** and **Donna Howe**, for their prompt response to a large TB exposure investigation in a Milwaukee childcare setting. PHNs **Rick W.** and **Dave S.** worked closely with

the childcare operator, staff, clients and various healthcare providers to ensure timely screening, testing and treatment of those at risk for developing TB disease. The rapid and professional mobilization of dedicated MHD staff in this instance made all the difference in averting serious health consequences associated with this event. Thank you!

Kudos to **Fred Radmer**, **Jill LeStarge**, **Terri Linder** and all **CD PHNs and support staff** involved in the MHD continued response to an increase in pertussis cases in our community the past few months. Response by these staff to clusters of disease in schools, daycares and university settings has contributed to reduced transmission of whooping cough in the community and better public awareness of the disease, including vaccination and mitigation of severe illness especially among infants and young toddlers. Thank you!

Kudos to **Bill Rice**, **Mary Ann Kiepczynski**, **Rich W.**, **Fred Radmer**, **Michelle Kinnard** and all **immunization program staff** who conducted two public immunization symposiums for schools and daycares in May at the ICC. These forums provided participants with an update on Wisconsin Immunizations Law as well as those measures to comply with public health requirements in this regard. These symposiums were well developed and conducted and are targeted to improving City of Milwaukee immunization rates in these settings. Thank you!



*From Lisa Acheson:*

Kudos to **Richard Gaeta**, **Neil Rice** and **Rose Binder** for exceptional work on the Housing and Urban Development (HUD) Healthy Homes grant.

Kudos to **Tom Brandt**; a property owner sent a letter stating appreciation for the lead abatement program and how “impressed with the level of detail exhibited by Tom Brandt.”

Kudos to **Lindor Schmidt** for his outstanding attention to detail in the maintenance of the Radioactive Materials Program for the Home Environmental Health Program as a successful audit/inspection was conducted by the State of Wisconsin on May 15, 2012.



*From Jill Radowicz:*

Kudos to **Rodney Wilson** for all of his hard work and dedication to the Safe Sleep Clinics at MHD. Thank you Rodney, the babies in Milwaukee are sleeping safer thanks to your teaching about infant safe sleep!

The FCH Managers would like to send a BIG thank you to **Katrina Whittley**, Human Resources Analyst –Senior in DER for helping to expedite the Public Health Nurse applications. We recently interviewed 14 new PHN candidates, some who just applied 2 weeks ago! We currently have 6 PHN positions to fill in the MHD.



*From Darryl Davidson:*

My Kudos goes to all of the staff who provided outreach education and services and promoted MHD at the Juneteenth Celebration (June 19th). Those involved were:

**Mark Doornek**, **Craig Sanders**, and **Shirley Senaya** from Men's Health.

Safe Sleep Table/Display at Juneteenth – **Grace Henderson** and **Stephanie Schramm** from NFP and **Kenmikiiya Terry** from EFM.

**Lavinia Matias** from the Well Woman Program

**Alanda Bradley**, **Nia Hardison**, and **Nora DeBerry Johnson** from CHAP

AHEC Interns **Peter Harper** and **Danielle Harris**

And, of course, all managers and supervisors who helped make this happen.

*continued next page*



*From Nancy Castro:*

KUDOS to **Bob McCann and his staff** for their willingness to help set up the area for the Farmer's Market, and to **WIC staff** for taking it all down at the end of the day.

New this year: WIC will be offering the market at the Keenan Health Center on the 1st & 3rd Tuesday of the month. The NWHC market is open on Mondays and the SSHC market is open on Wednesdays. The markets are open from 8 am – 4 pm; participants, staff and neighbors are all welcome! Please stop by for locally grown fruits and vegetables and sample some recipes, made by Liz, from the farmer's crop. Thanks everyone for a great team effort and we appreciate your support!



*From Sanjib Bhattacharyya*

Kudos to **Dr. Paul Hunter, Bill Borzon, Fellow Kat Grande** and **MHD Graphics** team, who worked together to produce materials for sites implementing expedited partner therapy—the practice of prescribing medication to partners of people with sexually transmitted infections.

The toolkit was featured as a Program Model by the National Association of County and City Health Officials and is available to view and download here: <http://naccho.org/topics/HPDP/hivsti/news/std/p2.cfm>.

Please share widely!

## PHN BRENDA HOLMAN RECEIVES WPHA AWARD



*By Lisa Phillips*

**Brenda Holman**, PHN Coordinator for the Wisconsin Well Woman Program/Milwaukee Breast and Cervical Cancer Awareness Program, was honored with the Wisconsin Public Health Distinguished Service award for her service to

MHD and the City of Milwaukee. Brenda worked for MHD for 12 years and retired on July 6th. Brenda worked for the Adolescent School Health Program before transferring to MBCCAP seven years ago. Brenda was the only nurse providing case management for breast and cervical follow-up for the entire City of Milwaukee for five of those seven years. While case management is a large part of her duties, Brenda has gone above and beyond to ensure that women eligible for the program and those women not eligible have been provided the best care possible. Her role with MBCCAP has included community liaison, developing relationships with the medical community, developing resources for clients, developing processes to improve the work flow of MBCCAP and much more.



*Brenda Holman*

Brenda has enrolled over 1,000 women into the Well Woman program throughout the years for breast and cervical cancer screenings and diagnostic services. She has enrolled several hundred women who have been diagnosed with breast or cervical cancer into the Well Woman Medicaid program over the past seven years.

Brenda was awarded the Distinguished Service award on June 28, 2012, by **Dr. Eric Gass** for her ongoing work in the field of public health as a Public Health Nurse. Brenda has made a significant impact on the City of Milwaukee during her MHD career and touched the lives of many women in a positive, caring and compassionate manner during her time with MBCCAP. Brenda will be missed by the community, the women served by MBCCAP, the medical providers we work with and by the MBCCAP staff.

NEW STAFF/REINSTATEMENTS/APPOINTMENTS

Edyliz Correa Alvarado	Health Access Assistant II	HAS	SSHC
Katherine Desannoy	PH Social Worker	MCH	SSHC
Mark Doornek	PHN	MEN	SSHC
Brandy Gillery	Admin Assistant IV	ADM	ZMB
Carly Hasler	EHS I	CEH	ZMB
Lorena Jimenez	Public Health Aide-TB	TBC	KHC
Renee King	PH Social Worker	MCH	SSHC
Artealia Mabon	PHN	MCH	SSHC
Tagni Ocon	Clinic Assistant	WIC	ZMB
Sarah Olson	PHN	MCH	SSHC
Lilliann Paine	Health Project Assistant	EPI	ZMB
Stephanie Schramm	PHN	NFP	SSHC
Stephen Schulteis	Medical Lab Technician	LAB	ZMB
Kenmikiiya Terry	PH Social Worker	MCH	SSHC
Sara Werling	PHN	NFP	SSHC
Judith Zemke	Health Personnel Officer	ADM	ZMB

PROMOTIONS

Anna Benton	Interim Health Operations Adm	ADM	ZMB
Sanjib Bhattacharyya	PH Deputy Lab Director	LAB	ZMB
Jessica Gathirimu	Interim FCHS Director	FCH	ZMB
Terri Linder	EP Coord-Workforce Develop	PLN	ZMB
Marivel Montejano	Lead Risk Assessor II	LPP	ZMB
Fred Radmer	Health Proj Coord-PHS	IMM	ZMB

*Just for Fun*  
Answers

A	B	A	U	H	A	U	H	I	H	C
C	F	D	E	B	F	A	G	Z	H	O
S	H	F	O	I	J	T	T	O	E	C
K	H	X	I	L	M	I	W	L	I	K
D	E	E	N	T	P	K	G	E	K	E
R	O	P	E	S	S	A	N	B	R	R
E	N	S	R	P	E	A	T	O	O	S
H	A	S	E	B	D	T	M	R	Y	P
P	I	D	T	T	U	O	U	Z	E	A
E	N	V	A	M	T	L	G	O	L	N
H	A	E	W	C	E	E	L	I	D	I
S	R	X	Y	I	H	Z	R	D	O	E
G	E	A	L	B	G	S	C	D	O	L
E	M	L	F	G	H	R	H	I	P	G
J	O	W	O	L	F	H	O	U	N	D
C	P	U	G	D	L	M	K	C	N	O
P	R	A	S	A	F	G	H	A	N	D

- |                |            |
|----------------|------------|
| AFGHAN         | GREAT DANE |
| AKITA          | MASTIFF    |
| BEAGLE         | MUTT       |
| BORZOI         | POMERANIAN |
| BOXER          | POODLE     |
| BULLDOG        | PUG        |
| CHIHUAHUA      | SETTER     |
| CHOW           | SHEEPDOG   |
| COCKER SPANIEL | SHEPHERD   |
| COLLIE         | SPITZ      |
| CORGI          | WOLFHOUND  |
| DACHSHUND      | YORKIE     |



Mayor Tom Barrett

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Deadline for Next Issue: **NOVEMBER 1st**  
Send materials to Julie Becker at [jnbecke@milwaukee.gov](mailto:jnbecke@milwaukee.gov)